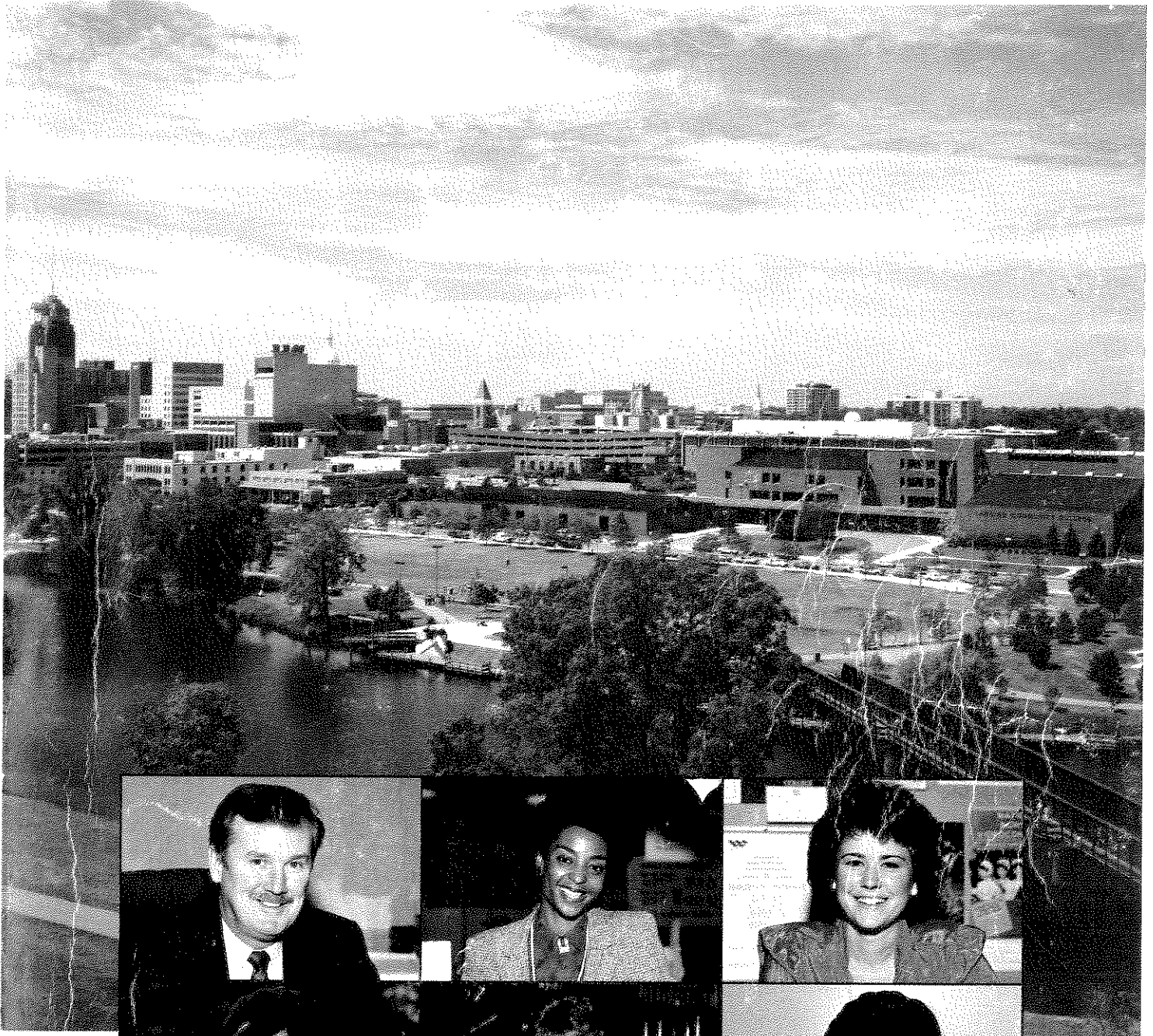

Lansing Community College



CATALOG • 1987



CELEBRATING 30 YEARS OF QUALITY

1957-1987



400-600 North Washington Square
P.O. Box 40010 Lansing, MI 48901
Area Code 517 Telephone 483-1957

**Accredited by
North Central Association
of Colleges and Schools,
Michigan Commission
on College Accreditation**



David D. Diehl
Chairperson



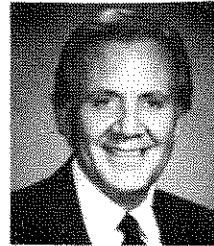
Phyllis I. McKesson
Vice Chairperson



Shirley M. Rodgers
Secretary



Erik O. Furseth
Treasurer



David L. Froh
Trustee



Judith A. Hollister
Trustee



William C. Hollister
Trustee

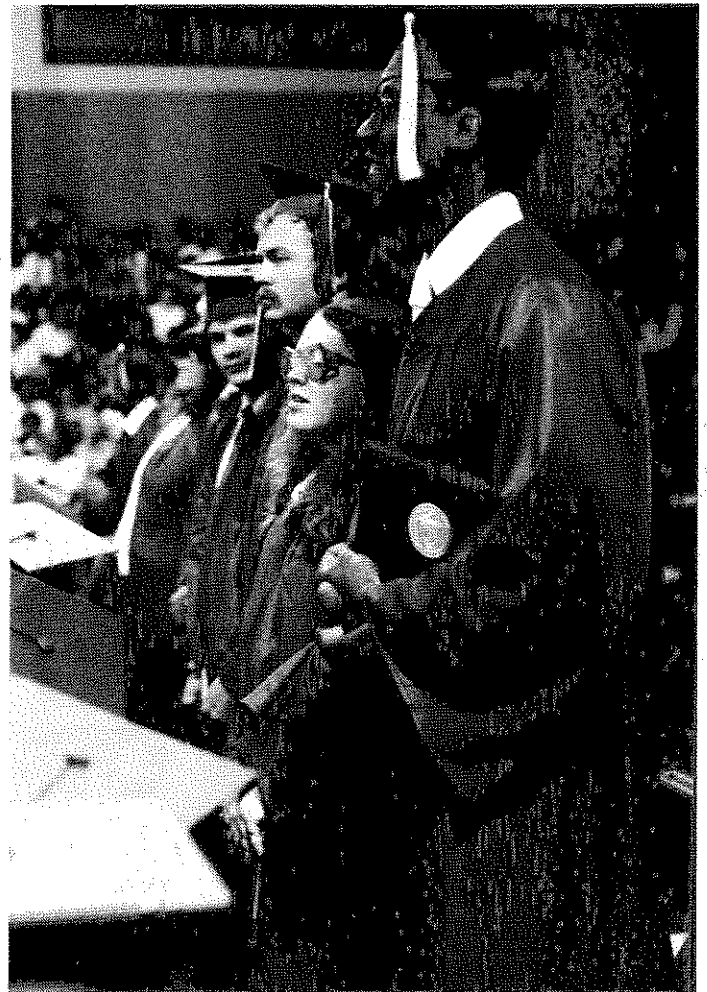
**Lansing
Community
College**
**BOARD
OF
TRUSTEES**

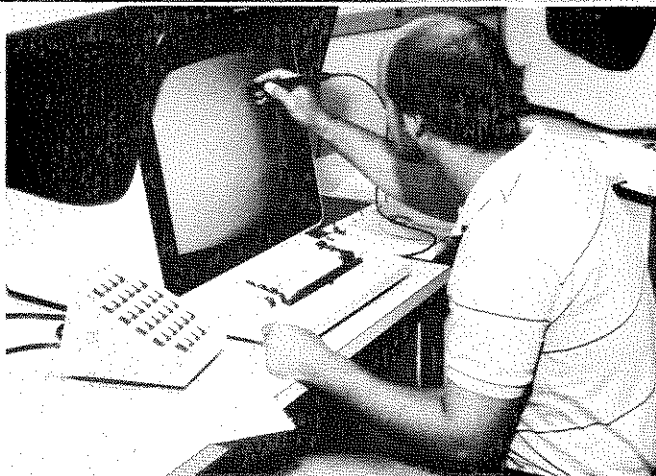
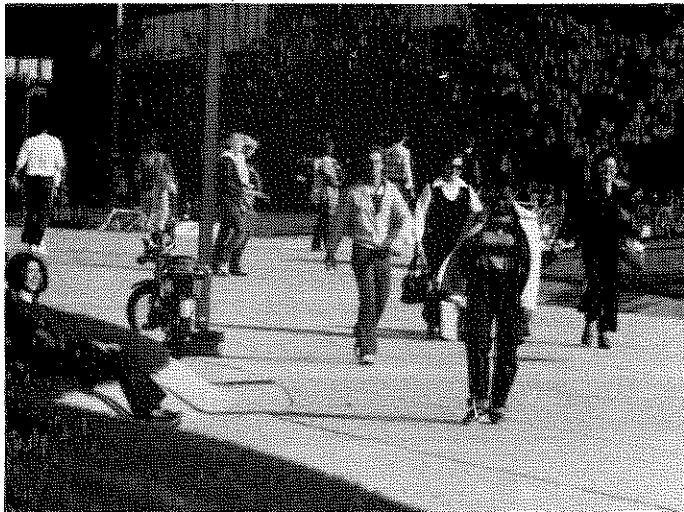
Lansing Community College is an equal opportunity college. Discrimination on a basis of race, color, religion, sex, national origin, age, height, weight, marital status, or handicap is prohibited. Title IX/Section 504 Coordinator: Room 205, Moon House.

Lansing Community College reserves the right to change, at any time, the general information, programs, courses, rules and regulatory statements described in this catalog.

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COMMITMENTS

Lansing Community College has evolved from a partnership of the community, students, faculty and staff. The College is committed to the idea that education today is a life-long process. With their diverse personal and career needs, students demand from the educational marketplace relevant instruction, flexible scheduling, and individualized services. The College believes it must respond to these students with instruction that has quality, timeliness and relatively low cost. To meet this commitment the College works closely with business, industry, labor, government, community agencies and educational institutions. The College measures its vitality by how well it responds to the students and community.

The College recognizes that in this world of economic and technological change there is a growing interdependence of this metropolitan community with other communities throughout the world. The challenge is to be effective in that larger community, enhancing understanding and cooperation through international education and networking of resources.

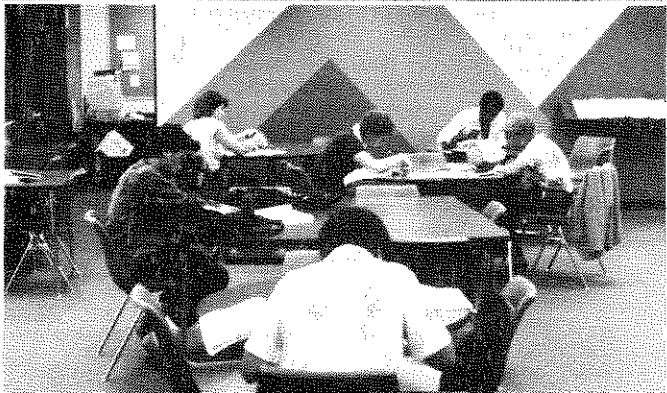
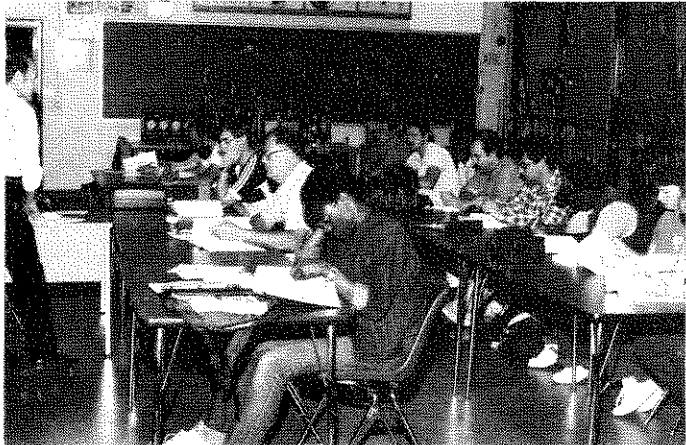
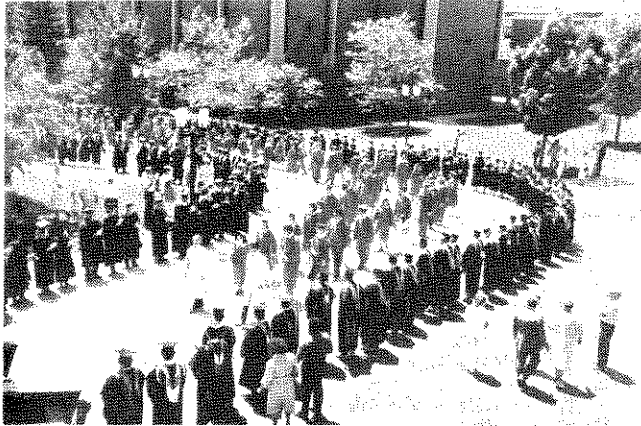
The College is committed to career training programs, college transfer programs, basic skills programs, personal and professional seminars, business and industry support programs, and community service programs. The College is also committed to the idea that the individual and the community are best served when the programs and courses assist students to integrate learning with experience. Programs and courses are designed to help students achieve career, social and personal competencies through the mastery of skills and the study of contemporary and historical human values.

The College has committed itself by purpose, structure and resources to a learning environment that is both traditional and non-traditional. This environment is supported by an experienced faculty and staff or professional educators and specialists from business, industry, labor and government. Because the urban campus is complemented by a network of learning centers cooperating with schools and business throughout the service area, the programs and services are more accessible to students. Through its open admissions policy, the College pledges equal educational opportunity to all in its service area.

GOALS

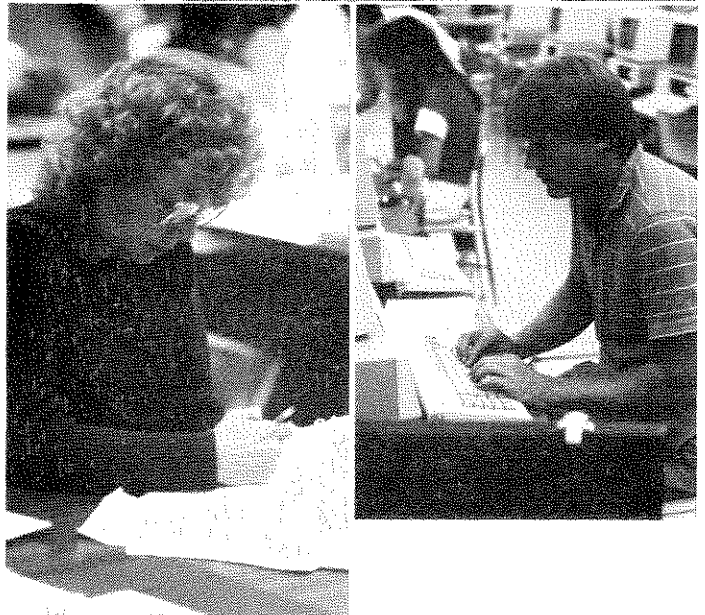
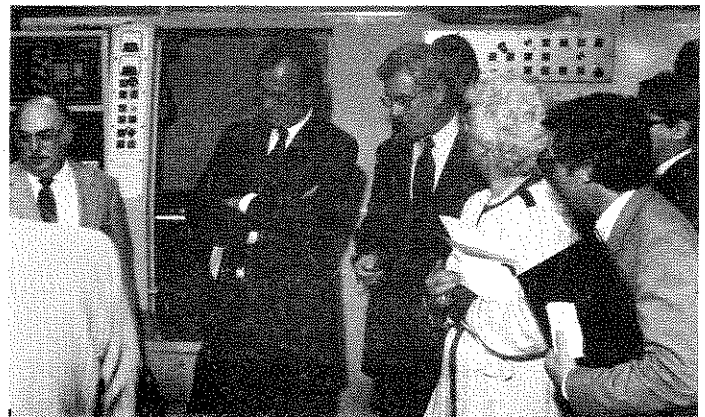
The College concludes that it can best meet its commitments by accepting the following as its major goals:

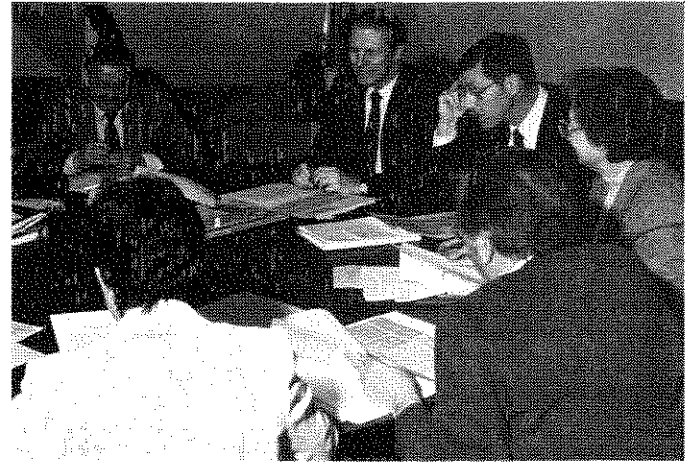
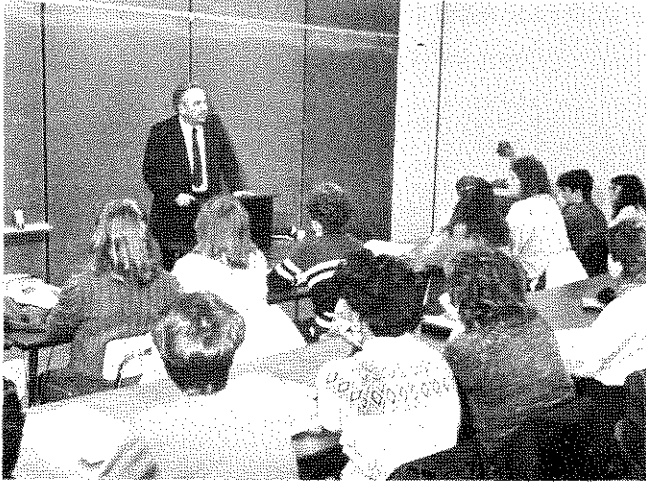
1. To maintain continuous review and evaluation of the essentials of an effective learning environment—instruction, resources, and facilities—so that the learning programs have quality and relevance to the individual and the community.
2. To support an educational environment that permits a person not only to acquire a mastery of skills for career goals but also to enhance self identity and clarify personal values.
3. To develop and support faculty and staff committed to academic excellence and professional competence in instructional development and delivery.
4. To provide student services including counseling, employment placement, financial assistance, informational services, tutorial assistance, and college entry services according to the student's academic, vocational, and personal needs.
5. To provide opportunities for students to develop leadership and social interaction skills through formal and informal student activities.
6. To make available a general education program to students.
7. To provide developmental programs for students to achieve basic competencies in reading, writing and mathematics and to update those skills necessary to function in this highly technical world.
8. To provide career oriented courses and programs for students now employed or contemplating employment.
9. To provide courses and curricula in the arts, sciences, business, and other preprofessional programs that will articulate with degree programs at other colleges.
10. To confer certificates and associate degrees.
11. To develop and offer specialized training through consultative relationships with business, labor, industry and government.
12. To provide learning resources and instructional support services that meet the diverse information needs of students, staff and community.
13. To provide programs and activities that enhance the community's cultural life and economic well being.



STRATEGIC GOALS THROUGH THE YEAR 1990

1. Maintain and develop the highest standards of academic and curricular excellence in order to promote student success, recruitment and retention.
2. In recognition and awareness of the value of the College's human resources, provide professional development activities as a continued commitment to faculty, staff, students and community.
3. Recruit faculty and staff to promote academic excellence while continuing to emphasize affirmative action and equal opportunity.
4. Continue to be sensitive to the issues of governance and statewide coordination and planning.
5. Improve the College's internal and external communications.
6. Enhance the College's resource base in order to maintain the quality of its education, training, and support services.
7. Network and develop new partnership approaches with business, industry, government, labor, public agencies, health service organizations, K-12 school districts and colleges and universities.
8. Continue to internationalize the College's curriculum and services in recognition of the international marketplace and world interdependence.
9. Provide for continuous development, review, and evaluation of the College's total learning environment through the use of integrated information and decision-support systems.
10. In order to protect the community's investment, provide and maintain efficient and up-to-date equipment and sufficient and adequate facilities.
11. Increase educational opportunities for students through greater emphasis on the use of learning/extension centers and state-of-the-art telecommunication systems.





CENTRAL ADMINISTRATION DIVISION

The Central Administration Division provides leadership and support to the College through the services of the President's Office, and offices of College Services, Personnel, College and Community Relations, Institutional Research, Equal Opportunity/Affirmative Action, Professional Development, Continuing Education, and the College Foundation. Planning, management, internal and external relations and review of College instruction and services as well as maintaining a balanced institutional budget are part of the overall services of Central Administration.

The President's Council serves as executive staff to the President and is comprised of the following people:

Philip J. Gannon, President
 Dale M. Herder, Vice President for Administration
 Bruce G. Newman, Vice President for Business and Finance
 Jacqueline D. Taylor, Vice President for College and Community Relations
 Ilse H. Burke, Director, Professional Development and Affirmative Action
 Ronald E. Dove, Director of Personnel
 Charles H. Bettinson, Executive Director, Business and Industry Institute
 William R. Darr, Dean, Division of Technology and Applied Sciences
 James E. Person, Dean, Division of Business
 James P. Platte, Dean, Division of TeleCommunication and the Arts
 Neal A. Raisman, Dean, Division of Arts and Sciences
 William G. Schaar, Dean, Division of Student Personnel Services

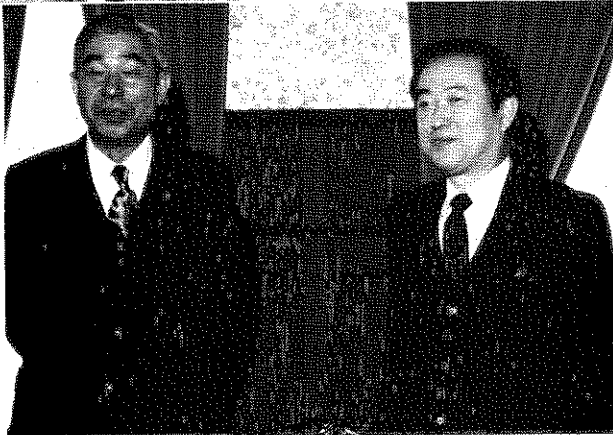
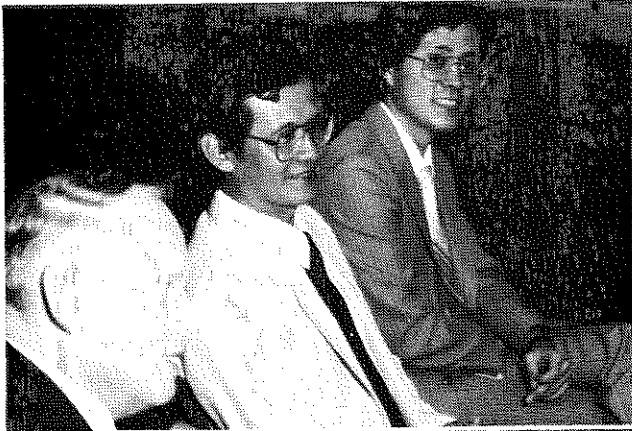
COLLEGE SERVICES DIVISION

Bruce Newman, Vice President for Business and Finance

The College Services Division provides support to the College through the services of the Business Office, Resource Development, Information and Computer Services, and the Departments of Public Safety, Business Services, Accounting and Payroll, Purchasing and Physical Plant.

The objectives of the College Services Division are as follows:

- Maintain the general accounting, property accounting, internal audit, timekeeping, payroll and record management
- Develop and administer the College-wide budget
- Purchase all supplies, materials and furnishings
- Assist the President and the various divisions in the development of the College's information systems and computer services, including all applications of electronic data processing equipment
- Plan, develop and maintain all physical facilities in support of academic programs and support service programs
- Provide dependable services for U.S. mail, courier mail, furniture moving, warehousing and inventory procedures
- Develop and operate the public safety program to provide a safe and secure campus
- Develop State and Federal grant applications in support of the College's academic and supportive service programs
- Coordinate with SAGA Foods of Michigan, Inc. to provide food services for students and staff in the Arts & Sciences Building and Gannon Vocational Technical Center
- Provide other business related services such as College insurance packages and the preparation and execution of contracts with vendors, other institutions and agencies, and consultants.



BUSINESS AND INDUSTRY INSTITUTE

Charles H. Bettinson, Executive Director

The Business and Industry Institute, in concert with the College's academic divisions, offers or facilitates a wide array of training and information sources designed to enhance local, regional and state economic well-being. The Institute is designed to be both flexible and rapidly responsive in meeting the needs of business, industry, labor, government and education.

Clients may draw upon the resources of the Institute: a Training and Development Center which provides customized management and industrial training; small business information and community leadership development; consultancy services in integrated management systems, business computer applications and overseas business and industrial technical planning and advice; an International Trade and Export Center which focuses on information relative to Michigan products and international marketplace opportunities; and a system of international education and training programs concentrating on academic endeavors with selected countries in Asia, Europe, Central and South America, and North America.

The Business and Industry Institute's operations are carried out by using its own inventory of skills and expertise, and by cooperatively utilizing those of the College's academic divisions. On those occasions where it is appropriate, and in the client's best interest, the Institute may obtain the services of external specialists.

INTERNATIONAL EDUCATION

In order to provide an opportunity for students to learn the languages, cultures and business practices of other countries, the College, in cooperation with Biwako Kisen Steamship Company, Ltd., in Japan, has developed a unique student academic work-study program called "The Japan Adventure." Students selected for this program study Japanese language, culture, history, society, and business practices in the Lansing Community College Educational Center in Otsu, Shiga Prefecture, Japan. They are immersed in the culture for a nine-month period, and, in addition to their academic studies, are provided an opportunity to work in hospitality services aboard the "Michigan," a cruise ship owned by Biwako Kisen Steamship Company, Ltd.

Lansing Community College has also established affiliations with colleges in Belize, Republic of China (Taiwan), Japan, the Republic of Korea and the People's Republic of China. Visiting faculty and staff from these sister colleges have participated as visiting scholars at LCC. Lansing Community College students, faculty, and staff have been involved in educational exchange programs in sister colleges. Affiliations have been established with the following sister institutions:

Central America
St. Johns College
Belize

Republic of China (Taiwan)
Ming Chuan College
Taipei

National Taichung Institute of Commerce
Taichung

National Taipei Institute of Technology
Taipei

Japan
Shiga Prefectural Junior College
Shiga

People's Republic of China
Chengdu University
Sichuan Province

Xian Junior College
Shaanxi Province
Luoyang University
Henan Province

Republic of Korea
Kongju Teacher's College
Kongju

Kyung-Nam Technical Junior College
Pusan
Myongji Junior College
Seoul

LANSING COMMUNITY COLLEGE FOUNDATION

Lansing Community College Foundation is a nonprofit, tax exempt corporation, administered by an independent board of community volunteers, all concerned and dedicated to the continuing excellence of Lansing Community College. The Foundation is autonomous and exists to help the College achieve its educational purposes through building additional financial base.

The Officers and Directors are

William Hollister, Chairperson
Louise Werbelow, Vice Chairperson
David Brogan, CLU, Secretary
Herbert A. Wolford, Treasurer

James Bullock, MD
Hortense Canady
Frank Cherf, CPA
Judith Corr
Jack Davis
Philip Gannon
Joan Hartwig

Dale Martin
Leonard McConnell
Donna McKeague
William Porter, Jr.
Michael V. Tierney



Dear Student:

Welcome to 1987—a milestone year in Lansing Community College's history. It was 30 years ago that the college first opened its doors to a summer-term class of 224 students with six classrooms in our Old Central Building. Since then, several hundred thousand students have attended LCC in their lifelong learning process. As a participant in this 30th anniversary year, you are a special part of our past, present and future.

We are partners in an adventure that we have not totally planned, with a variety of responsibilities to ourselves and others. As President of Lansing Community College, I, too, am in a learning environment. I find my role a constant mix of administrator, student, teacher and community worker.

We live in an international marketplace, making economic choices regarding materials produced across the world by workers who compete for our jobs as we compete with them. In this fast changing world, social and technological choices involve all of us in education and training throughout our lives. This is necessary from the standpoint of employment as well as a rich avocational environment. . . to work without music is to miss the song of life.

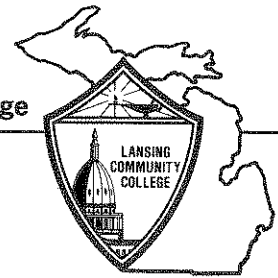
Your college is a part of the fabric of this nation, state and, in particular, your community, and you as a partner in the institution make up Lansing Community College. We are proud that more than 40,000 citizens throughout our metropolitan area attend the college each year and that most of the people who live and work in our community have at one time or another been partners with the college.

Learning, like life, is a joy if it has purpose and direction. When we combine this with an institution that is open and friendly, it becomes a wonderful place to learn, to become a partner and to find some answers in a very complex society. It is a time of great excitement with unlimited opportunities that call for new rigor and discipline.

As we share this special thirtieth year together, please stop by and say "hello."

Sincerely,

Philip J. Gannon
President



ACADEMIC YEAR 1987-88

FALL TERM, 1987

Preparation & Faculty/ Administration Days	September 17, 24
Registration Days	September 18, 21, 22, 24
Classes Begin	September 24
Thanksgiving Recess	November 26, 27
Last Class Day	December 13

WINTER TERM, 1988

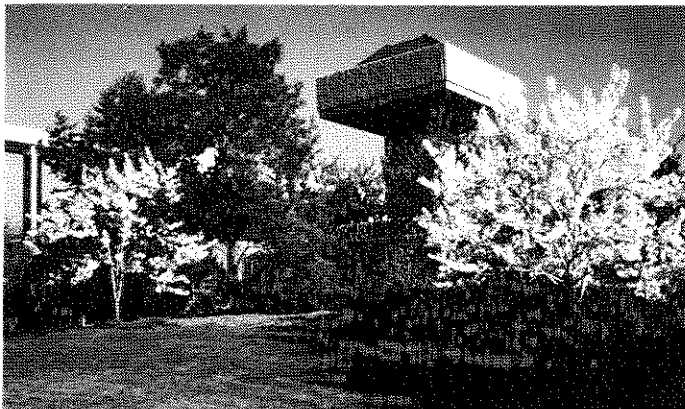
Registration Days	January 4, 5
Preparation/Records Day	January 6
Classes Begin	January 7
Last Class Day	March 23

SPRING TERM, 1988

Registration Days	March 29, 30
Preparation/Records Day	March 31
Classes Begin	April 1
Memorial Day	May 30
Graduation Day	June 12
Last Class Day	June 16

SUMMER TERM, 1988

Registration Day	June 22
Classes Begin	June 23
Independence Day	July 4
Last Class Day	August 17



LANSING COMMUNITY COLLEGE

General Information
Telephone 483-1957

OFFICE OF THE REGISTRAR

Student Personnel Services Bldg.
Telephone 483-1266

OFFICE OF ADMISSIONS

Student Personnel Services Bldg.
Telephone 483-1252

OFFICE OF STUDENT DEVELOPMENT SERVICES

Student Personnel Services Bldg.
Telephone 483-1184

OFFICE OF STUDENT FINANCIAL SERVICES

Student Personnel Services Bldg.
Telephone 483-1296

CAREER PLANNING AND PLACEMENT CENTER

Gannon Vocational Technical Bldg.
Telephone 483-1172

OFFICE OF THE PRESIDENT

Administration Building
Telephone 483-1851

OFFICE OF COLLEGE & COMMUNITY RELATIONS

Administration Building
Telephone 483-1880

OFFICE OF CONTINUING EDUCATION

528 Office Building
Telephone 483-1860

DIVISION OF ARTS & SCIENCES

Arts & Sciences Building
Telephone 483-1010

DIVISION OF BUSINESS

Old Central Building
Telephone 483-1522

DIVISION OF STUDENT PERSONNEL SERVICES

Student Personnel Services Bldg.
Telephone 483-1162

DIVISION OF TECHNOLOGY & APPLIED SCIENCES

Gannon Vocational Technical Bldg.
Telephone 483-1317

DIVISION OF TELECOMMUNICATION & THE ARTS

Office Unit F Building
Telephone 483-1621

AFFIRMATIVE ACTION/EQUAL EMPLOYMENT OPPORTUNITY OFFICE

Moon House
Telephone 483-1858

BUSINESS & INDUSTRY INSTITUTE

North House
Telephone 483-1741

EVENING COLLEGE OFFICE

Arts and Sciences Building
Telephone 483-1011

EVENING COLLEGE OFFICE

Gannon Vocational Technical Bldg.
Telephone 483-1324

EVENING COLLEGE OFFICE

Old Central Building
Telephone 483-1527

EVENING COLLEGE OFFICE

TeleCommunication and the Arts
Telephone 483-1635

GENERAL INFORMATION**ADMISSIONS**

Lansing Community College is an "open door" community college designed to extend service to applicants possessing appropriate preparation to benefit from programs and courses offered at the College. The Admissions Department's main objective is the smooth, uncomplicated processing of qualified applicants into these courses and programs. Determination and judgment of an individual's preparation and readiness to benefit from a course or program at Lansing Community College is the responsibility of College professional personnel. The College reserves the right to deny admission for the purpose of preserving the peace and safety of its students and faculty and the orderly conduct of the educational process.

Persons who are 18 years of age or older or who have graduated from high school are eligible to attend Lansing Community College. Those who do not meet these requirements may still attend LCC in special circumstances. High school students may be admitted to LCC under the dual enrollment program explained later in this section.

The admission application must be completed as early as possible prior to enrollment so that potential students can obtain the courses they wish in the time periods desired. Directions for completing the admission application are:

1. Complete all items requested in the application for admission.
2. Attach a \$10 application fee (check or money order made payable to LCC) to the application. This is a non-refundable fee. Once paid, the fee does not have to be paid again.
3. Lansing Community College applicants in high school or those who graduated from high school in the last year, should forward the application and fee to their high school. Your counselor or principal will complete the lower portion of the application and mail it and your high school records to Lansing Community College.
4. Other applicants may forward the application and fee to the Admissions Office (located on the first floor of the Student Personnel Building at Lansing Community College).
5. Lansing Community College suggests a starting point in English, mathematics, and/or reading courses from our placement test scores. Placement tests may be taken at the following locations:

English and Reading—Communication Department Laboratory located on the third floor of the Arts & Sciences Building (Phone: 483-1060).

Math—Mathematics Laboratory located in Room 015 of the Arts & Sciences Building (Phone: 483-1073).

Admission decisions that require evaluations of special circumstances, including the ability to benefit from attendance, will be considered on an individual basis for the following categories:

- Dual Enrollment—Special Admission
- International Students
- Handicapped Students
- Health Career Applicants
- Aviation Technology Applicants
- Human Services Applicants
- Other Special Circumstance Applicants

All questions and requests for specific information regarding these special circumstance admission procedures should be directed to the Office of Admissions, Lansing Community College, 430 N. Capitol Ave., P.O. Box 40010, Lansing, Michigan 48901, or call (517) 483-1252.

INTERNATIONAL STUDENT ADMISSIONS

Lansing Community College admits international students within the following guidelines, designed to create a positive experience for the international student, the service community, and the College community.

In submitting a request for admission to Lansing Community College, international students should:

1. Request an admissions application from the Admissions Office at the following address:
Admissions Office-25
Lansing Community College
Box 40010
Lansing, MI 48901-7210
2. Submit the completed application along with a \$10 non-refundable application fee to the Admissions Office. Also submit official academic records which have been translated into English (includes high school and any college work).
3. Provide evidence of English competency by submitting official test results from one of the following:
 - A. The Test of English as a Foreign Language with a score of 500 or above (TOEFL).
 - B. The Test of English as a Foreign Language administered by Michigan State University with a score of 75 or above.

The above tests must be taken within one year of date of admission.
4. Submit a financial guarantee indicating the ability to cover all expenses for the entire stay in the United States. Evidence must also be provided of at least \$2000 on deposit in a local bank or with the college to cover tuition and fees and living expenses for initial entry into LCC.
Students whose tuition and fees will be paid by a sponsoring agency must submit a letter of authorization for billing from the agency.
5. When all required information has been received, an admissions decision will be made. If the applicant is accepted, an approved I-20 form will

be issued and sent along with a letter of acceptance. All admission material must be received by the college no later than six weeks prior to the first day of the term of attendance.

6. Transfer applicants must have an official representative of the college or university from which he/she is transferring sign the new I-20 form. Transfer approval takes approximately three months, therefore, the admission procedure to LCC for F-1 or M-1 visa students should be completed three months prior to the term he/she wishes to attend.
7. Upon acceptance, our office will assist each student with the necessary U.S. immigration forms. Each student must also sign an International Student Agreement Form.
8. The academic status of international students will be determined in accordance with the table reflecting standards of progress printed in this publication. In addition, requirements of the United States Immigration Service will be upheld. All international students on an F-1 or M-1 visa must successfully maintain full-time student status, twelve or more credits completed each term for three consecutive terms.
9. Admitted international students are subject to English evaluation upon arrival on campus. If evaluation indicates a need for improved English language skills, appropriate language course placement will be required. Program course work may be taken along with English improvement courses based on recommendations of college officials.
10. Lansing Community College charges an administrative fee for international students admitted under Federal, State or local government, private agency, or group contracts. This fee covers the costs of special services to the international students such as accounting services, agency reports, emergency funding, personal assistance, and contract implementation. This administrative fee is currently \$125 per student per academic term.

These procedures are subject to review by the International Student Services Committee. Any changes made will be brought to the attention of the students, Admissions Office, International Student Counselor, faculty, and administrative staff.

The International Student Services Committee has been established in the Division of Student Personnel Services with the following membership:

1. Director of Admissions
2. Representative from Communication Department
3. Advisor to International Students
4. An appointed faculty member who has shown interest in foreign students
5. Dean of Student Personnel Services

The function of this Committee will be:

1. To serve as a body to review guidelines of required English proficiency for international student admission.
2. To serve as a body to review and evaluate the program of services to international students, such as sponsor documentation, transcript evaluation and academic advising.
3. To serve as an appeal and review body for granting admission to international students.
4. To serve as an appeal and review body for withdrawal from the College based on noncompliance with immigration regulations.

International students who wish to meet with a counselor should contact Claude Beavers, Room 105, Arts & Sciences Building, telephone: (517) 483-1191.

International students who would like copies of documents submitted to Lansing Community College for admission purposes must request these copies no later than one year after the last term of attendance with the college. Lansing Community College does not keep such documents beyond legally required time limits.

ADMISSION TO HEALTH CAREER PROGRAMS

Applicants to any Health Career Program at Lansing Community College should contact the Admissions Office for specific information concerning the process and prerequisites. You may call (517) 483-1252 or write: Admissions Office, Lansing Community College, P.O. Box 40010, Lansing, MI 48901.

GUEST APPLICATIONS

Guest applicants must submit a guest application form supplied by the registrar's office of the college they are attending. The guest applicant must also complete the LCC application form. Transcripts are not necessary. A non-refundable, one time only, application fee of \$10.00 is required. A guest application must be renewed each term if the applicant wishes to continue in that category of admission.

DUAL ENROLLMENT

This program is designed to provide an opportunity for qualified high school students to earn college credit commensurate with their high school study. This college credit will count toward a degree program at Lansing Community College. High school credit may or may not be granted according to the discretion of the participating high school. Dual enrollment affords students educational enrichment in specific areas where unusual interest and ability are displayed in high school.

For eligibility in the Dual Enrollment Program:

1. Applicant must be working toward graduation requirements at an accredited high school.

2. Applicant must have attained junior or senior high school standing prior to applying for the program.
3. Applicant must have written recommendation from his/her high school principal or representative.
4. The final decision for acceptance rests with Lansing Community College.

Applicant procedures for Dual Enrollment:

1. Applicant must complete a college application.
2. Applicant must obtain a written recommendation from his/her high school principal or representative.
3. The applicant then submits application to the high school records office with an accompanying \$10.00 application fee.
4. The application is completed by the high school records office and sent to the Admissions Office at Lansing Community College.

Applicants who are accepted will receive notification and information concerning registration procedures. Those applicants denied admission will also be notified.

APPEAL OF COLLEGE ADMISSION

Any applicant denied admission to the College may appeal this decision to the Director of Admissions. The decision to admit or uphold denial of admission will be based on the individual merits of each appeal. The decision shall be given to the applicant, in writing, within seven calendar days of the date of appeal.

In the event that the Director of Admissions does not admit an appealing applicant, that applicant may carry his/her appeal to the Admissions Board of Review. This petition must be made in writing within seven calendar days, but not later than through the fourth day of the term of application. The board will be convened in an expeditious manner, and a decision will be rendered within seven calendar days of the date of the applicant's written appeal. Members of the Admissions Board of Review are: Director of Admissions, Chairperson, Administrative Assistant to the Dean of Student Personnel Services, a counselor to be named by the Dean of Student Personnel Services.

If the applicant is not satisfied with the decision of the Admissions Board of Review, an appeal may be made to the Board of Appeals. This appeal must be submitted in writing to the Chairperson of the Board of Appeals within seven calendar days of the applicant's receiving the decision of the Admissions Board of Review, but not later than through the fifth day of the term of application.

Members of the Board of Appeals are: Dean of Student Personnel Services, Chairperson, the Dean of the Division of the applicant's curricular choice, and the Chairperson of the Department of Student Development Services. The Board of Appeals may, upon reviewing the merits of the case, render a decision or schedule a hearing with the applicant prior to rendering a decision. The review by the Board of Appeals will be conducted in an expeditious manner and a decision will be rendered within seven calendar days of the date of the applicant's appeal. The decision of the Board of Appeals is final.

The decisions of the Admissions Board of Review and the Board of Appeals will be reached by simple majority vote, and a record will be maintained (in the student's cumulative record) regarding the decision(s) of these Boards. The applicant will be notified in writing of the decision(s) of the Boards.

RESIDENCY

I. Eligibility for Paying Resident Tuition

A. Before acceptance into College—A student must be an American citizen and meet one of the following qualifications before being eligible to pay resident tuition. International students are not eligible to pay resident tuition.

1. Student is under 18 years of age
 - a. Student's parents or legal guardians have resided within the LCC district for at least six months immediately prior to the first day of classes.
 - b. Student is married and has resided within the LCC district at least six months immediately prior to the first day of classes.
 - c. Student is unmarried and is recognized as "emancipated" (receives no financial support from parent or legal guardian) and has resided within the LCC district for at least six months immediately prior to the first day of classes.
 - d. The student is enrolled under the provisions of Act 245, Public Acts of 1935, as amended by Act 371, Public Acts of 1965 (students receiving benefits under the Michigan Veterans' Trust Fund.)
 - e. The student is an employee of a business or industrial firm within the LCC district, and the employer, by written agreement, agrees to pay directly to the College all tuition and fees of the sponsored student for employer-approved classes.
2. Student is over 18 years of age
 - a. Student has resided within the LCC district at least six months immediately prior to the first day of classes.
 - b. The student is an employee of a business or industrial firm within the LCC district, and the employer, by written agreement, agrees to pay directly to the College all tuition and fees of the sponsored student for employer-approved classes.
 - c. The student is enrolled under the provisions of Act 245, Public Acts of 1935, as amended by Act 371, Public Acts of 1965

(students receiving benefits under the Michigan Veterans' Trust Fund).

B. After acceptance into College - student must meet one of the following qualifications to be eligible to pay resident tuition.

1. Student is under 18 years of age
 - a. Student's parent or guardian has established residence within the LCC district for at least six months immediately prior to the date of petitioning for a change in residence status.
 - b. Student is married and has established residence within the LCC district for at least six months prior to the date of petitioning for a change in residence status.
 - c. Student is unmarried and is recognized as "emancipated" and has established residence within the LCC district for at least six months prior to the date of petitioning for a change in residence status.

II. Proof of Residency

All students must provide proof of residency at the time of registration (Michigan House Bill No. 4166, 1985). Lansing Community College reserves the right to make the final decision on residency eligibility. AN UPDATED MICHIGAN DRIVER'S LICENSE PLUS ONE OF THE DOCUMENTS LISTED BELOW ARE ACCEPTABLE AS PROOF OF RESIDENCY. To be classified as a resident, a student must have lived within the LCC District for six months immediately prior to the first day of class.

1. Property tax receipts
2. Rental or lease agreement
3. Canceled rent checks (for each month of residency)
4. Voter's registration card or voting record (dated at least 6 months prior to the beginning of the term)
5. The purchase of property within the LCC College District eliminated the waiting period for the establishment of residency. The student or the student's guardian must reside on the property. Acceptable proof of ownership includes:
 - A. Deed-Abstract of Title
 - B. Current Tax Statement

III. Petitioning for a Change in Residency Status

A. Upon registering for classes, a student shall be notified of his/her residency status. If he/she can substantiate that he/she has been mistakenly identified as a non-resident, he/she may offer proof, and residency status shall be changed.

B. After acceptance into the College and attendance by the student under a non-resident code, the student can change his/her residency if he/she meets one of the qualifications above.

1. Student must fill out appropriate form available in Registrar's Office.
2. Student must submit proof of residency claim.

IV. Adjustments in Tuition

A. If applicable for the term petition turned in, the student shall be refunded the difference of resident and non-resident tuition.

B. Any adjustments in tuition due to a change in residency are not retroactive.

V. Non-resident owning property in LCC District will receive credit for property taxes paid in support of the College by himself/herself or his/her guardian. The taxes paid must be in support of the current academic year and the credit cannot exceed the differential between resident and non-resident tuition rates for the current academic year. To obtain this credit the student must provide the Registrar's office with the property tax paid receipt.

HOUSING

Lansing Community College maintains no housing units for students, nor does it enter into third party contracts or supervise off-campus housing.

ACADEMIC STANDING POLICIES GRADING SYSTEM

The following numerical system is used at Lansing Community College to evaluate academic work:

College Standard	Recommended Narrative Equivalent	Guideline for Performance Achievement of Objectives
4.0	Excellent	91% to 100%
3.5		86% to 90%
3.0	Good	81% to 85%
2.5		76% to 80%
2.0	Satisfactory	71% to 75%
1.5		66% to 70%
1.0	Poor	60% to 65%
0.0	Failure	0% to 59%

Instead of a numerical grade, students may receive an alphabetical letter for their coursework if they have audited a course (X), withdrawn from a course (W), did not complete coursework (I) or were returning to the course (R). Specific regulations regarding these alphabetical letters are as follows:

An "I" (incomplete) designation is temporary. It is not a grade. An instructor may approve a student-initiated request for an incomplete if 80 percent of the course work has been completed and if, in the instructor's judgment, there

was good reason why the student could not complete the balance of the required work during the time of enrollment. The student must complete the requirements of the course no later than the closing date of the next term of attendance or by an earlier deadline set by the instructor. "I" grades will not be counted toward the establishment of an earned grade point average (G.P.A.) or toward graduation from Lansing Community College. If the request for an incomplete is not approved, the grade earned consistent with the course requirements will be assigned when the final grades are submitted.

A "W" grade indicates a withdrawal from a course with achievement in the course above the failure level at the time of withdrawal. If a request for withdrawal is received by the Registrar any time before the end of the fourth week of the term, no grade will be recorded on the student's academic record. Approved requests for withdrawal received by the Registrar after the last day of the fourth week of the term will result in the student's record reflecting a "W." If the request for withdrawal is not approved, a grade earned consistent with the course requirement will be assigned by the instructor when final grades are submitted.

An "X" grade is given when a student chooses to audit. No credit is granted, but enrollment is reflected on the student's academic record.

An "R" grade indicates that a student will be returning to a course later. No credit is granted for such designations. They are used for "open lab" courses only.

COMPUTING GRADE POINT AVERAGE

A student's grade point average is determined on the following basis:

Numerical Grade	Honor Points
4.0	4.0
3.5	3.5
3.0	3.0
2.5	2.5
2.0	2.0
1.5	1.5
1.0	1.0
0.0	0.0

"W," "X" and "I" grades are not included in figuring grade point averages. Thus, a student who receives 5 credit/hours of 4.0, 5 credit/hours of 3.0 and 5 credit hours of 2.0 would have a total of 45 honor points. To compute the grade point average (G.P.A.), the number of honor points earned is divided by the number of credit/hours taken during the term.

CREDITS FOR COURSE WORK COMPLETED

A full-time student schedule is 12 or more credit hours per term.

In general, a class meets one hour each week for each credit earned. However, more time is required for courses with laboratory work. A full-time student taking laboratory work, should plan on approximately 20 hours of class attendance each week.

The credit hour value of each course is included in this catalog and each term's class schedule booklet.

GRADE REPORTS

An official academic grade report will be mailed to the student approximately one week after the close of each term.

The grade report will be withheld if the student has a financial obligation to the College that has not been fulfilled.

STUDENT OFFICIAL ACADEMIC RECORD

The Office of the Registrar maintains the official permanent academic record of every student who attends the College. Each student's record is updated at the close of each term.

REPEAT COURSES

The student's academic record includes credit hours, honor points and grade point averages for the second time through a repeated course. The initial election of the course and the grade will appear on the record. When repeating a course the highest grade earned will be used in computing the cumulative grade point average. An updated copy of your academic record will be mailed when the repeat grade has been processed.

AUDITING

A student who desires to attend a class regularly, but does not wish to take final examinations or receive an achievement grade and credit may register as an auditor. Credit for auditing a class cannot be established beyond the last day of 100% refund for classes. Beyond the last day for 100% refund, auditors cannot change their status to that of a credit student. Students who are non-auditors cannot change their status to an auditor after last day of 100% refund. Status as an auditor must be requested by the student through the Registrar.

CREDIT BY EXAMINATION (COMP. EXAMS)

A student may obtain credit for certain courses at the discretion of an instructor and department chairperson by passing comprehensive examinations only during the term in which the student is regularly enrolled. The procedure a student uses to obtain comprehensive examination credit is:

1. The student picks up an application for credit by examination at the Office of the Registrar.
2. The student completes the required information on the application and takes the application to the department for instructor and chairperson signatures of approval.
3. After obtaining the required signatures, the signed application is returned to the Cashier's Office in the Student Personnel Services building for payment of tuition.
4. The student will complete an examination for each course in which he/she is to receive credit.
5. An examination will not be given by the instructor until the student presents the appropriate payment receipt. No more than one examination will be given for a single payment.
6. The examination, evaluated by the instructor, will be maintained on file in the department chairperson's office.
7. The Office of the Registrar will contact the department and request the grade which was earned upon completion of the examination. A grade will be recorded for each comprehensive examination given.
8. The student will receive an official notice of the grade earned at the end of the term in which the examination was taken or when processing has been completed.

TRANSFER OF CREDITS

Official transcripts of a student's record at Lansing Community College will be mailed to another institution at the written request of the student. An "official transcript" is one which is signed by the Registrar, has the school seal placed over the signature and gives the date of graduation if a degree has been granted.

A fee of \$2 is charged for each transcript. All transcript requests require 48 hours notice.

A student expecting to transfer to a four-year institution is advised to examine the current catalog of the college he/she expects to enter and to follow as closely as possible its recommendations for particular programs of study. More specific information about transferring credits may be obtained from any counselor.

ACCEPTANCE AND EVALUATION OF TRANSFER CREDITS FROM OTHER INSTITUTIONS

Credit will be given for courses transferred from accredited institutions. The credit value of each of these courses will be determined by Lansing Community College. Credits only, not grades, are transferred for "C" or better courses. When the overall Grade Point Average of a transferring student is at or above a 2.00 on a 4.00 scale, the 1.0-1.5 or "D" credits will be accepted. When the transferring overall Grade Point Average is below a 2.00 on a 4.00 scale, the student may petition the chairperson of his/her academic department or his/her program director to waive a requirement(s) in which he/she has previously earned a 1.0-1.5 or "D." Waiver of a course requirement does not provide credit for a course. The chairperson of the department or program director concerned will notify the registrar and a notation of the course waiver will be indicated on the student's permanent record.

Upon receipt of a transcript from a non-accredited institution the Office of the Registrar will forward the transcript in question to the chairperson of the department or program director in which the student has enrolled. The department's chairperson or program director has the following three prerogatives available in evaluating transcripts issued by non-accredited institutions and granting credits toward graduation from Lansing Community College:

1. Credit may be granted with demonstration by the student of skills commensurate with the performance required for satisfactory completion of existing courses.
2. Credit may be granted upon review of the content, goals and objectives of a particular course with determination of whether the course is on a par with existing courses of the College. It is the responsibility of the student to provide requested materials to make proper evaluation possible. This material should include: Hours of course/program; course description and outline; means of student evaluation and grade if given; outside work required; and verification of successful completion.
3. Credit may not be granted.

The departmental chairperson or program director will return the transcript to The Office of the Registrar and indicate in writing the credits granted and the course equivalency at Lansing Community College.

When two or more instructional departments or programs are involved, the chairperson of the department or program director in which the student is enrolled will be responsible for consulting with the additional departmental chairperson or program directors. When two or more departments are involved, the written reply to The Office of the Registrar will include the signatures of each departmental chairperson or program director.

CREDIT EVALUATIONS FOR TRANSFER STUDENTS

1. Freshman and sophomore level courses are accepted in transfer. Higher level credits are accepted if they correspond to a specific course at LCC.
2. Credits only, not grades, are transferred for "C" (2.0) or better courses. When the overall Grade Point Average of a transferring student is at or above a 2.00 on a 4.00 scale, the 1.0-1.5 or "D" credits will be accepted. When the transferring overall Grade Point Average is below a 2.00 on a

- 4.00 scale, the student may petition the chairperson of his/her academic department to waive a requirement(s) in which he/she has previously earned a 1.0-1.5 or "D." Waiver of a course requirement does not provide credit for a course. The chairperson of the department concerned will notify the Registrar and a notation of the course waiver will be recorded on the student's permanent academic record.
3. No evaluation is made when a student has received a 2 or 4-year degree from another institution. This may be done upon request, but it is ordinarily assumed that the student is pursuing an entirely different curriculum and will not need previous course work.
 4. Credits from non-accredited institutions are evaluated by the department chairperson of the area in which the student enrolled. If the student changes his/her curriculum, he/she should notify the Office of the Registrar, as there may be a difference in the evaluation made.
 5. A student may request a change in the evaluation, if he/she feels that a course description differs from the way in which it was evaluated. Verification of the change will be made with the department chairperson concerned.
 6. Any course in which the student received a "C" (2.0) or better will be considered for evaluation. In most cases the course will be accepted for a corresponding LCC course or an elective credit. In cases where LCC has no department or area similar to the courses on incoming transcripts, no credit will be given.
 7. Only official transcripts will be evaluated. Student grade reports or student copies of the record are not acceptable.
 8. Transfer credits granted will be shown on the student's academic record.

CREDIT FOR PREVIOUSLY ACQUIRED KNOWLEDGE AND LEARNING EXPERIENCE

Lansing Community College has an agreement that learning outside of the classroom is valid. Therefore, it is the College's function to assess extra-institutional learning as part of its credentialing responsibility.

To obtain credit for work experience and/or training, a student may make application at the Office of the Registrar by using the following procedure.

1. Application Procedures

Relevant aspects of personal and professional experience gained through actual job-related activities and special training experiences, may be applied to an academic program. These experiences may be translated into academic credit provided they are directly related to the program (curriculum) or degree being pursued at Lansing Community College. These experiences must have been obtained from a non-academic source or not otherwise be available for academic credit through the transfer process outlined earlier.

Any student who is currently enrolled at Lansing Community College may apply for experiential learning credit by obtaining an Experiential Learning Processing Form from the Office of the Registrar, Student Personnel Services Building, (517) 483-1266. Prior to payment of the processing fee and submitting the portfolio of supporting documents, the student is requested to review with the academic department in which credit is being sought the probability of credit being granted. Students must then submit the completed Experiential Learning Processing Form to the Registrar, including as much supporting documentation as possible. Payment of a \$25 processing fee must accompany submission of the form and portfolio. The student must also attest by his or her signature that the information submitted is true, to the best of their knowledge. The processing fee is non-refundable.

A fee of the resident tuition rate per credit hour will be charged for those credits which are determined awardable and which apply to the student's program (curriculum). Fees are subject to change by the Board of Trustees without prior notice.

2. Division Assessment Committee:

The completed Experiential Learning Processing Form and portfolio of supporting documents will be forwarded by the Registrar to the chairperson of the respective Divisional Experiential Learning Assessment Committee. The chairperson will assign the portfolio to an appropriate and impartial assessor for review and credit assessment. Assessors, composed of a cross-section of faculty and administrators, have the responsibility for evaluation and assignment of academic credit for experiential learning.

In the evaluation process the assessor will verify the accuracy and validity of the information stated on the Experiential Learning Processing Form and the accompanying supporting documents by contacting various references and former employers whose names have been provided. If all is in order the committee member will determine whether the student's experiential learning fits into appropriate competency and subject areas within the student's educational program (curriculum) at Lansing Community College. The assignment of credit must be stated in terms of equivalent courses which are offered by the respective divisions of Lansing Community College.

3. Documentation:

All experiential learning must be documented by the student. "Documentation" may be defined as (but not limited to) complete job descriptions, copies of course materials and outlines, certificates, training

reports, signed supervisory verifications and evaluations on letterhead, and any other descriptive information that may provide a clear understanding of a student's background and competencies. Lansing Community College requires certification that the work or training experience is the student's own. The portfolio containing the Experiential Learning Processing Form and all supporting documents will be retained by the College. A maximum of 60 term hours of experiential learning may be applied towards an LCC Associate Degree. (Thirty credits must be earned at Lansing Community College to comply with the College's residency requirements.)

NOTE: Lansing Community College's decision to award credit for experiential learning does not obligate any other institution to accept such credits in transfer. Receiving institutions reserve the right to assess transcripts of incoming students, and award credit as they see fit.

Credits received by student based on experiential learning may not be used for financial aid or veteran's benefits eligibility.

Lansing Community College does not accept the transfer of credit for experiential learning awarded at other institutions.

4. Applicability of Credit:

The Divisional Assessment Committee, alone, will determine what credit granted can be applied to the student's program on an LCC course equivalency basis. In determining whether it is appropriate to accept a student's experiential learning for credit, the major considerations should be the student's educational objective and extra-institutional learning achievement. Credit for experiential learning will be recorded on a student's official transcript on the basis of a course-by-course equivalency, and shall be prominently identified as credit for experiential learning.

5. Student Appeal Procedures:

Students who believe their evaluation of experiential learning is incorrect may file a written appeal to the dean of the division in which the experiential learning credit is being sought. Appeals must be received within six months from the date the credit authorization was approved. In such instances the dean will conduct a procedural review to insure that the student has been treated in a fair and non-discriminatory manner. The decision of the dean shall be final.

CREDIT/NO-CREDIT GRADING

The credit (P)/no credit (Z) grading system has been established as a divisional option. This system is reserved for special course offerings where a credit/no-credit grading system is most appropriate for the goals and objectives of the course.

1. Course prerequisites and other criteria for enrolling in courses offered on the P-Z grading system shall be determined by the department or division offering the course.
2. Courses offered on the P-Z grading system will be published as being graded only on the P-Z grading system and the course syllabus will be explicit regarding this fact.
3. Courses graded on the P-Z system may be counted toward an associate degree or certificate based on approval of the appropriate dean. A maximum of 10 percent of the total credits required for a degree or certificate may be acquired on the P-Z system.

Grading procedure of the credit/no-credit system:

1. Grades on the P-Z system are not included in computing the term or cumulative grade average.
2. The grades granted on the P-Z system are determined with definition of P and Z as follows:
 - a. (P) credit—represents a level of performance equivalent to a regular number grade of 2.00 or above on a 4.00 system.
 - b. (Z) no credit - represents a level of performance less than a 2.00 on a 4.00 system: no credit is granted.

All courses attempted on the P-Z grading system will appear on the student's academic record.

TABLE FOR DETERMINING ACADEMIC STATUS

Following is the table for determining your academic standing at Lansing Community College. To use this table: 1) locate on your grade report or academic transcript your cumulative grade point average and the total number of credits completed, 2) find your position in the left-hand column of the table, 3) read across the page to your right until you locate the column which includes your current cumulative grade point average. This column heading indicates whether you are in the "Good Standing Range," the "Warning Range" or the "Withdrawal Range." Immediately following the table are the definitions of the various academic ranges at Lansing Community College. Please refer to these definitions for an exact explanation of your academic status. A detailed explanation of the academic appeal process is also printed in the section immediately following the table.

In addition to the table, students in certain selective admission programs may be placed on program probation or receive academic warning for deficiencies in their clinical performance even though the student's cumulative G.P.A. may be within the overall College's "Good Standing Range."

ACADEMIC STATUS			
Credits Completed	Good Standing Cumulative G.P.A.	Warning Range Cumulative G.P.A.	Withdrawal Range Cumulative G.P.A.
1-11	1.88 and above	1.00-1.87	.99—or less
12	1.89 " "	1.00-1.88	1.00 "
13	1.89 " "	1.03-1.88	1.02 "
14	1.89 " "	1.05-1.88	1.04 "
15	1.90 " "	1.06-1.89	1.05 "
16	1.90 " "	1.08-1.89	1.07 "
17	1.90 " "	1.10-1.89	1.09 "
18	1.91 " "	1.11-1.90	1.10 "
19	1.91 " "	1.13-1.90	1.12 "
20	1.91 " "	1.14-1.90	1.13 "
21	1.92 " "	1.16-1.91	1.15 "
22	1.92 " "	1.19-1.91	1.17 "
23	1.92 " "	1.19-1.91	1.18 "
24	1.93 " "	1.21-1.92	1.20 "
25	1.93 " "	1.22-1.92	1.21 "
26	1.93 " "	1.24-1.92	1.23 "
27	1.94 " "	1.26-1.93	1.25 "
28	1.94 " "	1.27-1.93	1.26 "
29	1.94 " "	1.29-1.93	1.28 "
30	1.95 " "	1.30-1.94	1.29 "
31	1.95 " "	1.32-1.94	1.31 "
32	1.95 " "	1.34-1.94	1.33 "
33	1.96 " "	1.35-1.95	1.34 "
34	1.96 " "	1.37-1.95	1.36 "
35	1.96 " "	1.38-1.95	1.37 "
36	1.97 " "	1.40-1.96	1.39 "
37	1.97 " "	1.42-1.96	1.41 "
38	1.97 " "	1.43-1.96	1.42 "
39	1.98 " "	1.45-1.97	1.44 "
40	1.98 " "	1.46-1.97	1.45 "
41	1.98 " "	1.48-1.97	1.47 "
42	1.99 " "	1.50-1.98	1.49 "
43	1.99 " "	1.51-1.98	1.50 "
44	1.99 " "	1.53-1.98	1.52 "
45	2.00 " "	1.54-1.99	1.53 "
46	2.00 " "	1.56-1.99	1.55 "
47	2.00 " "	1.58-1.99	1.57 "
48	2.00 " "	1.59-1.99	1.58 "
49	2.00 " "	1.61-1.99	1.60 "
50	2.00 " "	1.62-1.99	1.61 "
51	2.00 " "	1.64-1.99	1.63 "
52	2.00 " "	1.66-1.99	1.65 "
53	2.00 " "	1.67-1.99	1.66 "
54	2.00 " "	1.69-1.99	1.68 "
55	2.00 " "	1.70-1.99	1.69 "
56	2.00 " "	1.72-1.99	1.71 "
57	2.00 " "	1.74-1.99	1.73 "
58	2.00 " "	1.75-1.99	1.74 "
59	2.00 " "	1.77-1.99	1.76 "
60	2.00 " "	1.78-1.99	1.77 "
61	2.00 " "	1.80-1.99	1.79 "
62	2.00 " "	1.82-1.99	1.81 "
63	2.00 " "	1.83-1.99	1.82 "
64	2.00 " "	1.85-1.99	1.84 "
65	2.00 " "	1.86-1.99	1.85 "
66	2.00 " "	1.88-1.99	1.87 "
67	2.00 " "	1.90-1.99	1.89 "
68	2.00 " "	1.91-1.99	1.90 "
69	2.00 " "	1.93-1.99	1.92 "
70	2.00 " "	1.94-1.99	1.93 "
71	2.00 " "	1.96-1.99	1.95 "
72	2.00 " "	1.97-1.99	1.96 "
73	2.00 " "	1.97-1.99	1.96 "
74	2.00 " "	1.97-1.99	1.96 "
75	2.00 " "	1.97-1.99	1.96 "
76	2.00 " "	1.97-1.99	1.96 "
77	2.00 " "	1.97-1.99	1.96 "
78	2.00 " "	1.97-1.99	1.96 "
79	2.00 " "	1.97-1.99	1.96 "
80	2.00 " "	1.97-1.99	1.96 "
81	2.00 " "	1.97-1.99	1.96 "
82	2.00 " "	1.97-1.99	1.96 "
83	2.00 " "	1.97-1.99	1.96 "
84	2.00 " "	1.97-1.99	1.96 "

85	2.00 " "	1.97-1.99	1.96 "
86	2.00 " "	1.97-1.99	1.96 "
87	2.00 " "	1.97-1.99	1.96 "
88	2.00 " "	1.97-1.99	1.96 "
89	2.00 " "	1.97-1.99	1.96 "
90	2.00 " "	1.97-1.99	1.96 "
91	2.00 " "	1.97-1.99	1.96 "
92	2.00 " "	1.97-1.99	1.96 "
93	2.00 " "	1.97-1.99	1.96 "
94	2.00 " "	1.97-1.99	1.96 "
95	2.00 " "	1.97-1.99	1.96 "
96+	2.00 " "	1.97-1.99	1.96 "

SATISFACTORY PROGRESS

GOOD STANDING

A student whose cumulative Grade Point Average is in the "Good Standing Range" is considered to be making satisfactory academic progress.

WARNING RANGE

A student whose cumulative Grade Point Average is in the "Warning Range" will be considered by the College as making minimum satisfactory academic progress. A student who falls in this range is strongly advised to make use of the academic support services that are available at the College. These services include: consultation with instructor or department head, Testing and Counseling, Tutorial Services, and the Communication Lab and Math Lab (Arts and Sciences building).

UNSATISFACTORY PROGRESS

WITHDRAWAL RANGE

A student whose cumulative Grade Point Average is in the "Withdrawal Range" is considered to be making unsatisfactory academic progress. This student will be withdrawn from the College because of unsatisfactory academic progress.

However, a student whose cumulative Grade Point Average falls in the "Withdrawal Range" during the student's first term of attendance may be allowed to reenroll on probation as if the student were making satisfactory progress. If the student's cumulative Grade Point Average falls in the "Withdrawal Range" for a second consecutive term or any term thereafter, the student will be academically withdrawn from the College because of unsatisfactory academic progress.

SATISFACTORY PROGRESS FOR VETERANS BENEFITS ELIGIBILITY

In compliance with Veterans Administration statutory requirements of subparagraph 56, section 1775 of chapter 36, Title 38 U.S. Code, Lansing Community College student veterans benefits recipients will not be certified as eligible for benefits when their academic progress (cumulative grade point average) places them in the academic warning range (probation) beyond two terms of enrollment. Re-certification of eligibility for benefits will not be considered until after the term in which the student regains academic good standing (see Academic Standing Scale).

COMPLETION OF CREDITS ATTEMPTED FOR FINANCIAL AID ELIGIBILITY

In addition to the above, and beginning with the second term of attendance, a student financial aid recipient who does not complete 50 percent of the credits attempted on a cumulative basis, will be considered as making unsatisfactory academic progress and may therefore be withdrawn from the College. Grades of completion include: 4.0, 3.5, 3.0, 2.5, 2.0, 1.5, 1.0, and X. Grades such as I and W are grades of non-completion.

APPEAL OF ACADEMIC WITHDRAWAL

Any student who has been academically withdrawn from the College may appeal the withdrawal to an academic hearing officer in the Registrar's Office. The decision to reinstate or not reinstate a student will be based on the individual merits of each appeal.

In the event that the academic hearing officer does not reinstate a student, that student may appeal within seven calendar days, but not later than the fourth day of classes, in writing to the Matriculation Board of Review on a form provided by the Office of the Registrar. The Board will be convened in an expeditious manner, and a decision will be rendered within seven calendar days of the student's written appeal. Members of the Matriculation Board of Review are: Registrar (chairperson), Assistant to the Dean of Student Personnel Services, and a counselor appointed by the Dean of Student Personnel Services. In the event that the student is not in agreement with the decision of the Matriculation Board of Review, the student may appeal the decision to the Board of Appeals. This appeal must be submitted in writing to the Chairperson of the Board of Appeals within seven calendar days of the student receiving the decision of the Matriculation Board of Review. Members of the Board of Appeals are: Dean of Student Personnel Services (chairperson), the dean of the division of the student's curricular choice, and the Chairperson of the Department of Student Development Services. The Board of Appeals may, upon reviewing the merits of the case, render a decision or schedule a hearing with the student prior to rendering a decision. The review by the Board of Appeals will be conducted in an expeditious manner and a decision will be

rendered within seven calendar days of the date of the student's appeal. The decision of the Board of Appeals is final.

The decisions of the Matriculation Board of Review and the Board of Appeals will be reached by simple majority vote, and a record will be maintained (in the student's cumulative records) regarding the decisions of these Boards. The student will be notified in writing of the decisions of these Boards.

STUDENT ACCESS TO RECORDS

A student and/or parent of a student, if the student is less than 18 years of age, shall have the right, upon proper identification, to inspect and review any and all official records, files and data directly related to the student. These records include all materials that are incorporated in the student's cumulative folder, including, but not limited to, identifying data, academic work completed, standardized test scores, attendance data, inventory results, health data, family background data, and instructor or counselor ratings and observations. Requests to inspect and review student files shall be in writing to the Registrar and shall be responded to within a reasonable period of time, but in no case more than 45 days after the request is made.

The student shall have an opportunity for a hearing before a College official designated by the President, to challenge the contents of the student's records, to insure that the records are not inaccurate, misleading, or otherwise in violation of the privacy or other rights of the student, and to provide an opportunity for the correction or deletion of any such inaccurate, misleading, or otherwise inappropriate data contained therein.

Written approval by the student or parent concerned is required before release will be given of personally identifiable information from the student's records or files. Exceptions to this statement include releasing information to:

1. Academic and Administrative Officials of Lansing Community College. Academic and Administrative Officials are defined as those members of the College who act in the student's educational interest within the limitations of the official's need to know. Officials may include faculty, administration, clerical, and professional employees and other persons who manage student record information.
2. High schools, colleges and other educational institutions in which the student is enrolled or intends to enroll. Students will be notified as to the information released if the request does not emanate from the student.
3. Individuals and organizations who provide financial aids or scholarships to students.
4. Authorized representatives of the Comptroller General of the United States, the Secretary of the Department of Health, Education and Welfare, and administrative heads of state and federal educational agencies authorized by law.
5. Appropriate authorities in compliance with judicial orders and pursuant to lawfully issued subpoenas. The student shall be notified of any such orders or subpoenas prior to compliance by the College.
6. Accrediting organizations carrying out their accrediting function.
7. Persons in an emergency, if the knowledge of the information in fact is necessary to protect the health or safety of students or other persons.
8. Parents of a student who have established that student's status as a dependent according to Internal Revenue Code of 1954, Section 152.

Those individuals, agencies or organizations, external to the College, who desire access to student records and files and who fall in the exclusions above, shall sign a written form indicating specifically the legitimate interest for seeking the information. The forms shall include the names and addresses of the individual and/or agency requesting the information. These forms shall be maintained in the student's files.

Records of request and student file disclosures need not be maintained for those requests made by academic and administration officials of the College. Each academic and administrative official of the College is subject to the requirements of the Family Educational Rights and Privacy Act of 1974, as amended, which prohibits the release of personally identifiable information from student files without the student's written consent.

A hold may be applied to the release of a transcript or other information requested from the academic records of a student who has an overdue indebtedness to the College, except that the student shall have personal access to such records.

Students may request that their academic records be given to any person or group by asking the Registrar in writing.

Student lists shall not be distributed to non-College agencies.

GRADUATION REQUIREMENTS AND DEGREES

Associate Degrees and Certificates are granted to all who meet graduation requirements. A minimum of 90 credit hours is required for an Associate Degree and 45 credit hours for a certificate. A student completing the requirements should apply for graduation during the term prior to that in which the work is completed. Those students who maintain a 3.75 grade point average will be graduated Summa Cum Laude; those who maintain a 3.50 grade point average will be graduated Magna Cum Laude; those with a 3.25, Cum Laude. Students must complete 60 credit hours of work at Lansing Community College to qualify for honors.

To graduate from Lansing Community College a student must:

1. Complete a course of study adapted to individual needs, interests, and capacities, and conform to a plan acceptable to the College. The course

of study should: (a) be suitable for transfer to admit the student to the level of upper-division work in a four-year college of personal choice, or (b) form a program of study to be completed at the end of one or two years at Lansing Community College.

2. Maintain a minimum grade point average of 2.0.
3. Earn toward graduation at least 30 credits in attendance at Lansing Community College.
4. File with the Office of the Registrar an application for graduation one term preceding the term of graduation.
5. Have completed a course in Political Science, required by LCC (Social Science 103, Political Science, 104 American Government and 105 State and Local Government will satisfy this requirement).
6. Satisfy all general and specific requirements of Lansing Community College including the fulfillment of all financial obligations.
7. Have the approval of the administration and the Board of Trustees.

HOW TO APPLY FOR THE ASSOCIATE DEGREE OR CERTIFICATE OF COMPLETION

The student submits his/her application for diploma/certificate to the Office of the Registrar. It is important that the student attach copies of any authorized course substitutions or waivers to the application. It is also beneficial to the Registrar's Office if the student will attach a copy of the curricular guide she/he has been following.

Copies of the student's academic record, current term schedule and curricular guide (if not submitted by the student) are attached to the application. The information is reviewed in the Office of the Registrar.

1. If any requirements remain after this initial review, the student will be sent a Degree Audit Report along with an unofficial copy of his/her transcript. Any exceptions to the courses listed on the audit report must be noted on the form by the student's program director or authorized representative, stamped by the departmental office, and be returned to the Registrar's Office. A copy will be attached to the Application for Diploma. The student will be responsible for completing the remaining courses unless a revised form is submitted to the Office of the Registrar.
2. If no requirements remain after the initial review, the application will be sent to the appropriate departmental program director and divisional dean for approval. When the application is returned to the Registrar's Office, the student is sent a letter indicating they must successfully complete the current term.

The application is held on file until the current term grades are recorded and successful completion of the term verified. Applications for students who do not successfully complete the term are recycled and are held on file until all requirements are met or up to one year. It is important that a student make application for his/her degree at least one term in advance of graduation. The procedure outlined above may take a full term to complete.

Soon after the end of the term, an official copy of the student's LCC transcript, noting the degree and date of completion, will be sent to the student. This transcript is official notification that all course requirements have been met. Diplomas are mailed within two months after the last day of the term.

CRITERIA FOR THE ASSOCIATE DEGREES IN ARTS AND IN SCIENCE, DIVISION OF ARTS AND SCIENCES

- I. REQUIREMENTS Effective Fall Term, 1985.
 - A. 90 credits
 - B. G.P.A. of 2.0 or higher
 - C. 30 credits in attendance at LCC
 - D. Completion of SS 103, or 104, or 105
 - E. The student is required to take a core of at least 12 credits in each of the following areas: Composition/English, Humanities, Science and Social Science.
 1. It is recommended that the requirement of 12 credits in Humanities be fulfilled by the sequence in World Civilizations: HUM 211, 212, 213. Students may substitute other courses in the curriculum of the Humanities Department for any of the above, provided that these are distributed in at least two of the following five areas:
 - a. Art and Music History (HUM 101, 150, 151, 152)
 - b. History (HST 104-296)
 - c. Literature (ENG 201-296 and HUM 102)
 - d. Philosophy and Religion (PHL 101-296; REL 150-296; and HUM 104)
 - e. Interdisciplinary Humanities (HUM 121-123) may be substituted as a whole or in part for HUM 211-213.
 Please note that World Civilizations courses (HUM 211, 212, 213) are counted as History courses when only one or two of them are taken to fulfill general education requirements.
 2. The Composition/English requirement can be fulfilled by courses in writing and freshman English. The following are possible alternatives (A-D) a student may take in fulfilling the Composition/English requirements for the Associate Degree:

A	B	C	D
WRI 121	WRI 121	WRI 121	WRI 121
ENG 122	WRI 122	ENG 122	WRI 122
ENG 123	ENG 123	WRI 123	WRI 123

Those students permitted to waive WRI 121 must elect a third course from 200-level offerings in Communication, Writing and English.

3. The 12 required credits in Social Science must include either SS 103, or 104 or 105. The remaining eight credits may be selected from any two of the following: SS 101, 102, psychology 200, or geography 201. PSY 200 and GEO 201 cannot be used as core general education courses for psychology or geography majors respectively.
4. The twelve (12) credits in Science can be fulfilled by a combination of science and math courses or only science courses. Only one math course, selected from College Algebra & Trigonometry, Calculus, or Statistics, can be used for partial fulfillment of this requirement. Science courses selected must be those that provide laboratory experience. Students must select at least four credits in a biological science and at least four credits in a physical science.
- F. Students intending to transfer to four-year colleges and universities should follow curriculum guides of suggested courses developed for transfer to the institution of their choice. Consultation with faculty and/or counselor is recommended.
- G. In choosing electives, no more than eight credit hours may be submitted from the 100-level Arts and Sciences Seminars, beginning with the designation "Seminar" in the title, offered by any of the departments in the Arts and Sciences Division. These courses may not be used to fill core-course requirements.
- H. All courses listed on any single Arts and Sciences curriculum guide are acceptable towards either an Arts or Sciences Degree, whichever is appropriate when such a guide is submitted with a degree application. In addition, traditional liberal arts courses offered in other divisions, such as Studio Art, Music, Economic History, Economics, may be accepted towards the degree up to a maximum of eight credits. Acceptable lists of elective courses in other divisions are available from Counseling or the Dean's Office, Division of Arts and Sciences.
- I. Courses coded beginning with "O" will not be included in the 90-credit total.
- J. Effective date of implementation: Academic year 1985-86.
- II. A student may appeal a decision not to grant an Associate Degree in Arts or Sciences for lack of fulfillment of the above criteria. Students may appeal such decision to the General Council of the Arts and Sciences Division, which shall serve as a review committee and recommend to the Dean of Arts and Sciences appropriate action. Voting members shall be department chairpersons, faculty representatives and a student representative.

**CRITERIA FOR THE ASSOCIATE DEGREES
IN APPLIED ARTS AND IN APPLIED SCIENCE,
DIVISION OF TELECOMMUNICATION AND THE ARTS.**

These requirements pertain to the following degrees:
Associate-Applied Arts
Associate-Applied Sciences.

To receive one of the associate degrees listed above, a student must meet the following requirements:

1. Completion of course requirements of specific programs for specialized study areas outlined in the curriculum guides of each department.
2. Completion of minimum of 90 credits.
3. G.P.A. of 2.0 or better.
4. 30 credits in attendance at LCC.
5. Completion of four credits of American Government or State and Local Government (SS 103, SS 104, or SS 105).

Universities and colleges throughout the United States differ widely in courses they accept for transfer. Transferability depends upon the university or college and the program into which the student wishes to transfer. Students planning to transfer to other universities or colleges should consult with the LCC Office of Transfer Applications in the Department of Student Development Services (517-483-1191) in order to achieve maximum transferability.

**CRITERIA FOR THE ASSOCIATE DEGREES IN APPLIED SCIENCES,
DIVISION OF TECHNOLOGY AND APPLIED SCIENCES**

These requirements pertain to the following degrees:
Associate—Applied Sciences
Associate—Applied Science, General Technology

To receive one of the associate degrees listed above, a student must meet the following requirements:

1. Completion of course requirements of specific programs for specialized study areas outlined in the curriculum guides of each department or the requirements of the associate degree in General Technology as outlined in the 830 curriculum guide.
2. Completion of minimum of 90 credits.
3. G.P.A. of 2.0 or better.
4. 30 credits in attendance at LCC.
5. Completion of four credits of American Government or State and Local Government (SS 103, SS 104, or SS 105).

Universities and colleges throughout the United States differ widely in courses they accept for transfer. Transferability depends upon the university or college and the program into which the student wishes to transfer. Students

planning to transfer to other universities or colleges should consult with the LCC Office of Transfer Applications in the Department of Student Development Services (517-483-1191) in order to achieve maximum transferability.

**CRITERIA FOR THE ASSOCIATE DEGREE IN BUSINESS,
DIVISION OF BUSINESS.**

To receive the Associate Degree in Business through the Division of Business, a student must meet the following requirements:

1. Complete a minimum of 90 credits.
2. G.P.A. of 2.0 or higher with a minimum of 30 credits in attendance at LCC.
3. 30 credits in attendance at LCC.
4. Completion of SS 103 or SS 104 or SS 105 or LR 208.
5. Completion of requirements of specific programs within area of study as established by respective Program Areas to meet the needs and interest of students' instructional objectives.

The student who completes the requirements for the Associate Degree in Business may or may not have completed the basic studies requirements of those colleges which are co-signers of the MACRAO Articulation Agreement of 1972 (Michigan Association of Collegiate Registrars and Admissions Officers).

Universities throughout the United States differ widely in courses they accept for transfer. Transferability depends upon the university and the program in which the student wishes to enroll. Students planning to transfer to other colleges should consult with the Office of Transfer Application in the Department of Student Development Services in order to achieve maximum transferability.

**CRITERIA FOR THE ASSOCIATE DEGREE IN BUSINESS AND TECHNOLOGY,
DIVISION OF BUSINESS AND DIVISION OF TECHNOLOGY
AND APPLIED SCIENCES**

To receive the Associate Degree in Business and Technology a student must meet the following requirements:

1. Complete a minimum of 90 credits.
2. G.P.A. of 2.0 or higher.
3. Completion of the required core courses and the required courses for the area of specialization.
4. Elective credits to complete the required 90 credits may be selected from the recommended elective course list or other Business Technology Associate Degree specialty required course lists.
5. The LCC institutional American Government course requirement must be met. This course may be SS 103, SS 104, SS 105, or LR 208.
6. All credits used in meeting the Business and Technology Associate Degree core and specialty requirements must be earned credit or recognized accredited institutional transfer credit.
7. A maximum of 20 credits from training institutions may be used. (This shall include military and experiential learning credit.)

Universities throughout the United States differ widely in courses they accept for transfer. Transferability depends upon the University and the program in which the student wishes to enroll. Students planning to transfer to another college should consult with the counseling staff in the Department of Student Development Services in order to achieve maximum transferability.

REGULATION FOR THE GRANTING OF ADDITIONAL ASSOCIATE DEGREES

Any student who has received an Associate Degree from Lansing Community College or any other accredited community college may be awarded a second Associate Degree subject to the following stipulations:

1. For each additional Associate Degree, a minimum of 15 credit hours must be completed at LCC in the division in which the degree is sought, nonrepetitive of previously earned credits.
2. All requirements for an Associate Degree in either Arts, Applied Arts, Business, Science, or Applied Science must be met.
3. No additional degree will be granted in the same program or curriculum in which the first degree was earned.
4. An additional degree must be within a specific program or curriculum, if the first degree was not.
5. Exceptions to the above should be appealed to the office of the respective dean.

**REGULATION FOR GRANTING AN ASSOCIATE DEGREE
WHEN THE STUDENT HAS AN EARNED BACHELORS DEGREE**

A student who has earned a Bachelors Degree from a regionally accredited American college or university which has a general education requirement may be awarded an Associate Degree at Lansing Community College, subject to the following requirements:

1. For each Associate Degree, a minimum of 15 credit hours must be completed at Lansing Community College in the division in which the Associate Degree is sought. The Lansing Community College cumulative grade point average must be at or above a 2.0 level.
2. All requirements for an Associate Degree in either Arts, Applied Arts, Business, Science, or Applied Science must be met.

3. The College's requirement of completing a Political Science course is waived.
4. The Associate Degree must be within a specific program or curriculum.
5. Exception to the above should be appealed to the office of the dean of the division in which the Associate Degree is sought.

EXAMINATIONS

Students are required to take examinations at the appointed time and place in order to receive credit for a course.

Generally, examinations are given during the regularly scheduled class period during the last week of the term.

REGISTRATION PROCEDURES

Registration periods are indicated in the school calendar. Students will register for classes according to instructions which are published each term in the Class Schedule.

DROPS AND ADDS

Dropping and adding courses involves procedures which must be completely carried out by the student so the Office of the Registrar may keep an accurate account of records.

During the first week of the term a student may make changes in his/her schedule beginning with the first day of on-campus registration. A student may withdraw from a course before the end of the fourth week without academic penalty. No drops will be processed after the last day of the term.

The student is entirely responsible for carrying out the following procedure:

1. Pick up drop-add form at Registrar's Office.
2. Fill out the form completely with information requested. Departmental signatures and grade at time of drop are not required until after the fourth week of the term.
3. Return form to Registrar's Office for proper recording. Do not leave until processing of the form has been completed and a copy has been received.

WEEKEND AND EVENING CLASSES

In addition to the regular academic curricula for day students, Lansing Community College offers a highly diversified program of Saturday, Sunday and evening courses for those who choose for personal or occupational reasons to attend class outside of regular daytime sessions.

Students may elect late afternoon and evening courses as integral parts of a technical or liberal arts and science curriculum, as individual selections in areas of particular interest or as remedial sections in English, reading and mathematics.

Counseling and testing services are available to evening students to assist them in the selection of the best possible educational and vocational program.

Lansing Community College weekend and evening programs provide educational opportunities to many who are now finding the time to improve their academic or vocational background.

TERM CLASS SCHEDULES

Each term Lansing Community College publishes a class schedule booklet which identifies all courses offered for that term. This booklet includes general information on the dates, time and location of registration. There is no charge for the schedule booklet.

PAYMENT OF TUITION AND FEES

All students attending Lansing Community College must pay tuition and fees at the time of registration. Tuition and fees are as follows:

Tuition, Resident Students	
Per credit hour	\$17.00*
Tuition, Non-Resident Students	
Per credit hour	\$24.00*
Tuition, Out of State Students	
Per credit hour	\$34.50*
Tuition, International Students	
Per credit hour	\$35.50*
Tuition for apprenticeship student varies according to the program of study.	
Fees, all students	
Application fee (new students, non-refundable)	\$10.00*
Application fee (guest)	\$10.00*
College activities fee (each term)	
1-6 credit hours	\$1.00*
7-11 credit hours	\$3.00*
12 or more credit hours	\$5.00*

Laboratory fees vary according to the course of study. Tuition and fees may change through action of the Board of Trustees.

Non-sufficient fund (NSF) check handling fee \$10.00*

*Costs listed are those in effect at the date of this publication, and are subject to change by the Board of Trustees. Specific lab fees for individual courses are listed in the class schedule book each term.

REFUND POLICY

Fall, Winter, Spring and Summer Terms:

Withdrawal during first week of term 100% of tuition and fees
 Withdrawal during second week of term 50% of tuition only
 Withdrawal after second week of term No refund
 Refunds are not retroactive to previous terms. Special questions relating to refunds should be addressed to the Registrar's Office.

Tuition and fees are subject to change through action of the Board of Trustees. Costs listed are those in effect at date of publication.

Laboratory fees vary according to the course of study. The class schedule for each term will list all laboratory fees.

ATTENDANCE

A student is expected to attend all sessions of each course in which he/she is enrolled. Failure to do so may result in academic penalty or withdrawal from the class.

Absence in no way relieves the student of the responsibility for completing all work in the course to the satisfaction of the instructor in charge.

When a student receives a faculty-initiated notice on non-attendance, it is the student's responsibility to contact the instructor.

When a student cannot attend class due to illness or extenuating reasons which he/she feels is appropriate, he/she has the responsibility to notify the class instructor. This can be done by telephoning the departmental office in which the instructor is a member and leaving a message for that instructor. Department telephone numbers are published in the front of the term class schedule booklet.

WITHDRAWAL

- I.
 - A. If a student finds it necessary to withdraw from the College, he/she should contact the Registrar's Office immediately and complete a drop form.
 - B. If a student withdraws prior to the end of the fourth week of class, no final grade is issued and no record of attempting the class appears on the academic record. A copy of the student-initiated drop form is maintained.
 - C. If a student withdraws after the end of the fourth week of class, a grade is issued by the instructor at the time of the withdrawal. A grade will be placed on the final grade report and recorded on the academic record.
 - D. A student withdrawing will receive a refund if the withdrawal takes place within the established refund period for each term.
- II. College initiated "Administrative Withdrawal"
 - A. A student may be withdrawn from a class or a group of classes for the following reasons:
 1. Non-attendance
 2. Lack of proper prerequisites for the particular course
 3. Student behavior that interferes with the instructional process.
 - B. A student who is withdrawn prior to the end of the fourth week will not receive a grade and no record of attempting class will appear on the academic record. A copy of the administrative withdrawal form is maintained.
 - C. A student who is withdrawn after the end of the fourth week of class, will be given a grade at the time of withdrawal. This same grade will be placed on the final grade report and be recorded on the academic record.
 - D. A student who is administratively withdrawn may appeal the withdrawal. (See Administrative Withdrawal Statement.)
- III. Administrative Withdrawal Statement

There are situations where it may be in the best interest of the student and/or College community that the student be withdrawn from a class or a group of classes. This process is known as "administrative withdrawal."

An "administrative withdrawal" may be initiated by a classroom instructor through the fourth week in accordance with written procedure and criteria established by each department and with the co-recommendation of the respective departmental chairperson. An "administrative withdrawal" may be based on: (A) student non-attendance, (B) lack of prerequisites for a particular course, and (C) student behavior that interferes with the instructional process.

When a classroom instructor interprets that it would be in the best interest of a student and/or the College community to initiate an "administrative withdrawal," the following steps are taken:

 - A. In the case where a student consistently fails to meet the attendance requirements of the class the instructor may initiate an "administrative withdrawal" through the Office of the Registrar.
 1. Upon receipt of a recommendation for an "administrative withdrawal," the Registrar will notify the student in writing that the student is being administratively withdrawn and the basis for the "administrative withdrawal" decision. The first level of appeal is to the departmental chairperson or to the dean of the division in which the class is being taught. All appeals must be in writing and signed by the student requesting the appeal hearing.
 2. If a student decides to appeal an "administrative withdrawal" to the dean of the appropriate division, the student will receive a written notification of the time and place of the appeal. If the student de-

- cedes not to attend the appeal conference, the dean will review the appeal in the student's absence. The dean will notify the student in writing of the recommendation of the review and of the reasons for the recommendation. The dean will forward a copy of the student's written notification to the Office of the Registrar for disposition.
3. A student who desires to appeal the decision to the dean may appeal in writing to the Chairperson of the Judicial Board. The processes employed in this appeal are listed under the heading of "Due Process" in the Student Guidebook.
- B. In the case where a student does not have the prerequisites for a particular course, the classroom instructor consults with the student regarding the potential of "administrative withdrawal." In this case the "withdrawal" action is normally limited to the first two weeks of the term.
1. The instructor may recommend that the student withdraw from the particular course. If the student chooses not to withdraw, the instructor may initiate an "administrative withdrawal" through the Office of the Registrar.
 2. Upon receipt of the recommendation for an "administrative withdrawal," the Registrar will notify the student in writing that the student is being administratively withdrawn and the basis for the "administrative withdrawal" decision, in writing to the dean of the division in which the class is being taught.
 3. If a student decides to appeal an "administrative withdrawal" to the dean of the appropriate division, the student will receive a written notification of the time and place of the appeal. If the student decides not to attend the appeal conference, the dean will review the appeal in the student's absence. The dean will notify the student in writing of the recommendation of review and of the reasons for the recommendation. The dean will forward a copy of the student's written notification to the Office of the Registrar for disposition.
 4. A student who desires to appeal the decision of the dean may appeal in writing to the Chairperson of the Judicial Board. The processes employed in this appeal are listed under the heading of "Due Process" in the Student Guidebook.
- C. In the case where a student behaves in a manner that interferes with the instructional process, the classroom instructor consults with the student regarding the potential of "administrative withdrawal" and establishes guidelines for retaining enrollment in the class.
1. If the guidelines are not satisfactorily met by the student, or if the student does not respond to an invitation to meet with the classroom instructor, the classroom instructor with the co-recommendation of the appropriate departmental chairperson may recommend to the Registrar in writing that the student be administratively withdrawn.
 2. The classroom instructor with the co-recommendation with the appropriate departmental chairperson may recommend that the Chairperson of Student Development Services meet with the classroom instructor and the student. The purpose of the meeting would be to review the circumstances of the student's behavior and to work out a possible alternative.
 3. Upon receipt of a recommendation for an "administrative withdrawal," the Registrar will notify the student in writing that the student is being administratively withdrawn and the basis for the "administrative withdrawal." The Registrar will also notify the student in writing that the student may appeal the "administrative withdrawal" decision, in writing to the dean of the division in which the class is being taught.
 4. If a student decides to appeal an "administrative withdrawal" to the dean of the appropriate division, the student will receive a written notification of the time and place of the appeal. If the student decides not to attend the appeal conference, the dean will review the appeal in the student's absence. The dean will notify the student in writing of the recommendation of the review and of the reasons for the recommendation. The dean will forward a copy of the student's written notification to the Office of the Registrar for disposition.
 5. A student who desires to appeal the decision of the dean may appeal in writing to the Chairperson of the Judicial Board. The processes employed in this appeal are listed under the heading of "Due Process" in the Student Guidebook.
- IV. Procedure for Resolving Health-Related Student Problems
- In a situation in which a serious (physical or emotional) health-related problem is evident, the College's responsibility is to offer to assist the student in the removal of the behaviors that interfere with the student's performance and involvement while at Lansing Community College. In such event, the following procedures shall be followed:
- A. Call the Department of Public Safety and the Assistant to the Dean of Student Personnel Services if:
 1. Emergency health services are required, or
 2. It appears that there has been a violation of the law.
 - B. Call only the Assistant to the Dean of Student Personnel Services if it appears that there has been a violation of a College regulation that is not also a violation of the law.
 - C. If there is no apparent violation of the law or College regulation, and no emergency exists, the student should be encouraged to seek help from

an appropriate office or agency, on or off campus. The assistance of the Office of the Dean of Student Personnel Services and/or the counselors is available, if desired.

- D. If there appears to be a violation of the law or a College regulation, the Assistant to the Dean of Student Personnel Services shall contact the Chairperson of the Student Development Services Department. Counseling staff will meet with the student and recommend:
 1. Continued counseling if the problem is within the ability of the department to handle.
 2. Referral back to the Assistant to the Dean where no health-related problem is evident or it is determined that the department can be of no further service.
 3. Referral to other appropriate professional assistance if the problem is beyond the ability of the department to handle. If professional assistance is not sought and the previous behavior significantly compromises the rights or safety of other persons, or if a professional recommendation of withdrawal is made, the Assistant to the Dean of Student Personnel Services may institute procedures for administrative withdrawal of the student from the College until evidence of the ability to function constructively in the College setting is available. The student may appeal this decision to the Board of Appeals.
 4. Whenever possible, the counseling staff working with the student's physician or relatives shall make a recommendation to the student as to his future course of action.

VETERANS' AFFAIRS

Veterans' Affairs helps the veterans file applications for education, counseling, loans, tutorial assistance and/or any other entitlements allowed through the Veterans' Administration.

Lansing Community College is approved as a school for veterans of military service under provisions of Chapters 31, 32, 34, and 35 of the U.S. Code.

Lansing Community College cautions veterans matriculating under this program to be prepared to pay their expenses for at least two months after the beginning of the academic year. (ALL TUITION AND FEES MUST BE PAID AT THE TIME OF REGISTRATION). Once the veteran's application is approved and the award processed, monthly checks will be issued if the veteran is prompt in maintaining satisfactory academic progress and following a chosen curriculum.

ADVANCE PAYMENT FOR VETERANS

New student veterans, and veterans wishing advance payment, should apply at the Veterans' Affairs Office at least five (5) weeks prior to the beginning of a term.

Monetary allowances provided for by the G.I. Bill vary according to the level at which the veteran is pursuing an academic program as indicated by the following schedule:

LEVEL OF ATTENDANCE	REQUIRED CREDIT HOURS
Full-time	Minimum of 12
Three-quarter time	9, 10, or 11
Half-time	6, 7, or 8

After enrollment, veterans should direct their inquiries concerning eligibility to the Office of Veteran Affairs in the Student Personnel Services Building.

Lansing Community College, in recognition of the special problems of active-duty service people in having access to, and completing College programs, has been designated as a Servicemember's Opportunity College.

In addition, the College participates in the Army College Fund, Michigan National Guard Co-op, Air Force, and Army ROTC programs.

STUDENT RIGHTS

The most basic necessity for the achievement of the College's goals is freedom of expression and communication. Since knowledge is as broad and diverse as life itself, the need for freedom is equally broad. Yet, absolute freedom in all aspect of life means anarchy, just as absolute order means tyranny. Both anarchy and tyranny are antithetical to the purposes and necessities of the College. By providing an environment most conducive to teaching and learning, the College strives to strike a balance between maximum freedom and necessary order.

Each right of an individual places a reciprocal duty upon others: the duty to permit the individual to exercise the right. The student, as a member of the academic community, has both rights and duties. Within that community, the student's most essential right is the right to learn. The College has a duty to provide for the student those protections, opportunities and environment which best promote the learning process in all its aspects. The student, in turn, has duties to his fellow members of the College—the most important of which is to refrain from interference with those rights that promote the essential purposes and processes of the College.

The student is not only a member of the academic community; he/she is also a citizen of the larger society. As a citizen, he/she retains those rights, protections and guarantees of fair treatment which are held by all citizens, and neither the academic community nor the College may deny them to him/her. The enforcement of the student's duties to the larger society is the responsibility of the authorities duly established for that purpose and not that of the

academic community or the College. But as is always the case if the student's conduct is such as to detrimentally affect the College, the College reserves the right to take action that seems appropriate.

More specifically, Lansing Community College operates within the framework of a basic philosophy, stated purposes, laws and regulations of the city and state and the expectations of the community in which we are located. The College assumes that students, while attending this College, will conduct themselves as responsible citizens of the community in which we live.

We must understand our rights if we are to use them properly. They include personal rights and a range of significant liberties such as freedom of speech and the press. They include economic rights of property and contract and political rights. Each person, moreover, is assured that there will be no interference with his/her freedom of worship according to his/her conscience. In addition, there are rights of counsel, jury trial and other safeguards to protect individuals with "due process of law."

Coinciding with these rights are duties and responsibilities which every student citizen should study, understand and fulfill. One is to obey the laws and help in law enforcement. These responsibilities are basic to our principle of living together in a democratic society. Another duty is that of performing military service and other lawfully ordered work in defense of the country and our liberties. A third is the duty of meeting squarely one's share in the cost of government. A fourth is that of taking a responsible and active part in community affairs, including of course, the activities of our College. As part of the privilege attendant upon academic freedom, students are expected to act with a high-mindedness which integrates self into the well-being of the total community.

Membership in the College community, like membership in any community, means more than privileges. It means responsibilities, too. In the matter of your responsibilities in these areas, some things are expected of you in your behavior and conduct.

STUDENT EVALUATION OF INSTRUCTIONAL QUALITY

Because students expect quality in their learning experiences, Lansing Community College provides opportunities for students to participate in the evaluation and improvement of instruction. The College is committed to the idea that individuals do provide valuable insights as students. These opportunities include:

1. Students are asked to complete Student Evaluation Forms at the conclusion of each course. The forms are distributed by a person other than the instructor, and the instructor is not present at the time the students complete the forms.
2. Students are invited to present suggestions regarding instructional quality to their instructors, their instructor's department head or the instructor's divisional dean. These written or verbal suggestions are also reviewed by the College to improve instruction and assess instructional effectiveness.
3. Students are invited to serve on various councils, boards and committees of the College in order to provide input and student perspective in the development and evaluation of both instructional and support-service programs. These councils, boards and committees are located in the various divisions of the College. Those students who have interests in serving on or contacting members of these bodies may contact the Office of Student Government or the office of the dean in the appropriate divisions. Examples of these councils, boards and committees can be found in other sections of this catalog.

Specific questions regarding student participation in the evaluation of instruction may be directed to the Office of the Dean of Student Personnel Services for clarification or appropriate referral.

STUDENT RESPONSIBILITIES ATTENDANCE

Students are expected to attend all sessions of each course in which they are enrolled. Failure to do so may result in academic penalty or withdrawal from the class.

Absence for any reason, including illness or late registration, in no way relieves the student of the responsibility for completing all work in the course to the satisfaction of the instructor in charge.

When a student receives a faculty-initiated notice of non-attendance, it is the student's responsibility to contact the instructor.

When a student cannot attend class due to illness or other extenuating reasons the class instructor should be notified. This can be done by telephoning the departmental office in which the instructor is a member and leaving a message for that instructor.

CONDUCT

The College prohibits acts which cannot be tolerated because they seriously interfere with the basic purposes, necessities and processes of the academic community and the College, or because they deny the essential rights of other members of that community of the College.

LAWS

Students shall obey the laws enacted by federal, state and local governments.

It is appropriate that the students be aware of Act 26 of the Public Acts of 1970:

"Sec. 1. A person is guilty of a misdemeanor, punishable by a fine of not more than \$500.00, or by incarceration in the county jail for not more than 30 days, or both:

- (a) When the chief administrative officer of a publicly owned and operated institution of higher education, or his/her designee, notifies the person that he/she is such an officer or designee and that the person is in violation of the properly promulgated rules of the institution; and
- (b) When the person is in fact in violation of such rules; and
- (c) When, thereafter, such officer or designee directs the person to vacate the premises, building or other structure of the institution; and
- (d) When the person thereafter wilfully remains in or on such premises, building or other structure; and
- (e) When, in so remaining therein or thereon, the person constitutes (1) a clear and substantial risk of physical harm or injury to other persons or of damage to or destruction of the property of the institution, or (2) an unreasonable prevention or disruption of the customary and lawful functions of the institution, by occupying space necessary therefore or by use of force or by threat of force.

Sec. 2. A person is guilty of a misdemeanor, punishable by a fine of not less than \$200.00 and not more than \$1,000.00, or by incarceration in the county jail for not more than 90 days, or both, who enters on the premises, building or other structure of a publicly owned and operated institution of higher education, with the intention to, and therein or thereon does in fact, constitute (a) a clear and substantial risk of physical harm or injury to other persons or of damage to or destruction of the property of the institution, or (b) an unreasonable prevention or disruption of the customary and lawful function of the institution, by occupying space necessary therefore or by use of force or by threat of force.

Sec. 3. This act shall take effect August 1, 1970."

CITY OF LANSING ORDINANCES (ARTICLE II., SECTION 26-A.)

No person shall damage, destroy or deface any College building, or any building occupied by the College, or the grounds, out-buildings, fences, trees or other appurtenances or fixtures belonging thereto.

No person shall wilfully or maliciously make, or assist in making, any noise, disturbance or improper diversion, by which the peace, quietude or good order of the College is disturbed.

No person shall use profane, indecent or immoral language or indulge in indecent or immoral conduct in any building or on any property adjacent to any building occupied by the College.

No person shall interfere with the academic or operational functions in college buildings or on the surrounding campus; and a person shall leave immediately when so directed by the president or by any other person designated by the president.

No person, other than a regularly enrolled student or guest having legitimate business at the College, faculty member or other employee, shall enter and remain in any College building for any reason whatever unless such person has received permission from the College officers to be in any such building. Nothing herein shall prevent any interested citizen from viewing and touring the campus and its College buildings at such times and in such manner as would not interfere with the normal operation of the College.

No person, regularly enrolled student, or guest, shall have in his or her possession on the surrounding campus or in the College buildings, either concealed or not concealed, weapons described as, but not limited to, rifles, shotguns, revolvers, knives, firebombs or explosives of any kind, or any other dangerous weapon.

Any person found guilty of violating any of the above provisions shall be guilty of a misdemeanor punishable by a fine of not more than one hundred dollars (\$100.00) or imprisonment in the city jail for not more than thirty (30) days, or by both such fine and imprisonment, at the discretion of the court.

ASSEMBLY

No person or persons shall assemble in a manner which obstructs the free movement of persons about the campus or the free and normal use of College buildings and facilities, or prevents or obstructs the normal operations of the College.

MEETINGS

"American parliamentary law is built upon the principle that rights must be respected: rights of the majority, of the minority, of individuals, of absentees, and rights of all these together."¹

Therefore, Robert's Rules of Order (Revised), will be followed in any meetings held upon the College campus.

¹ Robert, Henry M., Robert's Rules of Order (Revised), Scott, Foresman and Company, 1951, page 5.

COLLEGE PROPERTY

College policy specified that the property of the College as well as that of individuals should be respected. Theft of any kind, whether of money or other property, is prohibited. The destruction or mutilation of books, magazines, or other library material in College libraries is another type of conduct which is prohibited. Equally so is unauthorized use of, damage to, or destruction of College buildings, equipment and property. Tampering or misuse of fire alarm systems or firefighting equipment is prohibited.

FIGHTING

Fighting on College property is prohibited except for a boxing, sparring or wrestling match, contest, or exhibition held or sponsored by the College or a recognized College organization.

SEXUAL HARASSMENT

Sexual harassment is not acceptable behavior on the College campus or at College-sponsored events off the campus. Violation of this regulation by students or College employees can result in disciplinary action.

DEFINITION OF SEXUAL HARASSMENT

Sexual harassment is defined in the Michigan Civil Rights Act as follows: "...Unwelcome sexual advances, requests for sexual favors, and other verbal or physical conduct or communications of a sexual nature when:

1. Submission to such conduct or communication is made a term or condition either explicitly or implicitly to obtain employment, public accommodations or public services, education or housing.
2. Submission to or rejection of such conduct or communication by an individual is used as a factor in decisions affecting such individual's employment, public accommodations or public services, education or housing.
3. Such conduct or communication has the purpose or effect of substantially interfering with an individual's employment, public accommodations or public services, education or housing, or creating an intimidating, hostile, or offensive employment, public accommodations, public services, education, or housing environment.

For the purpose of the above regulation the College interprets the unwelcome to mean:

- A) Conduct or communication which a reasonable person in a similar circumstance would consider unwelcome.
- B) Conduct or communication which continues after notice is given that the conduct or communication is unwelcomed.

DISCRIMINATION

Lansing Community College affirms its commitment to the practice of no discrimination on the basis of race, color, religion, sex, national origin, age, height, weight, marital status or handicap.

The above commitment has evolved from efforts to comply with several laws and public acts that pertain to the area of no discrimination. Notable of these acts and laws are the following:

- 1) Title VI of the Civil Rights Act of 1964 prohibits discrimination on the basis of race, color, or national origin.
- 2) Title IX of the Educational Amendment of 1972 prohibits discrimination on the basis of sex.
- 3) Section 504 of the Rehabilitation Act of 1973 prohibits discrimination on the basis of handicap.
- 4) Michigan's 'Elliott-Larson Civil Rights Act' MCL. 37.2101, et seq, as amended prohibits all forms of discrimination and defines sexual harassment.

HOW STUDENTS CAN FILE A COMPLAINT OR A FORMAL GRIEVANCE FOR DISCRIMINATION OR SEXUAL HARASSMENT:

The difference between a complaint and a formal grievance is the method of processing; a complaint will be handled informally while a formal grievance will involve investigation and may result in a formal hearing.

Complaints and grievances should be made promptly while facts are still fresh. Most formal grievance procedures have time limits published as part of the procedure and these time limits are an important consideration. If a student files a complaint, the student may later file a grievance provided applicable time limits are met.

Students who feel aggrieved because of any form of discrimination, including sexual harassment, have several ways to make their concerns known. Normally, a student would be expected to directly inform the person engaging in discrimination or sexually harassing behavior by telling that person that the behavior is offensive and requesting that the offensive behavior stop.

A student who feels aggrieved because of discrimination or sexual harassment is also advised to seek out one of the College's counselors to assist

in the interpretation of this procedure and the alternatives available to the student in solving the student's concern.

INFORMAL COMPLAINT

If the student who feels aggrieved feels it is inappropriate to communicate directly with the person whose conduct is offensive or if direct communication has not solved the student's concern, the student may contact Ms. Iise Burke in the College Affirmative Action Office located in the 528 Office Building (483-1858) or the Office of the Dean of Student Personnel Services located in the Student Personnel Services Building (483-1162) to deal informally with the student's concern. The informal complaint process may call for an informal investigation of the issues or the concerns by the appropriate official within the Affirmative Action Office or the Office of the Dean of Student Personnel Services (depending on the student's choice of referral).

FORMAL GRIEVANCE

If the student is not satisfied with the results of the informal complaint or if the student wishes to bypass the informal process, there are two places available for the student to process formal grievances.

- 1) The student may request a formal hearing before the Judicial Board of the College. The procedures and guidelines for the functioning of the Judicial Board are listed in the catalog. This request should be made to the Office of the Dean of Student Personnel Services located in the Student Personnel Services Building (483-1162).
- 2) The student may process a formal grievance through the College's Affirmative Action Office utilizing the appropriate formal grievance procedure for the alleged discrimination or sexual harassment. The College's Affirmative Action Office is located in the 528 Office Building (483-1858).

Students who feel aggrieved by discrimination or sexual harassment should not feel deterred in making a complaint if the student does not wish to testify. The informal process listed earlier may solve the student's concern. Where discipline, discharge of employees, or suspension or dismissal of students is possible and where evidence is not available from other sources, the College will request the cooperation of the aggrieved student to testify. The cooperation of the aggrieved student to provide evidence is a key factor in upholding the "due process" to which the person complained of is entitled.

OBSTRUCTING AND JOSTLING

The following acts are prohibited on College property.

Obstruction of or threatening to obstruct, without express permission from an administrative official of the College, any street, sidewalk, hallway, stairway, classroom, elevator, doorway, vestibule, entry, building, annex, wing, patio, balcony, or any other College property by impeding or threatening to impede the free and uninterrupted passage of vehicles or individuals, or interfering in any way with the free and uninterrupted use of College property.

Jostling or roughly crowding persons in or on any of the above-mentioned locations.

ASSAULTS

Assault and/or battery on College property is prohibited. For the purpose of this regulation, assault is defined as an attempt or offer, with force and violence, to do corporal hurt to another, with apparent present means of carrying out the attempt. Battery is an injury which results from an assault. Battery is an injury, regardless of intent, actually done to a person by another in an angry, revengeful, rude or insolent manner.

RECORDS

It is the responsibility to give honest and complete replies to all questions included in application forms and other documents required by the College.

FINANCIAL RESPONSIBILITY

Students owing money to the College in respect to such matters as fees, loans, library fines, bookstore accounts, driving or parking penalties, etc. will be subject to disciplinary action if such accounts are not paid when due. In particular, it should be noted that if any accounts are outstanding at the end of an academic quarter, the publication of the student's grade report and/or official transcripts will be delayed and the student will not be permitted to register for a succeeding quarter until such accounts are paid.

IDENTIFICATION CARDS

All Lansing Community College students are issued an identification card. Students are expected to show their I.D. card whenever they check out books at the library, cash checks on campus, vote in student elections, etc., or when they are requested by a member of the faculty or staff of the College. Misuse of College identification to obtain privileges to which the student or to which others are not entitled under existing regulations is a College offense.

CHEATING

Each student is expected to be honest in his/her work. Dishonesty in assignments, examinations or other academic work is considered an extremely

serious offense by the faculty and students and the student is subject to disciplinary action.

PLAGIARISM

A student is guilty of plagiarism who fails to give credit for any ideas or material taken from another for either written or oral presentation. The offering of materials assembled or collected by others in the form of projects or collections without acknowledgement also is considered plagiarism. Plagiarism is considered by the faculty and students as an extremely serious offense for which the student may be subject to disciplinary action.

SMOKING

In the interest of providing a safe and healthy environment for the College's students, employees, and visitors and in accordance with the Michigan Clean Indoor Air Act, P.A. 198 of 1986, the following regulation takes effect January 1, 1987.

Smoking is prohibited throughout all Lansing Community College facilities except in designated smoking areas identified by "Smoking Permitted" signs.

EXPLOSIVES

Explosives, firecrackers, firearms and devices intended to be used as weapons are not permitted on College property. Provided, however, that the foregoing shall not prohibit fencing foils and other athletic equipment intended for such use, nor shall it apply to persons holding concealed weapons permits and duly constituted police officers who are authorized by law to carry weapons.

ALCOHOLIC BEVERAGES

Drinking, being under the influence of, or possessing intoxicating beverages on College property is prohibited.

DRUG USAGE AND DISTRIBUTION OF DRUGS

Using, possessing or distributing illegal drugs (such as narcotics, hallucinogens, stimulants, depressants, etc.) on campus or at College-sponsored events, is prohibited. Lack of a legal conviction of the drug laws is not a defense in a charged violation of this rule.

DRESS

Students are expected to dress in an appropriate fashion, having in mind the activity in which they are engaged, while on College property and when attending College-sponsored events. Specific attire not limited to but including appropriate footwear, safety glasses, safety hats, shields and aprons may be required when the health and safety of the individual student or other members of the College community are to be protected.

GAMES AND RECREATIONAL ACTIVITIES

Gambling in any form is prohibited at all times on College property. Games of any kind may only be played in the recreational or athletic facilities which have been designated to be used for such games. Applications for permission to play any game other than in an area designated for that purpose must be obtained from the Director of Student Activities.

PETS

In order to protect the health and safety of the members of the College community and preserve order on the campus, no pets, including but not limited to, dogs, cats, birds and rodents, shall be permitted within the buildings of Lansing Community College. This is not intended to exclude seeing eye dogs used by the visually handicapped or animals designated for laboratory experimentation purposes.

GUEST SPEAKERS

College regulations with respect to the participation of guest speakers are outlined in the Policy for Guest Speakers. The College requires orderly conduct, non-interference with College functions or activities, and identification of the sponsoring groups or individuals. Under no circumstances are members of the College community to be forced to be involuntary audiences.

ORGANIZATIONS

No student or student organization may use campus facilities, solicit funds, business, or support on the College campus unless such a student or student organization has been approved by the Lansing Community College Student Government and has been authorized by the administrative officials of the College. (See Establishment of Student Organizations at Lansing Community College.)

Approval of College clubs and organizations must be in accordance with the Student Government Bylaws and Constitution.

FIELD TRIPS

Field trips must be planned, organized and approved according to the Student Activities Policies and Procedures for Student Organizations, and where applicable the parking and transportation services unit of the Public Safety Department.

VIDEO CASSETTES

The federal copyright law, Title 17 of the United States Code, provides copyright protection of "original works of authorship," including "motion pictures and other audio visual works." Thus, the use of video cassettes and films is restricted to private showings, and public showings are prohibited without the copyright owner's consent. Under the "fair use" limitation, copyrighted cassettes, motion pictures, and other audio visual works may be used for purposes such as "teaching (including multiple copies for classroom use), scholarship, or research" without violation, and audio visual materials purchased or rented by the College have the written consent of the copyright owners and, therefore, are legally appropriate for classroom use.

DISCIPLINARY CASES

A student violating the rules and regulations of the College other than those involving academic performance and achievement (see academic policies) shall be subject to the following disciplinary action which is appropriate to the nature of the offense and that may take into account the student's previous conduct record:

1. Reprimand
2. Restrictions on activities or privileges
3. Requirements of restitution
4. Loss of course credit or reduction in grade points (for academic offenses)
5. Denial or revocation of a College honor or degree
6. Suspension
7. Dismissal

DISCIPLINARY ACTIONS

In situations involving minor offenses, disciplinary action may be taken by an appropriate officer of the College and no report for further proceedings are necessary. However, the student may appeal any decision to the Judicial Board for review.

In situations involving serious offenses, the student's case will be handled according to the rights, privileges and procedures outlined in the College Policy on "Due Process." As a minimum, this process includes: 1) notice to the student of the nature of the proceedings against him/her, 2) a hearing before a quasi-judicial body at which the student has an opportunity to see the evidence or be apprised of the evidence against him/her and be allowed an opportunity to defend against this evidence, 3) notification of the Judicial Board's decision, 4) notification of the right to appeal to a higher body.

USE OF STUDENT LITERATURE TABLE PROCEDURAL REGULATIONS

Lansing Community College is continually aware of and supportive of the concepts of freedom of expression, particularly those provided by the First Amendment of the Constitution of the United States. The College also perceives that one of its functions is to provide a wide range of learning experiences and learning opportunities for the students of the College. At the same time, the College is mandated to provide orderly processes which avoid material disruption, protect public and private property and provide for the general safety and welfare of students, faculty and College staff.

The following statements are designed to facilitate student distribution of literature within the College facilities, while providing students and College personnel and property reasonable protection from commercial exploitation and legal actions. Court rulings have determined that College buildings while considered a "public trust" are not considered "public property" subject to unregulated use by any and all individuals. The procedural regulations below are designed to facilitate the legislated instructional mission of the College to serve the citizens of the College community. The following procedural regulations shall be followed:

1. The distribution of literature within College buildings by students shall be limited to student literature tables made available for such distribution. Student literature tables will be made available in the following areas within the College buildings.
 - a. In the entry lobby within the second floor cafeteria of the Arts and Sciences Building.
 - b. In the Washington Avenue Mall lobby between the Health Physical Education Building and the Applied Arts and Sciences Building.
 - c. In the second floor lobby area of the Old Central Building.
 At least two single tables will be available in each of these areas. The maximum number of tables made available in any area will be determined in a reasonable manner based on the use of the area and regulations regarding fire safety and student welfare.
2. Only registered students and College-recognized student clubs and organizations shall have access to the student literature tables. (As in the past, non-students who wish to use college facilities must gain permission by following procedures established for this purpose through the appropriate instructional Offices or the office of the Vice President of the College.)
3. The student literature tables will be available Mondays through Thursdays from 8 a.m. to 10 p.m. and Fridays 8 a.m. to 5 p.m. during the days of regularly scheduled terms.

4. While no prior College approval of the materials to be distributed is required, registered students and College-recognized clubs and organizations are required to register for the use of the student literature tables with the Student Activities Office at least 24 hours prior to the time of desired use. Registrations will be accepted on a first request-first serve basis. Individual students and recognized student clubs or organizations may register for the use of a table for three consecutive days. If there are no pending requests, a registration may be renewed at the end of a previous registration. If there are no pending requests, a recognized student club or organization may request the use of more than one table or more than one location. If during the use of multiple tables or locations, additional students or recognized student groups request the use of a table or location, and additional tables or locations are not available, the multiple user or users will be required to give up the multiple use of tables and locations to provide for the new request.
5. A copy of the completed registration form obtained from the Student Activities Office must be available at the student literature table while distribution is taking place.
6. In order to determine accountability, a sample of the material to be distributed must be placed on file with the Student Activities Office at the time of the registration for use. In addition, a recognized student club or organization must have a copy of the material to be distributed on file with the club's or organization's advisor.
7. The student literature table will be staffed at all times by the individual student, or members of the recognized student club or organization registered for the use of the tables while the distribution of materials is taking place. The registered student or recognized club or organization will have the responsibility to ensure that the distribution process is orderly at all times and that the general area surrounding the student literature tables is not littered.
8. Individuals shall have the option to pick literature from the tables or receive a copy from the individuals sitting at the tables. No literature shall be forced upon any individual nor shall there be any obstructions created in the path of the general flow of traffic.
9. Individual students or recognized student clubs and organizations may collect funds for worthy causes, such as Muscular Dystrophy, Blood Drives or College-sponsored activities. There shall be no commercial solicitations of funds or business, nor shall individual students solicit funds for personal gain.
10. The College has the right and responsibility to halt the distribution of literature which it believes to be libelous, obscene, invades privacy, or literature designed to cause immediate disruption of classes, violence or substantial disorder of the normal operations of the College.
11. Failure to comply with the above procedural regulations may lead to the denial of the use of the student literature tables and/or may lead to disciplinary action.

Any individual, registered student or recognized student club or organization which has been denied access to the student literature tables, or was required to halt distribution based on procedure 10 above may appeal the denial or requirement to halt distribution. The appeal shall be in writing and shall be directed to the Dean of Student Personnel Services within 10 calendar days of the denial or requirement to halt distribution. The Office of the Dean of Student Personnel Services shall make a prompt investigation of the appeal, contacting the parties involved, and shall, within 10 calendar days from the date of appeal make a decision to reinstate the distribution rights denied or halted or to uphold the original decisions. If the decision of the Dean of Student Personnel Services is not satisfactory, the individual student or recognized student club or organization may appeal the Dean's decision to the Student Activities Board of the College. This second appeal must be in writing and presented to the Chairperson of the Student Activities Board within 10 calendar days of the decision of the Dean of Student Personnel Services. The Student Activities Board shall make a prompt investigation of the appeal, contacting parties involved, and shall within 10 calendar days from the date of the appeal, make a decision to reinstate the distribution rights or upholding the denial or required halt of distribution. The decision of the Student Activities Board shall be final.

Where it is contemplated that a violation of the student literature distribution procedural regulation warrants the imposition of disciplinary action upon an individual student, disciplinary action shall be taken in accordance with "Due Process" as outlined in this catalog.

OTHER REGULATIONS

Lansing Community College reserves the right to change or add to the rules and regulations at any time.

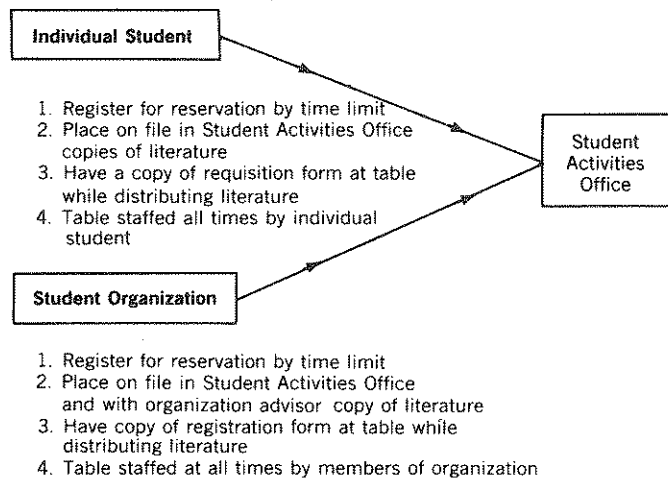
DUE PROCESS

Lansing Community College holds firm to the philosophy that matriculation in college does not deny any rights of citizenship to a student. At the same time, matriculation in college does not relieve a student of the basic responsibilities of citizenship. Thus, the College is constantly aware of the joint responsibilities, shared by the student body and the College, to uphold the principles of "due process" in all disciplinary action taken by the College or on the behalf of the individual students.

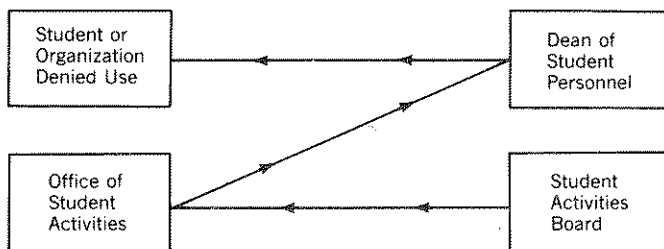
The following principles shall be employed for the guidance and direction of all persons or bodies hearing students accused of violating regulations of the College, except those involving academic performance and achievement:

1. The student will be notified by certified letter that an alleged violation has occurred. The student will be directed, in the letter, to make an appointment with the appropriate College official to review the facts concerning the alleged violation and to determine if formal charges should be prepared. A "hold" may be placed on the student's record which will result in the student's reenrollment being delayed.
2. The student shall be notified by an appropriate College official that he/she is accused of violating a regulation;
3. The student shall be notified that he/she may elect one of three courses of action:
 - a. The student may admit the alleged violation and request, in writing, that the administrative officer take whatever action seems appropriate;
 - b. The student may admit the alleged violation and request a hearing before the Judicial Board;
 - c. The student may deny the alleged violation, in which case the administrative officer shall refer him/her to the Judicial Board;
4. Prior to the hearing, the student shall be entitled to the following:
 - a. Written notification of the time and place of the hearing;
 - b. A written statement of the charges of sufficient particularity so that the student may prepare his/her defense;
 - c. Written notification of the names of the witnesses who are directly responsible for having reported the alleged violation or, if there are no such witnesses, written notification of how the alleged violation came to the Board's attention.
5. The student shall be entitled to appear in person and present his/her defense to the Judicial Board, and may call witnesses in his/her behalf. The student may also elect not to appear before the Judicial Board. Should he/she elect not to appear, the hearing shall be held in his/her absence;
6. The student shall be entitled to be accompanied by counsel;
7. The student or his/her counsel shall be entitled to ask questions of the Judicial Board or of any witnesses;
8. The student shall not be required to testify against himself/herself;
9. The student shall be entitled to an expeditious hearing of his/her case;
10. The student shall be entitled to an explanation of the reasons for any decision rendered against him/her.
11. Decisions rendered by the Judicial Board will be final. A student who wishes to contest the decision of the Judicial Board has recourse to civil court action.
12. The standard of proof to be followed by the Judicial Board of Lansing Community College is the standard of "clear and convincing evidence."

LITERATURE TABLE USE REQUEST FLOW CHART



FLOW CHART FOR APPEAL OF DENIAL OF USE OF LITERATURE TABLE



The Judicial Board will hear cases referred to it by individual students through the established lines of appeal, or by administrative officers of the College. Decisions rendered by the Judicial Board will be made by a simple majority vote of the total membership of the Judicial Board. The Judicial Board shall be empowered to make recommendations to appropriate parties for appropriate action, based on decisions rendered by its collective membership. The membership of the Judicial Board will consist of the following members:

1. The Dean of Student Personnel Services Division (Chairperson);
2. The Chairperson of the Student Development Services Department;
3. Two students appointed by the President of the Student Government from the student body with consent of the Student Government, with one alternate appointed in the same way, to serve in the absence of any student member;
4. Two faculty members appointed by the dean of the division in which the concerned student is enrolled or matriculating, with one alternate faculty member appointed in the same way, to serve in the absence of any faculty member.

The line of appeal to the Judicial Board of the College and the instructional division membership of the Judicial Board shall be explicit, depending on the type of case being presented:

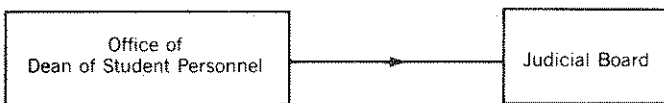
1. When the case involves a disciplinary action based on an alleged violation of the general rules and regulations of the College (for example: explosives, alcoholic beverages, treatment of College property), the line of appeal shall be:
 - a. The Office of the Dean of Student Personnel Services Division;
 - b. The Judicial Board of the College.

The instructional division membership of the Judicial Board shall be two faculty members of the division in which the student is matriculating, when hearing a case involving a disciplinary action based on an alleged violation of the general rules and regulations of the College. When the Judicial Board is hearing an appeal based on a disciplinary decision of the Office of the Dean of Student Personnel Services Division, the Dean of Student Personnel Services Division will relinquish the chair of the Judicial Board. A temporary chairperson will be elected by the remaining members of the Judicial Board from the remaining members of the Judicial Board;

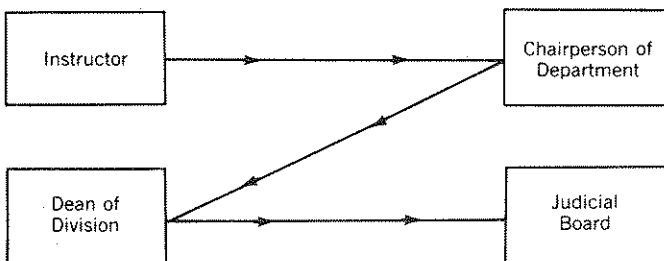
2. When the case involves an academic imposition, based on alleged violation of the academic rules and regulations (for example: plagiarism and cheating) or alleged mistreatment of students by faculty, the line of appeal shall be:
 - a. The faculty member involved;
 - b. The chairperson of the instructional department involved;
 - c. The dean of the division involved, and
 - d. The Judicial Board of the College.

The instructional division membership of the Judicial Board will be the two faculty members of the division in which the class is offered where the academic imposition or alleged mistreatment is being appealed;
3. Decisions rendered by the Judicial Board will be final. A student who wishes to contest the decision of the Judicial Board has recourse to civil action in the courts.

GRAPHIC EXPLANATION OF LINE OF APPEAL



(DISCIPLINARY ACTION)



(ACADEMIC IMPOSITION)

POSTER REGULATIONS

Lansing Community College is continually sensitive to the fact that there is a need for our students, staff, and offices to communicate regarding various activities, events, and services. The College is also sensitive to the right of freedom of expression, particularly as provided for in the First Amendment of the Constitution of the United States. At the same time, the College is respon-

sible for providing reasonable procedures and regulations to protect public and private property, provide for the general safety and welfare of all members of the College community, and which preclude disruption of the normal functions of the College.

The following statements are designed to regulate the use of posters within the College facilities while providing students, College personnel and College properties reasonable protection from commercial exploitation and court suits. While the courts have said that College property is considered a "public trust," these same courts have ruled that College property is not "public property" subject to unregulated use by any and all individuals. This regulation is designed to facilitate communication through the use of posters while complying with the legislated instructional mission of the College.

DEFINITION: A poster is any written communication designed to apply to a wall or other surface for the purpose of relating information about an event, service, idea or activity. A poster may be in the format of, but not limited to, a sign, a brochure, an announcement, or banner.

GENERAL POSTER REGULATIONS

1. Within any and all buildings, placement of all signs and posters is restricted to approved bulletin boards.
2. All posters should be in English, or when in another language, a literal English translation should be supplied with each poster copy. When a foreign language poster is used, its complete English translation should be:
 - a. Clearly printed on the same poster and in the same size letters as the letters used in the original foreign language poster, or
 - b. Attached to each copy of the foreign language poster, clearly printed, and in the same size letters as the letters of the original foreign language poster. The English translation must remain with the poster for the duration of its posting.
3. Each poster is required to have in the lower left-hand corner, its posting date (month, day, and year) and in the lower right-hand corner, its date (month, day, and year) to be removed. Each poster should be up for a reasonable length of time depending upon the activity.
4. Designated bulletin boards are available in each building for the posting of student and staff personal notices. All student and staff personal notices will be confined to these designated bulletin boards.
5. A poster shall not exceed 18 inches by 24 inches except when given special permission by the appropriate office of approval.
6. No poster shall be placed in such a way that it covers all or part of a previously posted approved poster whose take-down date has not expired.
7. The removal of posters at or prior to the take-down date shall be the responsibility of the sponsoring organization or individual. No posters shall be removed prior to the take-down date by unauthorized individuals.
8. Each poster must identify the sponsoring organization, department or individual. Each poster must display a telephone number or an office location where more complete information can be obtained.

POSTERS: Offices of Approval

- a. Students and student organizations wanting to post posters must gain approval in the Office of Student Activities.
- b. College staff and faculty must gain approval in their departmental office or from the office of their administrative supervisor.
- c. Student and College staff personal notices placed in designated bulletin boards within the College buildings do not need approval. Examples of personal notices are selling used books, sharing a ride, sharing an apartment, and selling personal articles. Profit making commercial notices are not considered personal and will be removed.

STUDENT OR STUDENT ORGANIZATION APPEAL OF POSTER DENIAL OR REMOVAL

If a student or student organization feels that a denial of posting or removal of a poster infringes upon their First Amendment rights or is in violation of this regulation, an informal appeal may be made by the poster sponsor to the Director of Student Activities. A meeting will be held between the appealing poster sponsor or sponsors with the Director of Student Activities to discuss the appeal. If the appeal is not resolved, a formal appeal may be presented to the Director of Student Activities. This appeal must be in writing, must indicate the reason(s) for the appeal, and must be dated and signed by the appealing party. The Director of Student Activities will gather information and respond to the appealing party within five (5) days of receipt of the appeal. If the student or student organization is not satisfied with the response of the Director of Student Activities, a second written appeal may be made to the Dean of Student Personnel Services. This written appeal must contain the reason(s) for the appeal, and a copy of the poster must be made available to the Dean of Student Personnel Services for review. The appeal to the Dean of Student Personnel Services must be dated and signed by the appealing party. The Dean of Student Personnel Services will gather information and respond to the appealing party within five (5) days of receipt of the appeal, giving the decision rendered and reason(s) therefore. The decision of the Dean of Student Personnel Services shall be final.

Failure to comply with the above regulations may lead to the denial of approval, the removal of posters or disciplinary action.

In order to protect the student body, individual members of the College community and the resources of the College, the College reserves the right and accepts the responsibility to deny approval or remove any poster or posters which it believes to cause significant disruption of the normal function and operation of the College.

POSTER REGULATIONS FOR OFF-CAMPUS ORGANIZATIONS AND INDIVIDUALS

Lansing Community College is sensitive to the fact that there is a need for some off-campus organizations and individuals involved in non-commercial enterprises to communicate with Lansing Community College students and staff members concerning various activities, events, and services. The College is also sensitive to the right of expression, particularly as provided for in the First Amendment of the Constitution of the United States. At the same time, the College is responsible for providing reasonable procedures and regulations to protect public and private property and providing for the general safety, welfare, and positive learning environment for all members of the College community.

Therefore, the College has provided a kiosk, centrally located on the downtown campus, for the use of non-commercial groups and individuals who are not affiliated with the College. Such groups and individuals may place their posters on this kiosk without seeking prior approval from any College office, and the College disclaims any and all responsibility for items posted.

FACULTY RESPONSIBILITIES*

The primary responsibility of instructional staff is teaching effectively. Such effective teaching may occur in the classroom, laboratory, office, or in any other instructional setting. This responsibility is reflected by an instructor who:

- A. Is articulate and enthusiastic about his/her field and establishes a positive, stimulating, learning, atmosphere
- B. Prepares for each class; organizes course concepts and presents them clearly; exhibits comprehensive knowledge of the subject; applies skills appropriate to course content; makes appropriate and timely use of student and instructional support services
- C. Respects students as individuals; recognizes student learning styles and manages student learning accordingly; adapts course material to student learning mode and rate
- D. Leads discussions when appropriate and provides presentations which represent various sides of a given issue
- E. Informs students early in the class as to what is expected of them through a departmentally approved syllabus, course outlines, grading standards, texts, and other materials; provides appropriate classroom materials and assists students in mastering them; provides students with scheduled instructional hours
- F. Evaluates students fairly and objectively; constructs and administers examinations that are valid and reliable indicators of student learning; maintaining clear and thorough records of student progress and keeps students informed throughout the course
- G. Encourages intelligent, independent thought by students, where appropriate
- H. Uses instructional media, learning materials, and equipment effectively

The complementary responsibilities of instructional staff are to assist student through scheduled office hours and on other occasions, including being an informed adviser on academic and career planning by:

- A. Providing assistance to students on an individual basis
- B. Being available to consult with students during regularly scheduled office hours and informing students about the availability of these hours
- C. Knowing curriculum/program requirements and career opportunities in one's field of expertise or making appropriate referrals for academic advising; being able to advise students in one's own program area; where appropriate making referrals for counseling, placement, and for information regarding educational alternatives within the College and at other institutions

*Recommendations of the College-Wide Faculty Evaluation Committee; current agreement between the Board of Trustees and the Lansing Community College Chapter of the Michigan Association for Higher Education.

COURSE DESCRIPTIONS

Each course description has seven categories of information:

A	B	C D E	
WRI 122	Composition II		4 (4-0)

F. Prerequisite: WRI 121. Continuation of WRI 121 and an alternative to ENG 122 in many programs. Writing and G. reading skills are further developed with special attention to sentence style and word choice. Deals with problems in communication between readers and writers, especially those involving fact, opinion, logic, and persuasion. Includes an introduction to documentation of sources.

- A. Course code and number
- B. Course title
- C. Number of term credit hours

- D. Number of lecture-discussion hours per week
- E. Number of laboratory hours per week
- F. Prerequisites for enrolling in the course are indicated prior to the course description. The course number(s) or other information indicate the preparation or prerequisite to enrollment in the course. The appropriate departmental office should be consulted in case of questions as to eligibility for enrolling in the course.
- G. A brief description of the course. The appropriate departmental office will provide additional information upon request.

COURSE CODES USED IN DESCRIPTIONS

Courses are listed by departmental course codes within each Division of the college.

The sequence is as follows:

DIVISION OF STUDENT PERSONNEL SERVICES

DEPARTMENT OF STUDENT DEVELOPMENT SERVICES
SD Student Development

DEPARTMENT OF PHYSICAL EDUCATION AND ATHLETICS

- PEA Professional
- PEB Fitness
- PEC Individual Sports
- PED Individual/Dual
- PEE Team Sports
- PEF Aquatics
- PEG Combatives/Weight Training
- PEH Gymnastics/Dance
- PEI Indoor Activities
- PEJ Outdoor Activities

MILITARY SCIENCE, AIR FORCE R.O.T.C.
MS Military Science

AEROSPACE STUDIES, AIR FORCE R.O.T.C.
AS Aerospace Studies

CENTER FOR AGING EDUCATION
GER Gerontology

DIVISION OF ARTS AND SCIENCES

DEPARTMENT OF COMMUNICATION

- COM Communication
- ESL English as a Second Language
- FRN French
- GRM German
- JPN Japanese
- JRN Journalism
- RDG Reading
- SGN Sign Language
- SPN Spanish
- SPH Speech
- WRI Writing

DEPARTMENT OF HUMANITIES

- ENG English
- HST History
- HUM Humanities
- PHL Philosophy
- REL Religion

DEPARTMENT OF MATHEMATICS AND COMPUTER SCIENCE

- CPS Computer Science
- MTH Mathematics

DEPARTMENT OF SCIENCE

- ANT Anatomy
- AST Astronomy
- BIO Biology
- CEM Chemistry
- GE Geology
- MET Meteorology
- MIC Microbiology
- NS Natural Science
- OCN Oceanology
- PGY Physiology
- PHY Physics
- SC Independent Study/Science Seminars

DEPARTMENT OF SOCIAL SCIENCE

SS	Social Science
CD	Child Development
ED	Education
GEO	Geography
HUS	Human Services
PLS	Political Science
PSY	Psychology
PS	Public Service
SA	Sociology/Anthropology
SW	Social Work

DIVISION OF BUSINESS**ACCOUNTING AND COMPUTER ACADEMIC PROGRAMS**

ACC	Accounting
CAB	Computer Applications for Business
CAS	Computer Applications Systems
CFP	Certified Financial Planner
INS	Insurance

CRIMINAL JUSTICE SYSTEMS

CJ	Criminal Justice
LAW	Law

HOSPITALITY SYSTEMS

HMF	Hotel-Motel and Food Service
TA	Tourism and Travel Agency Operations

MANAGEMENT DEVELOPMENT CENTER

MGT	Management
MKT	Marketing
SBM	Small Business Management

MANAGEMENT SYSTEMS

AIB	American Institute of Banking
BUS	Business
EC	Economics
LR	Labor Relations
MGT	Management
MKT	Marketing
RE	Real Estate
SL	Savings and Loan

OFFICE SYSTEMS

BUS	Business
CCR	Court and Conference Reporting
DE	Data Entry
IWP	Information/Word Processing

DIVISION OF TECHNOLOGY AND APPLIED SCIENCES**AUTOMOTIVE**

AUT	Automotive Trades
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AVIATION TECHNOLOGY

AFT	Aviation Technology
AFG	Aviation Mechanics
AFM	Airframe Mechanics
AFP	Powerplant Maintenance

COMPUTER INTEGRATED MANUFACTURING

ATR	Metal Machine Trades
ATS	Technology Seminars
CIM	Computer Integrated Manufacturing
CG	Computer Graphics
DT	Drafting Technology
MT	Mechanical Technology
EM	Electro-Mechanical Technology
ET	Electronics Technology
HAC	Heating and Air Conditioning
PIC	Production and Inventory Control
QC	Quality Control
RB	Robotics
WLD	Welding

CONSTRUCTION TECHNOLOGY

AT	Architectural Technology
LAT	Landscape Architectural Technology
BTA	Building Trades

BTJ	Building Trades
BTR	Building Trades
CT	Civil Technology
FST	Fire Science Technology
SAF	Occupational Safety and Health
ATG	Applied Technology General
ATS	Applied Technology Seminars
TEC	Technology General

DEPARTMENT OF HEALTH CAREERS

NUR	Nursing
CHC	Continuing Health Carrers
DA	Dental Assistant
DBA	Dental Business Assistant
DHA	Dental Hygiene/Dental Assistant
DH	Dental Hygiene
EMT	Emergency Medical Services Technology
ESA	Advanced Emergency Medical-Tecology
EMS	Emergency Medical Services
ER	Emergency Care
HC	Health Careers
AHC	Allied Health Careers
ST	Surgical Technology
RT	Respiratory Therapy
RTA	Respiratory Therapy—Advanced
RXT	Radiologic Technology

TRANSPORTATION TRAINING

TT	Truck Driver Training
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DIVISION OF TELECOMMUNICATION AND THE ARTS**DEPARTMENT OF LIBRARY INFORMATION SERVICES**

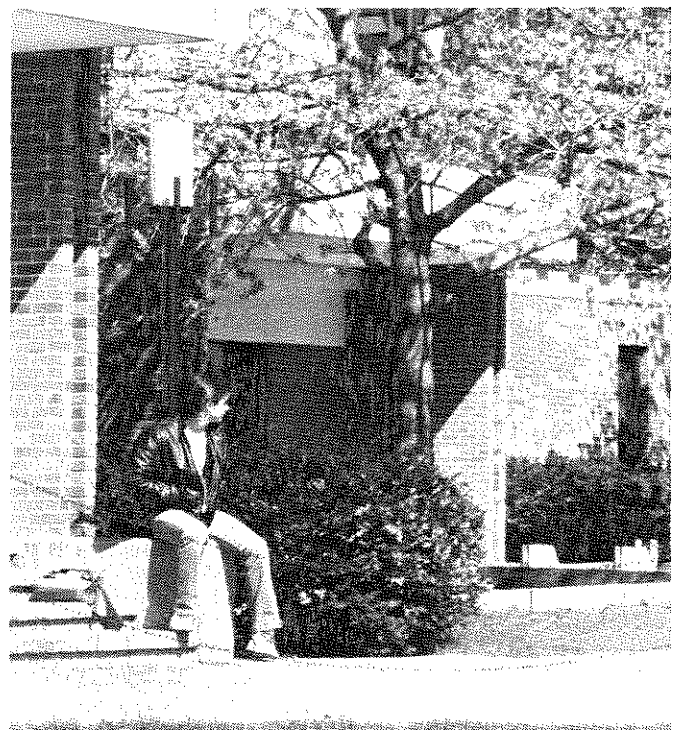
LIB	Using Information Resources
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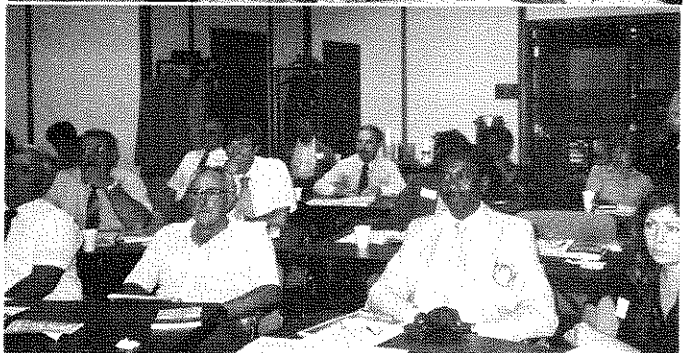
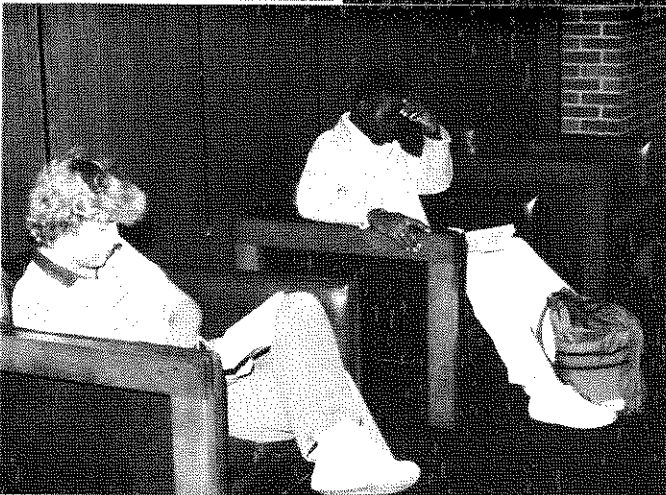
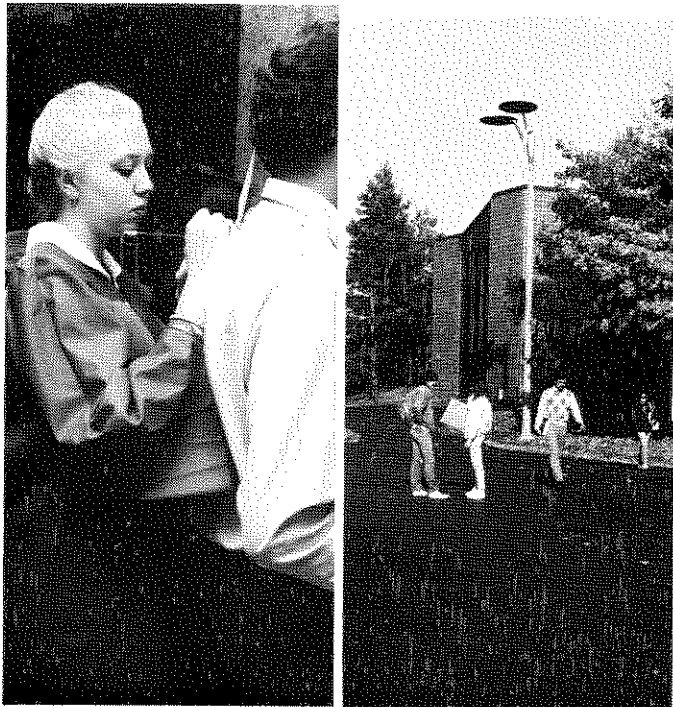
DEPARTMENT OF MEDIA

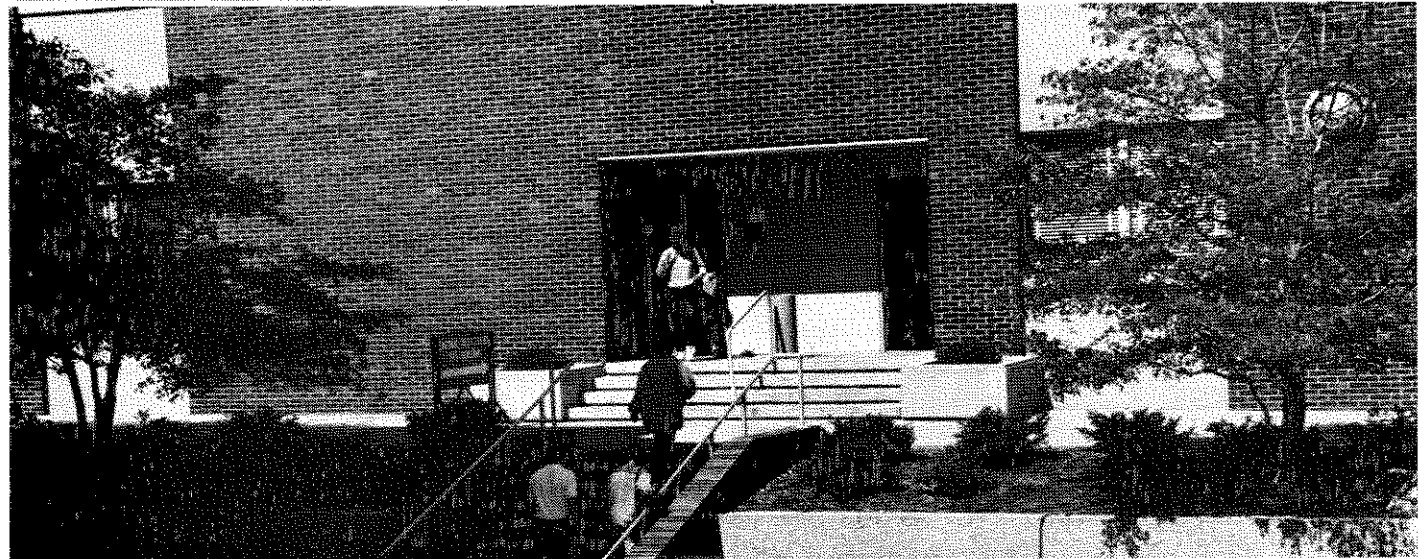
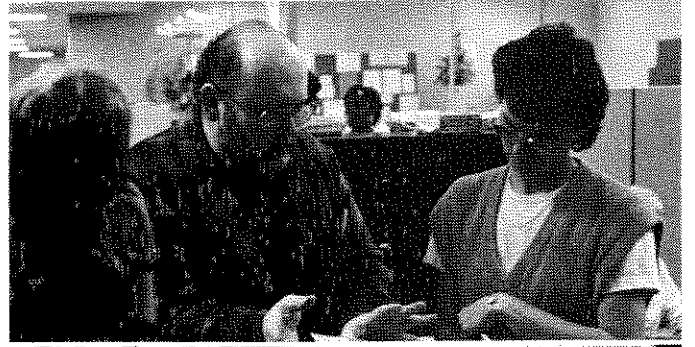
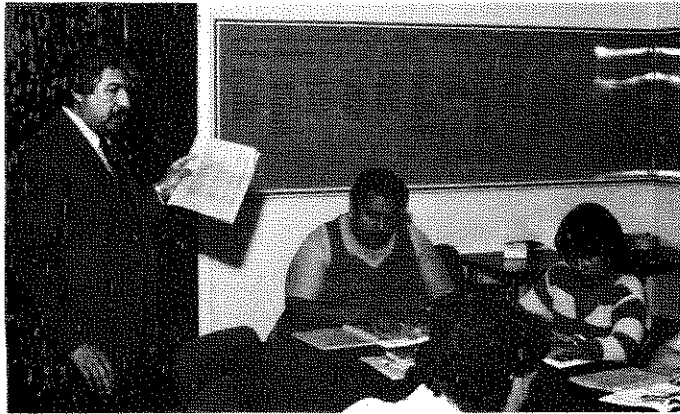
ART	Art
MRT	Media Technology
PHO	Photography

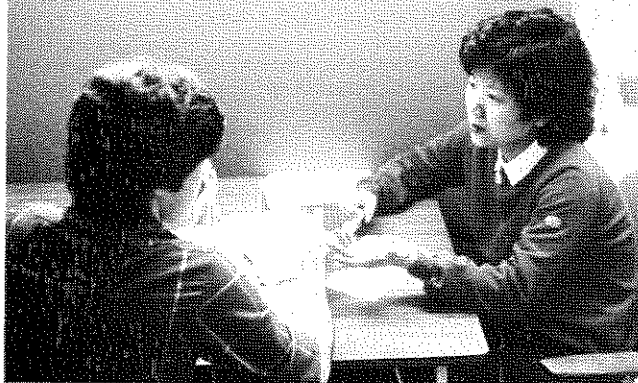
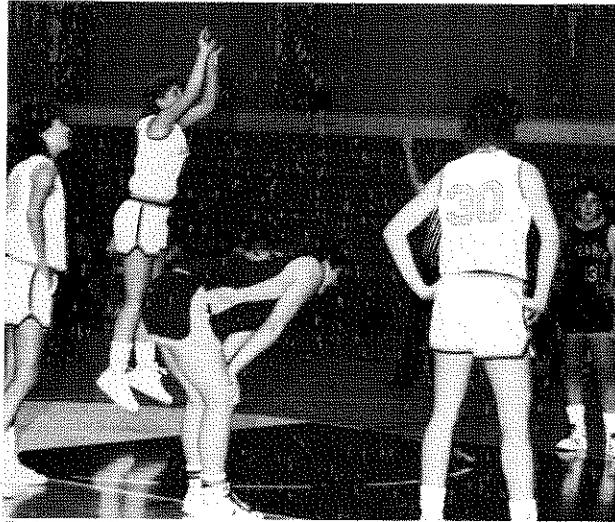
DEPARTMENT OF PERFORMING ARTS

DNC	Dance
DNR	Dance Workshops and Seminars
MUS	Music
THR	Theatre
THW	Theatre Workshops









Lansing Community College



Dean William Schaar

DIVISION OF STUDENT PERSONNEL SERVICES

Admissions
Physical Education & Athletics
Registrar
Student Activities
Student Development Services
Student Financial Services

DIVISION OF STUDENT PERSONNEL SERVICES

Dean: Dr. William Schaar
217 Student Personnel Services Building

The College offers student support services through the Division of Student Personnel Services. These include counseling, pre-enrollment advising, registration, orientation, testing, college and high school articulation, academic advising, educational and vocational information, financial aid, placement, and College-student activities.

Student personnel services are designed to support the college goals listed earlier in this catalog. Some services provide direct support for several of the colleges' goals while all of the services provide indirect support for all goals listed.

Program and Service Objectives

The function of Student Personnel Services is to provide support services for the student as a learner in an instructional environment. The program and service objectives of the Division are:

1. To assist the student in gaining access to the instructional program of the College through admissions processing, counseling and advising, informational services, registration, and orientation.
2. To assist the student in maintaining a status of academic good standing in the College by providing record maintenance, counseling services, financial aids, career exploration, individual assessment, academic advising, achievement monitoring, tutorial services, and student employment placement.
3. To assist various student populations in meeting their special needs. Some of these student populations are veterans, the older adult student, the returning mature woman student, the economic high-need student, and students involved in agency sponsored programs.
4. To assist students with learning experiences outside of the formal classroom, such as student government, student interest clubs, travel, intramural athletics, intercollegiate athletics, student publications, and cultural involvement with the service community.
5. To offer courses designed to help students acquire adjustments, activity and informational skills such as physical education, student development, college survival, military science, and aging and retirement education.
6. To help students to enter a field of work or career, or to continue their career developments by providing employment placement assistance, job market information, college transfer articulation, and student follow-up.

Organization of Resources

In order to carry out the objectives above, the Division of Student Personnel Services employs both trained professional and support staff in each service area. The service functions are designed to meet the special needs of students. Staffing and housing of these services are designed to have maximum impact on "Student Success."

It should be noted that the Division of Student Personnel Services provides both support and instructional programs for students. The facilities for the division are placed in the various buildings on campus with a concentration of several services in the Student Personnel Services Building.

Major Programs and Services

The major service areas are:

1. The Office of Admissions
2. The Registrar, Student Records, and Cashier
3. The Office of Veterans Services
4. The Office of Student Financial Services
5. The Office of Student Activities
6. The Career Planning and Placement Center
7. The Student Development Department
 - A. The Women's Resource Center
 - B. The Career Exploration and Assessment Center
 - C. The Center for Student Support
8. The Center for Aging Education
9. The Physical Education and Athletics Department

CAREER PLANNING AND PLACEMENT CENTER

A file of educational and occupational source material is available to all students. Directories, career descriptions, job briefs and educational listings are included to assist the student in making appropriate educational and occupational plans, particularly when used in conjunction with career planning courses. Books, pamphlets, brochures and outlines are available in counseling service areas and in several library locations.

Employment Placement

Placement services are available to all students for either part-time or full-time positions. Part-time positions at the College and within the service area

of Lansing Community College are publicized on bulletin boards. On-campus and off-campus College Work Study jobs will be posted on the job board. Applications for College Work Study must be processed through the Student Financial Services Office. The job board is located outside the Career Planning and Placement Center, Room 211, Gannon Vocational-Technical Building.

Student Employment Guidelines

Student employment is a temporary on-campus job. To be eligible to work as a student employee, the following conditions must be met.

- The student must be enrolled for at least six credits during Fall, Winter and Spring terms and one credit Summer term. ("Credit" refers to a full term class taken for a grade.)
- Federal College Work Study students need not enroll Summer term if they sign an Intent to Enroll form in the Placement office.
- The student should be pursuing an academic course of study and be making reasonable progress through that program.
- Students may work no more than an average of 20 hours a week (40 hours total per pay period), never exceeding 30 hours in a week.
- Incoming students who have been assigned a student number may begin work the term break preceding their enrollment in classes at LCC.

Interviews

Employers may interview on campus. Students in their last term and graduates may sign up for interviews with these organizations. Interview dates will be publicized throughout the campus, listing required job qualifications. Qualified persons may sign up for interviews in the Career Planning and Placement Center.

Services Offered

The Career Planning and Placement Center offers services that will assist you in the areas of career planning and job placement. These include:

- career counseling
- career planning and job-search classes
- credential file system for graduates and alumni
- Computer Assisted Placement System (job-applicant matching)
- resume and interview preparation assistance
- employment assistance for both full and part-time positions
- Summer Camp Recruiter Day (February) for summer job opportunities
- Part-Time Placement File (for currently enrolled and incoming students)

CENTER FOR AGING EDUCATION

Program Director: Ellen N. Sullivan
207 Old Central Building

Gerontology Program

The Center for Aging Education provides aging education, training, and consultation to agencies, businesses, community organizations, and individuals. Its emphasis is on developing and providing quality programs and educational services that are responsive to the needs of the community. Programs and services of the Center include:

- career training in gerontology for individuals who provide direct services to older persons (Certificate Program or Associate Degree)
- short-term workshops/seminars on special topics in aging
- retirement preparation seminars
- programs for those already retired
- customized training and in-house seminar development
- consultation on aging education issues
- audio-visual programs on high-interest topics

The Center offers both a Certificate in Gerontology and a Gerontology Specialty Option within the Human Services Associate Degree Program. Three terms of field placement are included in both programs. During field placement the student works at an agency or organization serving older adults. Gerontology courses and the field placement experience are taught and supervised by Center for Aging Education faculty.

Academic advising is available to persons interested in pursuing careers in gerontology, as well as to those who wish to upgrade their skills in their present jobs. Center staff also advise older adults seeking information on educational opportunities. Gerontology advising supplements the regular general advising program of the College.

Workshops, seminars and other gerontology training programs are offered in response to identified community needs and interests. Center staff design seminars for older adults and others interested in education for and about aging.

The Center offers a small group retirement planning program to individuals in the community and on-site to organizations. It also provides consultation to employers in implementing retirement/life planning programs for their employees.

Audio-visual programs on special topics in aging are available through the Center. Two of these slide/tape programs were produced by Center staff. "Aging Family Members and You: Solving the Puzzle Together" addresses decision making and communication skills. "Older People and You: Skills for Helping" is designed to introduce new employees and volunteers to the field of work

with older adults. More information is available on these and other programs.

A Senior Adult Tuition Award program is administered by the Center for Aging Education in cooperation with the Student Financial Services Office. Persons 60 years of age or older who meet moderate income guidelines are eligible to apply. Priority is given to residents of the College district. All awards are dependent upon the availability of funds.

The Older, Wiser Learners (OWLS) group is sponsored by the Center to promote informal learning opportunities for mature adults. Through regular meetings and special activities, the OWLS share ideas, exchange information and participate in continuing education activities.

COURSE DESCRIPTIONS

Gerontology (GER)
Center for Aging Education
Division of Student Personnel Services

- GER 100 Introduction to Human Aging 3(3-0)**
 A basic orientation to the field of gerontology, with emphasis on social aspects: demography, physiology, psychology, sociology, economics, environment, death and dying, and community and government programs.
- GER 101 Programs and Services for the Aging 3(3-0)**
 Prerequisite: GER 100 recommended. Focus is on the organization and functions of the aging system, its relationship to the broader human services system, and how the services worker can use or develop community resources for the benefit of older adults.
- GER 102 Mental Health and Aging 3(3-0)**
 Prerequisite: GER 100. Covers psychological and social adaptations necessary for maintenance of good mental health: influences of physical health, social and family aspects, depression and losses, institutions, positive approaches to mental health, and a life-cycle perspective. Emphasis is on responses to aging and environmental factors that have an impact on mental health.
- GER 103 Recreational Programs for the Aging 2(2-0)**
 Prerequisite: GER 100 recommended. An exploration of the potential and effects of therapeutic recreation in relation to older adults. Includes activity analysis, creating a livable environment, development of in-service training, review of State and Federal guidelines, medical background for understanding charting and care plans, effective communication with physically and mentally impaired, use of volunteer staff, and locating community resources for programs.
- GER 104 Aging and Health 3(3-0)**
 Prerequisite: GER 100. Examines patterns of physical health and illness among the aged, changing physiology of body systems, current theories of aging process, chronic illnesses, and mechanisms for health and medical care. Emphasis is on practical implications for the human services provider.
- GER 105 Planning for Retirement 2(2-0)**
 Covers financial matters, legal affairs, physical and mental health, being alone, housing choices, employment and volunteer opportunities, community resources, and meaningful use of time. Includes discussion of planning and decision-making skills and development of a personalized plan for retirement.
- GER 110 Self-Renewal 1(1-0)**
 Mature adult students clarify personal values, identify accomplishments and interests, and develop communication skills. Topics include myths about aging, using individual personal resources (emotional, physical, mental, and social), and an exploration of meaningful roles for older adults.
- GER 111 Senior Adult Issues 1(1-0)**
 An examination of critical retirement issues. Topics include sources and use of local community resources in housing, physical health, mental health, and finances. Students look at changes resulting from legislation, the influence of organizations, and alterations in lifestyles.
- GER 112 Organizations Serving Seniors 1(1-0)**
 Survey of various agencies providing programs, services, and group services for mature adults. Agencies include those assisting in legal matters, housing concerns, financial issues, legislative matters, and nursing home assistance.
- GER 113 Investments and Financial Management in Retirement .5(5-0)**
 An overview of money management strategies and investments, especially as applied to fixed incomes in retirement. Topics include determining net worth, types of investments, yield, stocks, bonds, mutual funds, and money management tips and legalities.

- GER 114 Estate Planning for Retirement 5(5-0)**
 Provides practical information on estate planning and the alternatives available for a variety of family situations. Includes techniques used to plan an estate, preserve and transfer property during lifetime and at death, avoid probate and minimize death taxes and legal expenses.
- GER 121 Senior Adult Program Planning 1(1-0)**
 Overview for those planning senior adult programs: basic principles of programing and leadership; ideas and resources for activities for older adults; motivating older adults to participate; and scheduling activities.
- GER 122 Working with Older Adults: The Aging Process Variable**
 Overview of issues and skills critical to work with older adults in a service capacity. Includes an introduction to the field of aging; myths and realities of aging; age-related sensory loss; effects of stress on the mental health of older adults; special communication skills; an introduction to the aging service network; and information about local community resources.
- GER 123 Counseling Outreach Skills: Aging Populations 2(2-0)**
 Prerequisite: GER 100 required & GER 102 recommended. Basic communication and counseling skills are presented and practiced, including special considerations in dealing with older adults. Topics include empathy, death and dying, loss, grief, and depression.
- GER 124 As Parents Age: A Seminar for Families 5(5-0)**
 An examination of aging in the family context, with emphasis on information useful to the individual's own family situation. Topics include the normal aging process, sensory changes, improving communications, understanding "senility," common mental health problems, alternative living arrangements (community-based vs. institutional), community services and resources, roles of adult children, shared decision-making, and the dynamics of guilt.
- GER 161 Issues of Aging: Sexuality 5(5-0)**
 Issues relating to sexuality and older persons: societal attitudes, sexual behavior patterns, physiological changes, psychological responses, and special situations such as institutional settings.
- GER 164 Medication and Alcohol Use Among Older Adults 1(1-0)**
 Examination of medication and alcohol use among older adults: prescription and non-prescription medicines, side effects, drug interactions, and strategies for using medicines wisely. Students learn to identify a substance abuse situation and make appropriate referrals.
- GER 165 Dementia I: Concepts and Causes 1(1-0)**
 An introduction to current concepts of confusion ("senility," dementia, Alzheimer's Disease) in older persons. Provides an overview of social, physical, psychological and environmental factors resulting in confusion. Relationship to depression, techniques for communicating with confused older persons, family dynamics and community resources are discussed.
- GER 167 Issues of Aging: Nursing Homes 5(5-0)**
 The role of nursing homes in the continuum of care, issues and concerns relating to care, funding of care, review of residents' rights, guidelines for choosing a home, guidelines for visiting nursing home residents.
- GER 168 Legal Rights of Older People Variable**
 Introduction to legal issues affecting older adults: nursing home residents' rights, wills and estate planning, health insurance, age discrimination, guardianship, and other related legal topics.
- GER 169 Legal Rights of Older People-Disability and Consent 5(5-0)**
 Procedures such as guardianship, conservatorship, power of attorney, the living will, joint tenancy, nursing home residency and civil commitment will be addressed. Explores the actual and perceived choices an individual has as aging and illness occur, the legal procedure through which a person gains the right to make decisions over another's life, and the role the state has in protecting a person against him or herself.
- GER 170 Depression: Recognition and Treatment 1(1-0)**
 An examination of depression in later life. Symptoms, causes, "masks," diagnosis and assessment of depression are introduced, including information on distinctions between depression and dementia. Basic techniques and guidelines for working with depressed older persons are presented.
- GER 171 Dementia II: Techniques for Intervention 1(1-0)**
 Prerequisite: GER 165 or equivalent. An introduction to techniques for working with older adults with Alzheimer's disease and related disorders. The psychosocial needs of individuals and their families are a primary focus. Communication techniques, programming approaches, handling problem behaviors, a task breakdown approach, environmental adaptations and role of the family are discussed.

GER 173 Understanding and Managing the Problem of Urinary Incontinence .5(5-0)

An introductory seminar designed to assist those with the problem of incontinence management in older adults. Topics include attitudes, normal age effects on urine control, prevalence, common responses to loss of control, possible causes, complex incontinence, treatment and techniques of management.

GER 174 Working with Older Adults: Minority Aging 1(1-0)

Focuses on the special needs of Black, Native American and Hispanic elderly. Includes demographic aspects of minority aging, special conditions of physical health, psychological aspects, social problems, and federal policies concerning minority aging.

GER 175 Working with Older Adults: Chronic Illness in Later Life .5(5-0)

Overview of signs of physical and mental changes in older persons and of resources available in the community to help. Topics include vision and hearing, heart problems, arthritis, osteoporosis, cancer, respiratory problems, Alzheimer's disease and other chronic conditions.

GER 176 Hearing Loss and Aging .5(5-0)

An overview of causes, effects and practical methods of compensation for hearing loss in older adults. Topics include: description of the ear and how it functions, the effects of normal and abnormal changes on hearing ability as one ages, the implications for hearing impaired individuals and their families, ways of maintaining communication flow with one who has a hearing loss.

GER 197 Advanced Grief and Loss Counseling: Strategies for Practitioners .5(5-0)

Overview of specific counseling techniques and their application by practitioners when helping older persons deal with grief and loss. Topics include the professional "Helpers" and their attitudes on grief and loss, the effect of the practitioner's attitude on the process of helping the grieving person, specific counseling techniques, identification of community resources.

GER 198 Working with Older Adults: Grief and Loss .5(5-0)

Focuses on how to help the grieving older adult. Topics include attitudes toward death and dying; stages and symptoms of grief; abnormal grief reactions; multiple losses of older persons; and community resources.

GER 199 Working with Older Adults: Dying and Death 1(1-0)

An overview of issues and skills critical to caregivers working with terminally ill older adults. Included are an examination of attitudes toward dying, death, and older adults; understanding the behavior of the dying person; understanding personal feelings; techniques for communicating with the terminally ill; working through personal grief; and exploring alternatives to institutionalized death.

GER 201 Field Placement I 4(1-10)

Prerequisite: GER 100 & department approval. On-the-job experience in serving older persons through placement at a local community agency. Students assess their motivation and career skills in the field of aging services, explore community resources, demonstrate appropriate work habits, assess their attitudes toward older persons, and relate current research in the field of aging to actual practice. An accompanying seminar integrates experience with concepts and principles of gerontology.

GER 202 Field Placement II 4(1-10)

Prerequisite: GER 201, 12 program credits & department approval. Second in the series of field experience courses. A continuation of Gerontology 201 providing additional practical experience and training in gerontology. Includes practice and demonstration of group work techniques.

GER 203 Field Placement III 4(1-10)

Prerequisite: GER 202, 20 program credits & department approval. Third in the series of field placement courses. A continuation of Gerontology 202. Includes a focus on current research, job search techniques, and preparation of a resume.

GER 213 Family Caregiving: Evaluating Yourself as a Caregiver .5(5-0)

Designed for those caring for a chronically ill family member or friend in the home. Topics include: development of the family; family systems; the caregiver role; your family responsibility tree; communication skills; assessment for decision making; assessing the caregiver; and filling the gaps with community resources. An interdepartmental course with the Health Careers Department.

MILITARY SCIENCE

(U.S. Army ROTC Program)
Division of Student Personnel Services
217 Student Personnel Services Building

Lansing Community College, through Michigan State University, offers undergraduate and graduate students an opportunity to qualify as commissioned officers in the United States Army, serving in the Active Army, the Army Reserves, or the Army National Guard. The program provides an education in Leadership and Military Skills through courses offered by the MSU Military Science Department. Also included are courses in Written Communication, Human Behavior, Management, Military History, and National Security offered by other LCC and MSU departments. While not an academic major, the Army ROTC program provides excellent preparation for leadership in any profession, military or civilian.

Scholarships

The ROTC program offers four-year, three-year, and two-year scholarships to qualified students. Tuition, fees, and an allowance for textbooks are provided. Scholarship students also receive a \$100 per month allowance for up to ten months per year during the scholarship. Scholarship students must meet college/university admissions criteria.

Basic Course

The Basic Course, normally completed in the Freshman and Sophomore years, provides the student a general knowledge of the military's role in our society and the missions of the US Army. Subjects include Leadership, Land Navigation, Marksmanship, Military History, Physical Fitness, and basic Military Skills. Students enroll in one Military Science class each term, plus in their sophomore year, HST 235, Military History (an MSU course which LCC students must register for as guest students). It is possible for a Sophomore to complete the Basic Course in one year through prior arrangement with the department. No military obligation is incurred for non-scholarship students participating in, or completing, the Basic Course. (Note: LCC students register for Military Science courses through LCC, but actually take them at MSU. All students should contact the department in building 57, Demonstration Hall, phone 355-1913, before enrolling.)

Advanced Course

The Advanced Course is the professional phase of the ROTC program. NOTE: LCC students must transfer to a four-year college or university that offers Army ROTC, such as Michigan State University, in order to enroll in the Advanced Course. Upon satisfactory completion of required ROTC courses and the awarding of a bachelor's degree, the student is eligible for a commission as a Second Lieutenant in the US Army Reserve. Distinguished Military Students and Army ROTC Scholarship cadets are eligible to apply for a commission in the Regular Army.

The professional phase includes courses in Leadership Skills, Training and Personnel Management, Ethics, Military Justice, and Military Tactics. During the two years of the Advanced Course, students enroll in one Military Science course per term. Additionally, they must complete one course in national security studies from a list of approved courses available at the department. Furthermore, it is recommended that all cadets complete a management course from a list of approved courses available at the department. Two scheduled field trips are required each year, and all students must meet physical fitness standards. A six-week leadership camp for advanced training is normally attended in the summer between the junior and senior years.

Eligibility Requirements

To be accepted for the Advanced Course, the applicant must:

1. Be enrolled as a full-time student at a four-year institution in a program leading to a degree.
2. Have completed or received credit for the Basic Course.
3. Meet medical and age standards.
4. Have at least a 2.00 grade-point average.
5. Pass such survey and screening tests as may be prescribed.
6. Agree to accept appointment as a regular or reserve officer of the Army and to serve on active duty or with a Reserve or National Guard component as a commissioned officer for such time as directed by the Secretary of the Army.
7. Be physically qualified for appointment as a commissioned officer of the Army under regulations in effect at the time of graduation.
8. Enlist in the US Army Reserve until commissioned.
9. Agree to attend Summer Camp between the junior and senior years (or third and fourth MS years) unless deferred by the Professor of Military Science.

Uniforms and Textbooks

Regulation uniforms are furnished to students on a loan basis beginning their second term. Textbooks are furnished during participation in the ROTC program but must be returned when the student completes association with the Department.

Special Opportunities

In conjunction with Summer training, students are selected to attend Airborne, Air Assault, Ranger, or Northern Warfare training in locations from Florida to Alaska. Students may compete for Summer Flight Training at Fort Rucker, Alabama. Additionally, outstanding students are offered the opportunity to participate in Troop Leadership Training and spend three weeks perform-

ing the duties of an officer at a military installation. All of these experiences are voluntary and competitive, but they will enrich the leadership development.

Credit for Previous Military Training

Students with previous military training will be granted constructive credit as follows:

1. By transfer. Constructive credit will be granted at the time of entrance to LCC for corresponding ROTC courses completed satisfactorily in a senior division ROTC unit in a college or university.
2. Other training or service. Constructive credit will be granted at the time the student enters the ROTC program at LCC. If for any reason the student does not complete the ROTC program which he or she begins, constructive credit will be withdrawn.
 - a. Service academy education. Students who have satisfactorily completed work at a service academy may receive constructive credit for up to three years of Military Science. The Department will make a credit determination at the time that the student enrolls.
 - b. Active service or active duty for training in the US Army, Navy, Air Force, Marine Corps or Coast Guard. The Professor of Military Science may grant constructive credit for up to two years of the basic course, depending upon service duties.
 - c. Junior ROTC or Military School training. Students who have had Junior ROTC or Military School training should contact the Professor of Military Science for credit determinations. Maximum allowable constructive credit will be the two-year basic course.

Required Courses:

	Basic Course	
FALL	WINTER	SPRING
MS 101	MS 102	MS 103
FALL	WINTER	SPRING
MS 201	MS 202	MS 203

Advanced Course

(Refer to applicable four-year college catalog)

Military Science (MS)

U. S. Army ROTC Program

Division of Student Personnel Services

MS 101 Intro to the Military Profession 1(1-1)

Fall, Winter, Spring. Prerequisite: Approval of Department. Analysis of the military profession from several academic perspectives and exploration of the technical, ethical, and personal ramifications of service as an officer in the US Army. Lab introduces military skills.

MS 102 Military Leadership—I 1(1-1)

Winter. Prerequisite: MS-101 or approval of Department. Introduction to military leadership. Draws upon examples from military history to illustrate what a military leader must be, know, and do to lead soldiers in battle. Lab includes both military skills and leadership applications.

MS 103 Army Physical Fitness Training 1(0-3)

Spring. Prerequisite: MS-102 or approval of Department. The leaders's role in implementing the Army Physical Fitness Program to provide for the physical well being of subordinates. Individual and group fitness programs are introduced. Includes rappelling and smallbore rifle marksmanship.

MS 201 Military First Aid 1(1-1)

Fall. Prerequisite: MS-103 or approval of Department. Emergency first aid techniques, including casualty evaluation, lifesaving measures, CPR, and environmental injury prevention. Lab includes military skills and first aid applications.

MS 202 Military Leadership—II 1(1-1)

Winter. Prerequisite: MS-201 or approval of Department. Descriptive model of small unit leadership. Provides cadets with a realistic preview of the small unit leader's role in the Army. Lab includes small unit drill and ceremonies.

MS 203 Land Navigation 1(1-2)

Spring. Prerequisite: MS-202 or approval of Department. Use of military topographic and special maps to include intersection, resection, modified resection, and polar coordinates. Development of overlays for tactical operations. Lab includes actual land navigation in the field using the lensatic compass.

**Air Force ROTC Program
Aerospace Studies**

The Air Force ROTC program is divided into a basic course (General Military Course or "GMC") of two years and an advanced course (Professional Officers Course or "POC"), also two years. Successful completion of the POC and a four-year Baccalaureate Degree leads to a commission and active duty as an officer in the U.S. Air Force. A student may complete the GMC portion of

the AFROTC program while enrolled at Lansing Community College. The Aerospace Studies credits earned here may then be transferred to any of approximately 150 four-year colleges and universities offering AFROTC, including Michigan State University, to meet prerequisites for enrollment in the POC.

Students enrolling in LCC's Aerospace Studies courses incur no military obligation; so men and women may earn academic credit, learn about Air Force career opportunities, and then decide if they wish to apply for the POC. Selection for the POC at a four-year institution is open to any student who meets officer candidate qualification standards. There are openings for those who qualify for flight training after graduation, and there are many openings for students in non-flying specialties. Students who wish to take only the POC at a four-year institution should inquire about the "AFROTC two-year program" at the college or university of their choice. All applicants for the POC two-year program should contact the AFROTC office at Michigan State University in January prior to their expected fall term enrollment.

Scholarships

The AFROTC program offers to qualified students four-year, three-year, and two-year scholarships. These scholarships pay tuition and fees, a textbook allowance, and a subsistence allowance of \$100 for each month of the academic year. Students must apply for a four-year scholarship by December 1st of their Senior year in high school. Three-year and two-year scholarship applications should be made by the end of the winter term preceding the school year the scholarship will become effective.

General Military Course (GMC)

The General Military Course in Aerospace Studies examines the role of U.S. Military forces in the contemporary world with particular attention to the U.S. Air Force, its organization and mission. Functions of strategic and defensive forces, general purposes forces, and aerospace support forces are reviewed. The roles of these forces are related to national defense policy. The courses are described under Aerospace Studies in the Description of Courses section of this catalog.

Uniforms and Textbooks

Air Force blue uniforms and necessary texts are furnished on loan basis by the Department of the Air Force. A \$10.00 uniform deposit is required. The deposit is returnable.

**Aerospace Studies Courses (AS) Air Force ROTC
Division of Student Personnel Services**

Following are the courses required to complete the Air Force ROTC General Military Course. Satisfactory completion of these courses is a prerequisite for entry into the Professional Officers Course, the final two years of the Air Force ROTC program. Students enroll for all courses at Lansing Community College and attend classes on the Michigan State University Campus. Each one credit hour course involves one hour of classroom study and one hour of Leadership Laboratory.

AS 110 Organization of the U.S. Air Force 1(1-1)

The doctrine and mission of the U.S. Air Force includes its history, organization, and how it is structured for mission accomplishment. Comparison of armed services mission relationships.

AS 111 U.S. Strategic Offensive and Defense Forces 1(1-1)

Comparison of the missions and functions of specific Air Force commands, including employment of contemporary aerospace equipment and system.

AS 112 U.S. General Purposes Forces 1(1-1)

Tactical air forces. The mission, organization, and function of the Air Force support commands and separate operating agencies as well as forces of other military services.

AS 210 Development and Employment of Aerospace Forces I 1(1-1)

Development of flight from the first efforts to the present, and the employment of aerospace forces in war and peace.

AS 211 Development and Employment of Aerospace Forces II 1(1-1)

Development of flight from the first efforts to the present, and the employment of aerospace forces in war and peace.

AS 212 Development and Employment of Aerospace Forces III 1(1-1)

Development of flight from the first efforts to the present, and the employment of aerospace forces in war and peace.

Physical Education & Athletics Department

Chairperson: Dr. Walter Lingo
354 Gannon Health Careers/Physical Education Bldg

The Physical Education Program at Lansing Community College offers students an opportunity to develop physical skills. The attainment of this physical

skill will enable individuals to pursue and/or maintain a sound state of physical fitness.

All Physical Education courses are transferable and all Physical Education grades are tabulated in determining student grade point averages.

Students wishing to transfer with a Physical Education major should come to the Office of Physical Education and Athletics to receive personal counseling. Physical Education courses are offered in the following areas:

Professional (PEA)	Aquatics (PEF)
Fitness (PEB)	Combatives/Weight Training (PEG)
Individual Sports (PEC)	Gymnastics/Dance (PEH)
Individual/Dual (PED)	Indoor Activities (PEI)
Team Sports (PEE)	Outdoor Activities (PEJ)

COURSE DESCRIPTIONS

Professional Physical Education & Athletics (PEA) Department of Physical Education and Athletics Division of Student Personnel Services

PEA 100 Professional Orientation	1(1-1)
Overview of Physical Education field for prospective Physical Education majors.	
PEA 101 First Aid	3(3-0)
Standard first aid procedures and Red Cross certification.	
PEA 102 Athletic Training	3(3-0)
Athletic injury prevention and care techniques; duties and responsibilities of athletic trainers.	
PEA 103 Wholistic Health	3(3-0)
This course will concern itself with the study of Health from a wholistic perspective (body-mind-spirit)—seeing the human life as a total system.	
PEA 104 IM Athletics	3(3-0)
Offers an introduction to IM athletic administration and competitive event supervision.	
PEA 109 Officiating Basketball	2(2-0)
Instruction and testing to provide opportunity for official certification.	
PEA 113 Officiating Football	2(2-0)
Rules and officiating techniques for football; opportunity to become certified upon completion of course and testing.	
PEA 115 Coaching Basketball	2(2-0)
Designed to develop coaching skills. Focuses on defensive and offensive strategies as well as teaching fundamental skills.	
PEA 200 Massage Therapy	3(1-4)
Introduction to history, techniques, and theory.	
PEA 201 Independent Study	1(0-2)
PEA 202 Independent Study	2(0-4)
PEA 203 Independent Study	3(0-6)
PEA 204 Independent Study	4(0-8)
Individual study on a prescribed topic in coordination with an assigned faculty member.	
PEA 205 Professional Perspectives	1(1-0)
This course is designed to provide student-athletes with a professional perspective of the problems confronting community college student-athletes.	
PEA 209 Human Nutrition	2(2-0)
Nutrition and its role in promoting better health; concepts and controversies in nutrition; vitamin supplements, natural foods, fats, salt and other topics of interest.	
PEA 211 CPR Training	1(1-0)
Red Cross Certification in cardio-pulmonary resuscitation; artificial respiration and air-way obstruction.	
PEA 212 Touch for Health I	2(1-1)
This class combines ancient oriental disciplines with the modern practice of applied kinesiology. You will improve postural balance and reduce physical and mental pain and tension. Athletes can improve performance and decrease risk of muscle injury.	

PEA 213 Massage Therapy-Intermediate	3(1-4)
Specialized massage techniques such as advanced foot massage; exploration of other aspects of Swedish massage acupressure.	
PEA 215 Coaching Soccer	2(2-0)
Students learn individual and team offensive and defensive play. Proper passing, tackling methods, work-out drills, and game strategies are stressed.	
Fitness (PEB) Department of Physical Education & Athletics Division of Student Personnel Services	
PEB 100 Adopted Lifetime Personal Health Activities (ALPHA)	1(0-2)
The nature of health, physical education and recreation and their place in general education.	
PEB 101, 102, 103, 104 Individual Fitness-A-B-C-D	2(1-2)
Four sequential courses to acquaint students with the principles of training. Provides individual conditioning programs.	
PEB 105 Jogging	1(0-2)
Introduces jogging as physical fitness and covers footcare, equipment, clothing, and safety.	
PEB 107 Jogging-Advanced	2(0-4)
Developing an individual training regimen for competitive runners.	
PEB 109 Triathlon Training	3(0-6)
Designed to teach proper techniques in swimming, cycling, and running. A vigorous training program is designed to challenge the student.	
PEB 120 ABC's of Physical Fitness	2(1-2)
Aerobics, body building, and calisthenics are building blocks for this fitness program. A progressive regimen toward better health.	
PEB 121 Liten-up Workout	1(0-2)
A beginning exercise program with emphasis on increasing aerobic capacity through walking, jogging, stretching, and light weight training.	
PEB 122 Heavy Hands Workout	1(0-2)
An aerobic exercise program that utilizes weight attached to legs or arms. Tones muscle groups while increasing aerobic fitness.	
PEB 200-207 Tempest—Intro/A-B-C-D-E-F-G	1(0-2)
A series of sequential courses designed for EMS students. Designed for specific concerns of EMS.	
PEB 220 ABC of Physical Fitness II	2(1-2)
Emphasis on maintenance and continued improvements on physical changes made in the prerequisite, ABC of Physical Fitness I class. Exercise sessions with increased difficulty to be aimed at the cardio-respiratory system, skeletal muscles and to figure shaping. Use of ankle-wrist weights recommended.	
Individual Sports (PEC) Department of Physical Education & Athletics Division of Student Personnel Services	
PEC 106 Pool	1(0-2)
History, rules, and fundamentals, practice drill, positioning of cue ball, and variations of the game of pocket billiards.	
PEC 107 Pool—Intermediate	1(0-2)
Refinement and improvement of skills.	
PEC 108 Pool—Advanced	2(2-0)
Further refinement and improvement of skills.	
PEC 109 Racquetball—Beginning	1(0-2)
History, terminology, rules, fundamentals, etiquette, strategy, and basic shots.	
PEC 110 Racquetball—Intermediate	1(0-2)
Refinement and improvement of skills.	
PEC 111 Racquetball—Advanced	2(2-0)
Court strategy and tournament play.	
PEC 112 Table Tennis—Beginning	1(0-2)
Basic skills, including the serve, forehand and backhand strokes.	

PEC 113 Table Tennis—Intermediate	1(0-2)	PED 120 Ice Skating—Advanced	2(2-0)
Continuation of skills.		Emphasis on teaching and supervising groups of skaters.	
PEC 114 Competitive Table Tennis	2(2-0)	PED 127 Yoga—Beginning	1(0-2)
Refinement of skills and introduction of game strategy.		Introduction to the philosophy and positions of yoga.	
PEC 115 Tennis—Beginning	1(0-2)	PED 128 Yoga—Intermediate	1(0-2)
Basic skills of tennis: serve, forehand, and backhand strokes, rules and strategy of the game.		Refinement and continuation of skills.	
PEC 116 Tennis—Intermediate	1(0-2)	PED 130 Yoga—Special	1(0-2)
Continuation of skills.		Postures and asanas are modified to meet the individual needs of the handi-capped.	
PEC 117 Tennis—Advanced	2(2-0)	PED 131 Bioenergetics	1(0-2)
Refines skills of service, forehand and backhand strokes and game strategy.		This course will introduce students to energetic concepts and exercises designed to help them release chronic patterns of stress and tension in the body and move toward having more energy, pleasure, and health in their life.	
PEC 127 Bowling—Beginning	1(0-2)		
Basic skills and scoring of bowling.		Team Sports (PEE)	
PEC 128 Bowling—Intermediate	1(0-2)	Department of Physical Education & Athletics	
Refines skills.		Division of Student Personnel Services	
PEC 129 Bowling—Advanced	2(2-0)	PEE 109 Basketball—Beginning	1(0-2)
Class competition involved.		Beginning techniques and skill development.	
PEC 209 Racquetball/Semi-Private Instruction	1(0-2)	PEE 110 Basketball—Intermediate	1(0-2)
A basic presentation of racquetball skills will be discussed and demonstrated so the students with varying degrees of skill and ability may further improve their level of play.		Team offenses and team defenses.	
		PEE 111 Basketball—Advanced	2(2-0)
		Team competition and preparation.	
		PEE 114 Indoor Soccer	1(0-2)
		Basic soccer skills with focus on indoor rules and play.	
Individual/Dual (PED)		PEE 115 Soccer—Beginning	1(0-2)
Department of Physical Education & Athletics		Beginning techniques; rules, strategy and competitive play.	
Division of Student Personnel Services		PEE 116 Soccer—Intermediate	1(0-2)
		Team defenses and team offenses.	
PED 104 Bicycling—Touring	1(0-2)	PEE 117 Soccer—Advanced	2(2-0)
Minor bicycle repair, maintenance, cold weather riding, and increased cycling distances. Short tours and planned longer rides on some weekends.		Team playing and advanced strategy in game situations.	
PED 105 Bicycling—Camping/Touring	2(0-4)	PEE 118 Softball—Beginning	1(0-2)
Combines camping and touring: outfitting the camping cyclist, long distance riding, planning for long bike camping trips.		Fundamental skills.	
PED 106 Cross Country—Beginning	1(0-2)	PEE 119 Softball—Intermediate	1(0-2)
Instruction in jogging or running, dependent upon the physical fitness of the individual.		Techniques and rules.	
PED 108 Cross Country—Advanced	2(2-0)	PEE 120 Softball—Advanced	2(2-0)
Emphasis on competition.		Team strategy and competitive play.	
PED 109 Cross Country Skiing—Beginning	1(0-2)	PEE 124 Volleyball—Beginning	1(0-2)
Basic skills of cross country skiing: flat, uphill and downhill techniques, equipment, waxing, touring, and basic safety.		Skills, game strategy, history, rules, and values of volleyball.	
PED 110 Cross Country Skiing—Intermediate	1(0-2)	PEE 125 Volleyball—Intermediate	1(0-2)
Refinement and improvement of skills.		Refinement and improvement of skills.	
PED 111 Cross Country Skiing—Advanced	2(2-0)	PEE 126 Volleyball—Advanced	2(2-0)
Advanced skills plus overnight camping trip.		Team concepts, strategy and competition.	
PED 115 Golf—Beginning	1(0-2)	PEE 127 Water Polo—Beginning	1(0-2)
Golf strokes, rules, and golf etiquette; experience on the driving range and golf course.		Introduction of basic skills used in team play.	
PED 116 Golf—Intermediate	1(0-2)	PEE 129 Water Polo—Advanced	2(2-0)
Refinement and improvement of skills with emphasis on individual problems.		Team concepts, strategy, and competition.	
PED 117 Golf—Advanced	2(2-0)	PEE 130 Competitive Volleyball	2(2-0)
A study of the U.S.G.A. Rules of Golf.		Individual and team strategies, offensive and defensive play, fitness, reaction, and movement drills.	
PED 118 Ice Skating—Beginning	1(0-2)	PEE 214 Indoor Soccer II	1(0-2)
Introduction to the healthful, life-long activity of skating.		Continuation of Indoor Soccer Beginning. Emphasis on team play. Warm-up with basic drills.	
PED 119 Ice Skating—Intermediate	1(0-2)		
Refinement and improvement of skills.			

Aquatics (PEF)

Department of Physical Education & Athletics
Division of Student Personnel Services

PEF 100 Swimming—Beginning	1(0-2)
Fundamentals and techniques, with emphasis on water adjustment, basic strokes, breathing, survival, and diving skill.	
PEF 101 Swimming—Adv/Beginning	1(0-2)
Refinement and further development of skills.	
PEF 102 Swimming—Intermediate	1(0-2)
Strokes and skills required to become a competent swimmer; review of basic fundamentals with endurance work.	
PEF 103 Advanced Swimming	2(2-0)
Preparation programs for competitive swimming.	
PEF 104 Advanced Life Saving	2(1-2)
Red Cross Certification is awarded upon completion of the course. Students should be able to swim 500 yards comfortably with good stroke technique. A prerequisite for Water Safety Instructor.	
PEF 105 Water Safety Instructor	3(2-2)
Red Cross Certificate program.	
PEF 106 Life Guard Training	1(0-2)
Covers the skills needed to become a life guard with first aid training.	
PEF 108 Skin Diving	2(1-2)
Introduction to underwater recreation.	
PEF 109 SCUBA	3(2-2)
National certification.	
PEF 113 Diving—Advanced	2(1-2)
Sound knowledge of diving. Diving at the competitive level.	
PEF 114 Advanced SCUBA	3(2-2)
Prerequisite: PEF 109. For certified divers who wish to increase understanding and enjoyment of diving. Application of basic SCUBA techniques. Two scheduled weekend dives.	
PEF 115 Parent/Infant Water Adjustment	1(0-2)
Parent/child water safety, adjustment, and fun; water adjustment for the non-swimming child and improvement of motor skills and coordination.	
PEF 116 Water Fitness—A	1(0-2)
Stationary water exercises and water games to improve cardio-vascular fitness and flexibility.	
PEF 117 Water Fitness—B	1(0-2)
Emphasis on more difficult water exercises with increased duration and intensity. Some swimming included.	
PEF 118 Water Fitness—C	1(0-2)
Should be able to complete 500 yards in 10 minutes. A fitness program beyond basic water fitness. Stroke drills and mechanics are stressed with an introduction to principles of training.	
PEF 119 Water Fitness—D	1(0-2)
Should be able to swim 500 yards in 8 minutes. Fitness for the competitive swimmer: stroke drills, stroke mechanics and analysis, dry land exercises, and weight training.	
PEF 121 Parent/Toddler Water Adjustment	1(0-2)
Water adjustment for parent/toddler. Child must be 3 years of age.	

Combatives/Weight Training (PEG)
Department of Physical Education & Athletics
Division of Student Personnel Services

PEG 100 Boxing—Beginning	1(0-2)
Basic skills of offense, defense, and training practices.	
PEG 101 Boxing—Intermediate	1(0-2)
Extension of Boxing 100 with more ring time and training techniques.	

PEG 102 Boxing—Advanced	2(2-0)
Refinement and improvement of the skills of offense, defense, and training methods.	
PEG 103 Fencing—Beginning	1(0-2)
Instruction in fundamental techniques. Care of equipment.	
PEG 104 Fencing—Intermediate	1(0-2)
Emphasis on rules and competitive preparation.	
PEG 105 Fencing—Advanced	2(2-0)
Individual competition.	
PEG 106 Judo—Beginning	1(0-2)
Rules, theory and application of judo both for sport and self-defense.	
PEG 107 Judo—Intermediate	1(0-2)
For the individual who has a limited background and wants to improve techniques.	
PEG 108 Judo—Advanced	2(2-0)
Competition on an intraclass level.	
PEG 109 Karate—Beginning	1(0-2)
Develops skills in punching with fists and hands, kicking (with feet and knees), and essential body movement in combat.	
PEG 110 Karate—Intermediate	1(0-2)
For the individual who has some knowledge and would like to improve that knowledge.	
PEG 111 Karate—Advanced	2(2-0)
Designed for the highly skilled.	
PEG 112 Self Defense—Beginning	1(0-2)
Designed to develop confidence and skills in the art of self-defense.	
PEG 115 Weight Training—Beginning	1(0-2)
Various training methods, principles, and program designs.	
PEG 116 Weight Training—Intermediate	1(0-2)
Introduces power lifting and competitive lifts.	
PEG 117 Weight Training—Advanced	2(2-0)
Refinement and improvement of skills.	
PEG 126 Aikido—Beginning	1(0-2)
Aikido—"The Way of Harmony"—focuses on physical discipline and harmony with self, partner, and potential combatants.	
PEG 127 Aikido—Intermediate	1(0-2)
Further development toward harmony. Focuses on new defensive strategies and movements.	
PEG 129 Body Building—Beginning	1(0-2)
Focuses on proper lifting techniques to isolate and strengthen muscle groups.	
PEG 130 Body Building—Intermediate	2(1-2)
Continuation of PEG 129 with more rigorous lifting regimens included.	

Gymnastics/Dance (PEH)
Department of Physical Education & Athletics
Division of Student Personnel Services

PEH 103 Parent/Child Gymnastic Tumbling	1(0-2)
Development of motor skills with child and parent participating. Basic tumbling skills and elementary gymnastic movements.	
PEH 105 Aerobic Exercise—Beginning	1(0-2)
A progressive fitness course using dance as a vehicle toward fitness. Some weight training included.	
Outdoor Activities (PEJ) Department of Physical Education & Athletics Division of Student Personnel Services	
PEJ 100 Angling—Beginning	1(0-2)
Covers fish structure, habits and habitats, tackle and techniques for fly, bait, spin, and ice fishing.	

PEJ 101 Angling—Intermediate	1(0-2)
A lab class with emphasis on different types of baiting procedures.	
PEJ 102 Angling—Advanced	2(0-4)
Fishing trips with emphasis on special castings and recognizing different fishing habits.	
PEJ 103 Backpacking—Beginning	2(2-0)
Backpacking, safety and techniques.	
PEJ 105 Backpacking—Advanced	3(0-6)
Incorporates overnight trip(s).	
PEJ 106 Bow Hunting—Beginning	2(1-2)
Basic fundamentals.	
PEJ 108 Bow Hunting—Advanced	3(0-6)
Game habits for the hunter.	
PEJ 109 Canoeing—Beginning	1(1-0)
Prerequisite: Students must know how to swim. Fundamentals of recreational canoeing and handling, care of equipment, safety strokes, and canoe tipping.	
PEJ 111 Canoeing—Advanced	2(2-0)
Class trips are planned and taken.	
PEJ 124 Sailing—Beginning	2(1-2)
Introduction of basics.	
PEJ 125 Sailing—Intermediate	2(1-2)
Refinement of basic skills.	
PEJ 126 Sailing—Advanced	3(1-4)
Further experience including a planned outing.	
PEJ 138 Windsurfing—Beginning	2(1-2)
Introduction to sailing theory, rigging procedure, maintenance and selection of equipment, and sailboarding techniques.	
PEJ 142 Outdoor Recreation & Leisure Education	1(0-2)
Introduction to seasonal outdoor fitness and recreational activities. Activities include cycling, cross country skiing, camping, etc.	
PEJ 143 Basic Sailing/Cruising	3(0-3)
Students will gain first hand experience in the art of sailing and seamanship. They will attain the confidence necessary to handle a cruising sailing vessel under various conditions which present themselves in the Great Lakes.	
PEJ 144 Advanced Cruising	3(0-3)
Student will experience a major voyage on the Great Lakes applying the terms covered in PEJ 143. major emphasis will be placed on advanced piloting and helmsmanship.	

STUDENT ACTIVITIES

William Zuhl, Director
201 Student Personnel Services Bldg

Student activities at Lansing Community College are widely varied, providing social, cultural and recreational programs to help students enrich their free time, and to complement academic pursuits. Student activities reflect a total College involvement for faculty, staff, administrators and members of the community as well as for students. Programs offered by the Student Activities Office are constantly expanded and diversified according to student interest and enthusiasm.

Fine Arts Cultural Program

Students at Lansing Community College are encouraged to participate in and attend programs of community fine arts groups: the Lansing Civic Players, the Lansing Symphony, the Boarshead Players, and others. Many students and faculty members perform in community theater productions and assist behind the scenes.

The Student Government sponsors a Film Series Program, making many of the latest and best films available to students at no cost.

A number of trips are sponsored by Student Activities, including theater trips to the Shakespearean Festivals in Stratford, Canada. Trips have been sponsored to New York City on an annual basis, giving students an opportunity to see not only the theater, but many of the other cultural aspects of the big city.

Shorter trips are planned to such points of interest as Frankenmuth, Cedar Point, and Greenfield Village.

Student Government

The Student Government initiates consideration of student recommendations working cooperatively with students and administration on all matters of importance to the students of the College. The Student Government has an Advisory Committee to the Board of Trustees elected from the students at large and chaired by the President of the Student Government. They meet monthly with the members of the Board of Trustees to effect better understanding and communication between the students and the Board.

Student Organizations

Constitutions of student organizations at Lansing Community College are approved and passed by the Student Government and by the College administration before adoption. A list of current official student organizations appears in the Student Guidebook.

Campus Newspaper

The Lookout is the bi-weekly College newspaper. Paid student editors, under the supervision of a professional, provide campus coverage and publish information of general interest to the campus community. Volunteer student reporters are welcomed.

Campus Radio Stations

WLCC and WLCR present a variety of music, news, and feature programs in a daily radio service to the campus audience. Students interested in broadcasting staff the stations, and gain practical professional experience in radio station operations.

STUDENT DEVELOPMENT SERVICES (SD)

Chairperson: Dr. John H. Cansfield
Room 228 Student Personnel Services Bldg.

The Department develops and maintains programs aimed at the personal and academic growth of students. Departmental services include counseling, academic advising, testing, tutoring, community outreach, student orientation (START), and support for special needs students including women, the handicapped, and those for whom English is not their native language. A number of student development classes and seminars are offered through the Department.

Academic Advising

The departmental advising centers and counseling offices on campus provide students with academic advising opportunities. Assistance and coordination is also offered to academic departments with academic advising programs.

Counseling Services

A staff of professionally trained counselors assists students in educational, vocational and personal development. Specifically, counselors assist students with curriculum choice, academic problems, and with those social and personal problems which may interfere with academic progress. Both group and individual counseling are offered. A close relationship is maintained between the department and community agencies, and referrals are made to such agencies when appropriate.

College Transfer Articulation

Close contact is maintained with colleges and universities to which LCC students often transfer. Curricular guides are available for students who wish to learn about the transfer requirements for their chosen curricula. Representatives of colleges and universities visit the Lansing Community College campus for the purposes of discussing transfer requirements with students.

Student Orientation

Through the Student Testing, Advising and Registration Time (START), incoming students become better integrated into the College community. Academic placement testing, College information, and career development concepts are included. START operates prior to and during College registration periods. Individual College departments offer special student orientations which supplement the START experience.

CENTER FOR STUDENT SUPPORT

The Center provides academic support services for special needs students. These services include tutorial assistance, academic advising, vocational planning, personal/social counseling, academic monitoring, community outreach, study skill laboratory, and adaptations for handicappers.

Programs are specifically designed to assist students who are academically and economically disadvantaged, handicapped, or who have limited English ability. Special emphasis is placed on helping students who are pursuing vocational training.

Tutorial Services

A tutorial program is offered through the Center for Student Support to assist students in reaching their academic goals. Peer tutors provide help outside the classroom in mathematics, science, communications, accounting, and other subjects. An effort is made to match tutors with individual students in order to provide optimum results.

Classroom Support Services

The Office of Handicapper Services in the Center for Student Support provides the following assistance:

- Advising
- Readers
- Interpreters
- Note Takers
- Tutors
- Registration Assistance
- Mobility and Orientation of Campus
- Special Materials and Equipment
- Assistance in Completing Financial Aid forms
- Referral of Students to Counselors, Appropriate Departments, and Other Agencies
- Tactical Map of LCC Campus

CAREER EXPLORATION AND ASSESSMENT CENTER

The Center offers extensive career interest testing and personalized one to one career counseling to aid individuals in decision-making. These services are provided to both students of LCC and people from the community. A consultation and testing fee is charged non-LCC students. LCC students are charged a small fee for the program.

Testing Services

A testing service is provided as part of the Career Exploration and Assessment Center. Career testing, CLEP, DANTES, and other testing instruments are available including the Tests of Educational Development (GED). A testing fee is required of all students.

WOMEN'S RESOURCE CENTER

The Women's Resource Center is a service center for people at Lansing Community College and in the community who may be exploring career options, considering returning to school, needing support in life-transition periods, looking for new directions, or developing personal and professional growth skills.

The Center offers a variety of classes and seminars for career exploration, personal growth and awareness, skill training, and dealing with changes in one's life.

The Women's Resource Center provides an opportunity for individuals to discuss concerns with our staff; a community outreach program including a speaker's bureau and training seminars for businesses and agencies; ongoing scholarship and child care/financial aid programs and Tuition Reimbursement for Special Populations. Special referral services and scholarships and a support group for displaced homemakers are available through the Center. A free G.E.D. preparation course is offered through the Lansing School District Adult Education Program and the Women's Resource Center.

COURSE DESCRIPTIONS

Student Development (SD)
Student Development Services Department
Division of Student Personnel Services

SD 103 Preventing Parent Burnout 2(2-0)

This course is designed to facilitate an understanding of parent burnout and its impact on mental and physical function. The class will address causes, stages and symptoms, family and relationship dynamics and problem solving. The course will provide multiple skills and mechanisms to cope with stress and prevent parent burnout.

SD 106 College Survival Skills 2(2-0)

Designed to provide an orientation to the services available at Lansing Community College to assist students in identifying personal and academic requirements for success in higher education. This course will identify those personal factors which can help individuals to succeed academically and acquaint them with services available to assist them.

SD 117 Life Planning Workshop 1(1-0)

Life Planning is a three phase process: self-exploration, career exploration, and decision making. The intent of this workshop is to take an in-depth look at oneself. Specifically, interests, values and skills are identified in order to determine the uniqueness of each participant.

SD 118 Stretching Your Dollars 2(2-0)

Assistance is given in very basic money management, budget procedures, record-keeping, wise shopping practices, low-cost entertainment and recreation, effective debt payment methods, and financial goal-setting and planning.

SD 119 Mid Career Planning 2(2-0)

Designed for people who wish to evaluate their present career situation in terms of their personal development. The class will enable students to identify present skills, interests, values, motivations, and plan some next step goals designed to promote career development. The course is equally appropriate for those considering a career change as well as those who would like to plan for continued growth and development within their present job situation.

SD 121 Exploring Your Potential 2(2-0)

Designed to help each person identify past and present achievements which suggest the presence of strengths and potentials. The goal of the class is greater realization of one's potential through self-determination.

SD 124 Techniques of Study 2(2-0)

Develops effective study habits by examining behaviors that interfere with successful classroom performance. A valuable aid for beginning and advanced students. Weekly discussions focus on: how to take examinations, note-taking, writing papers, reading improvement, and use of the library.

SD 125 Career Planning 2(2-0)

A course to help students relate their values, life goals, interests, and skills to job areas. Students investigate potential careers through self-assessment, career assessment, decision-making, and next-step planning.

SD 126 Elimination of Self-Defeating Behaviors 2(2-0)

This course is designed to help people change their behavior, learning how self-defeating behaviors are started, maintained, and how they can be eliminated. The behavior change is aimed at teaching people how to live life more fully and happily. Teaching methods involve short lectures, feedback, discussions, and written homework based on personal thoughts. Class participants work independently on their own personal insights.

SD 127 Job Search Readiness 2(2-0)

This course aids students in the job search process. Course content covers filling out applications, writing resumes and cover letters, interviews, and other techniques used in seeking employment. Group discussions focus on personal attitudes toward job hunting.

SD 128 Interpersonal Communication 2(2-0)

This course is designed to help the student improve interpersonal skills including observation, listening, disclosure and behavior change skills, through lecture/discussion, readings, and a journal. The focus will be on understanding and constructive use of interpersonal communication skills.

SD 131 Weight Reduction II 2(2-0)

Prerequisite: SD 132. Weight Reduction II is designed to reinforce the self-management techniques taught in the prerequisite class. Solutions to both specific and long-range problems of weight loss and maintenance will be covered. (Any weight reduction program should be undertaken only after consultation with one's physician.)

SD 132 Weight Reduction Seminar 2(2-0)

The assumption for this course is that poor eating habits are learned and may be replaced by more appropriate behavior conducive to weight reduction and control. Beginning with a structured diet and exercise plan, students will focus their attention on environmental, personal and emotional factors which interfere with weight control. (Any weight reduction program should be undertaken only after consultation with one's physician.)

SD 137 Financial Management 2(2-0)

This course is designed to cover all areas of financial planning and money management. Emphasis will be placed on total financial planning with a view toward attaining financial security and independence. Included will be budgeting, savings, taxes, estate planning, Social Security benefits, insurance and investments.

SD 140 Marriage Preparation 2(2-0)

This course is designed to assist persons in answering basic questions of relationship, companionship, partnership, and love, for others and themselves. (This course is designed with couples in mind).

SD 142 Assertiveness Training I 2(2-0)

Assertive behavior is interpersonal behavior in which a person expresses her/his opinions, feelings, beliefs, wants and personal rights and values in such a

way that the rights of others are not violated. Techniques covered teach students to identify and accept basic interpersonal rights and develop assertive skills.

SD 143 Assertiveness II 2(2-0)

Prerequisite: SD 142 or SD 161. An expansion of concepts taught in the introductory Assertiveness Training classes is the focus of this class. Students will work on further development of vocabulary, ideas and behavior related to being assertive. Practice will be through role play and other means.

SD 145 Organizing Time 2(2-0)

This course is designed to assist individuals in making the most effective use of their time. It will be structured with discussions, films, written exercises, and readings dealing with procrastination, goal setting, time charting, and efficient measures of time management.

SD 147 Men's Lives/Men's Needs 2(2-0)

This discussion and experiential format course is designed with men in mind. It will be a supportive structure where communication skills, assertiveness training skills, self-confidence, self-care, and a positive approach to problem solving and decision making will be utilized with men's issues and feelings as the focus.

SD 149 Marriage Enrichment 2(2-0)

The goal of this course is to make a good marriage better. Positive attitudes and strengths in the marriage relationship are stressed. Participants will develop growth plans for their marriages and will have an opportunity to practice communication skills and techniques for creative conflict resolution.

SD 150 Divorce Adjustment 2(2-0)

Designed for those who are experiencing or who have recently completed a divorce, the student-centered atmosphere is supportive and geared toward coping and finding constructive alternatives to the emotional crisis of divorce. A supportive, informed atmosphere will allow participants to discuss openly their feelings and experiences in working toward the goal of increased self-awareness.

SD 157 Single Parenting 2(2-0)

This course is designed for those who are raising children in a single-parent family structure. Topics will include communication, discipline, time-structuring, and the unique concerns of adults faced with the responsibilities of single-parenthood. Group discussions, lectures, and readings will be used to benefit both men and women in their desire to become more effective parents.

SD 158 Anger Awareness 2(2-0)

This course is designed to define and explore anger, and to identify feelings, attitudes, and methods of expressing anger. This will be accomplished through readings, exercises, sharing and discussion. Participants will be expected to develop a guide to greater awareness of anger and how to deal with anger more effectively.

SD 161 Women and Assertiveness 2(2-0)

Assertive behavior is interpersonal behavior in which a person expresses her/his opinions, feelings, beliefs, wants, and personal rights and values in such a way that the rights of others are not violated. This course emphasizes the way women deal with assertiveness situations.

SD 162 Start Living Rationally 1(1-0)

Using the philosophical teachings of Rational Emotive Therapy, this course is designed to help students become more effective and productive. A variety of approaches and techniques will be used to provide students with insight into the sources of problems as well as specific approaches to problem solving. Practical techniques are offered to avoid frustration when the world is not the way it "should" be; for overcoming difficult situations at school, home, and on-the-job and resulting in more of what one wants in life.

SD 165 Brown Bag Films 1(1-0)

An educational, contemporary film, videotape, or speaker is presented at each session, followed by a discussion of the issues presented in class. Topics deal with social issues facing society today.

SD 167 Management Skills and Women 2(2-0)

Information and practice exercises related to the skills needed for management level jobs, with emphasis on the unique situations common to women who are being promoted or seeking promotion are covered. Included are values clarification, leadership styles, communication, time management, decision making, supervision, and other skills.

SD 169 Women As Winners 2(2-0)

This course is designed to offer participants new tools for insight, self-awareness and understanding. Participants learn to set their own goals, emancipate themselves from the boundaries they have set for themselves, and thereby become more authentic and self-actualizing.

SD 176 Widow(er)hood 2(2-0)

The means of meeting change and crisis in a positive way, including possible new directions in life and the exploration of ways to make crisis work for the widowed, are shared through this class.

SD 184 Job Search/Reentry Women 2(2-0)

This class is designed to assist you in your job search by presenting job search skills that you can use now and in the future. Content will include setting realistic job goals, developing an effective resume, identifying your job skills, good interviewing and effective follow-up. Emphasis will be given to the special job search concerns of women reentering the job market.

SD 187 Personal Development and Success in College 2(2-0)

For students new to LCC, this course provides a supportive group experience while previewing special services and programs available to enhance college success and personal growth.

SD 188 Rape Education 2(2-0)

This course will present research and statistics encompassing the various areas of sexual assault prevention and treatment. Included will be medical examination, medical evidence gathering, victim's medical rights, counseling strategies, phases of crisis/stages of coping with rape trauma, social service networking, statutory and legislative responses to need. Psychological profiles of victims and assailants, demographics of sexual assault, and behavioral aspects (method of operation) of the crime will be covered.

SD 189 Birthing/Lamaze 2(2-0)

This course is designed to meet the preparation needs of the expectant parent(s) for labor and delivery experience. It is unique because it provides skills which allow expectant persons to participate actively with full awareness of the delivery process. Breathing and relaxation exercises will help ensure a sense of security, composure and sharing in the birth experience. Additional information on parenting with infants will be covered. (A letter signed by the expectant mother's physician is required by the second class session.)

SD 192 Self-Defense and the Visually Impaired 1(1-0)

This class is designed to increase the self-defense and confrontation skills of the visually impaired through lecture/discussions and through the practice of a variety of exercises and drills. (Wear loose-fitting clothing to allow freedom of movement. If a cane is used, bring it to class.)

SD 194 Building A Healthful Lifestyle 2(2-0)

This course will assist participants in establishing control over their lifestyle as a means for achieving optimal well-being, both physical and mental. What we choose to do with our lives requires decisions about the use of time, talent, energy, and social and material resources. What we actually put into practice involves realistic planning, a supportive structure and environment, and the experience of fulfillment. In this course, participants will experience the process of change.

SD 195 Relationships: Friendship, Intimacy and Love 2(2-0)

Designed for those who wish to explore attitudes, values and beliefs about their own relationships. Learn ways to build and maintain friendship, intimacy and love relationships using techniques of open communication.

SD 199 Women and Financial Management 2(2-0)

This course is designed to cover all areas of financial planning and money management. Emphasis will be placed on total financial planning with a view toward attaining financial security and independence. Included will be budgeting, savings, taxes, estate planning, Social Security benefits, insurance, and investments. Focus in the course will be on the financial concerns of women.

SD 201 Overcoming Reading/Writing Anxiety 2(2-0)

Students will learn useful ways to reduce anxiety associated with reading and writing. They will examine avoidance behaviors, explore positive approaches and gain confidence needed to master the technical difficulties in reading and writing.

SD 204 Self-Defense and Women 1(1-0)

This seminar is a combination of consciousness-raising and skill-building experiences intended to increase students' understanding, resources and skills in sexual assault prevention and self-defense.

SD 216 Reducing Computer Anxiety 2(2-0)

This course is designed to remove some of the mystique of computer use and terminology by acquainting students with computers in the workplace, providing practical experience on the computer and, in general, aiding students in reducing their anxiety about computers.

SD 220 Parent-Child Communication 2(2-0)

This course is designed for anyone interested in the development of parenting communication skills. Skills will include active listening, problem solving, and resolution of family conflict. Application of skills involves infants, pre-schoolers, school-age, and older children.

SD 226 Career Planning and Women 2(2-0)

In a small group setting, this class will emphasize self-exploration and methods of increasing knowledge about career opportunities. Included will be identification of personal interests, life values, present skills and relating these to career options, goal-setting, decision-making, and developing a plan for future action.

SD 234 Overcoming Shyness 2(2-0)

Shyness is very common and most of the difficulties associated with shyness can be changed. Social awkwardness, difficulty meeting new people, fear of rejection, poor conversational skills and many hurtful thoughts about failure and inability to succeed or change are some of the characteristics with which this course will deal.

SD 236 Self Defense and Women 2(2-0)

Develop self defense techniques; develop a sense of confidence in determining when to use self defense; and examine the politics of rape as well as legal, medical and psychological aspects of this and other violent crimes against women.

SD 240 Empathy Training—Listening Skills 2(2-0)

This course will teach the student how to use empathy as a technique to deal with emotions, values and attitudes in the communication process. The skills will be taught in a small group emphasizing a supportive, experiential atmosphere. The interested student can acquire beginning skills for short-term peer counseling and improve interpersonal relationships between spouse, children, parents, friends, co-workers, etc.

SD 241 Math Anxiety 2(2-0)

Many people find themselves excluded from certain career choices because they are afraid to take math classes. This course will explore the origins of "math anxiety," investigate the sex differences in performance and understanding of mathematics and give practical help in reducing anxiety and changing attitudes toward math. The highly anxious math student will benefit from this class before taking a math class.

SD 242 Dealing With Stress 3(3-0)

This course is designed to facilitate an understanding of stress and how it affects health and behavior. The goal is to aid students in identifying lifetime skills which promote good mental and physical health. Topics include symptoms, personality, dietary influences, communication, balancing roles, goal setting and wellness.

SD 243 Advanced Empathy—Facilitating Decisions 2(2-0)

Prerequisite: SD 240 or Concurrently. This course will teach the student how to expand the use of empathy as a technique to deal with emotions, values and attitudes and decision-making in the communication process. The skills will be taught in a small group emphasizing a supportive experiential atmosphere. Concentration will be on values clarification and decision-making.

SD 244 Widow(er)hood II 2(2-0)

Prerequisite: SD 176. This course is a natural extension of Widow(er)hood I and will explore many growth-related issues that should be an extension of coping with loss. Concerns such as learning to be single again, raising a child alone, caring for the home alone, as well as the emotional adjustment involved in such changes will be covered in this class. A supportive environment which enhances the individual potential of each class member will continue to be maintained as in the prerequisite course.

SD 245 Remarriage: Repetition or Renewal 2(2-0)

A course focusing on relationship building: self-assessment and understanding, understanding of behavior of others, acknowledging expectations of others, communication of needs, identification of potential problems, and problem-solving techniques. Individual participants will engage in structured self-exploration through personal inventories and group participation.

SD 246 Substance Abuse Awareness 2(2-0)

The purpose of this course will be to enlighten individuals regarding issues of health, addiction and treatment and to assist students in determining their responses to substance abuse problems.

SD 248 Women's Reentry Seminar 3(3-0)

For individuals in transition primarily from a homemaker role to that of student and/or wage earner, including displaced homemakers and homemakers who wish to work outside the home or begin an educational program. Confidence building, awareness of conflicts and issues, adjusting to change, setting personal and career goals and support in making the transition are emphasized.

SD 256 I'm OK, You're OK 1(1-0)

This course shows the basic concepts related to transactional analysis and how these concepts can enrich our lives. Within each of us is a child, an adult, and a parent reacting to the world around us. Increased personal awareness about ourselves can help us to be more effective.

SD 271 Living Alone Creatively 2(2-0)

This course is designed for both single men and single women and will focus on creative and positive aspects of living alone (or with children). Information and films will be shared to increase self-awareness, develop skills, and create a support system to further the goal of "Living Alone Creatively."

SD 274 Black Women's Awareness 1(1-0)

Explore concerns and issues confronting the Black woman in America today through course discussion, lectures, and group activities. Share viewpoints and life experiences in response to such questions as, "Who is the Black woman?" "What are her needs?" "How can those needs be met?" "How can class participants grow together?"

SD 281 Assertive Couples Communication 1(1-0)

Communicating assertively in a primary relationship is emphasized through assertiveness training and the theories of communication and self-esteem building in specific issues in relationships. (Class is designed to meet the needs of couples.)

SD 289 Burnout Prevention 1(1-0)

Employees, particularly those working in the area of providing service to others, are increasingly experiencing problems of job dissatisfaction and feelings of helplessness. As a result, they experience "burnout" with respect to their work. This course will deal with why burnout occurs, how to recognize the signs, and how to deal with feelings associated with burnout. (Designed for individuals involved in a work setting.)

SD 290 Adjusting to Role Stress 2(2-0)

Prerequisite: SD 242. Expectations placed on an individual by someone else can produce stress. The class is designed to help people identify current roles and become more aware of the expectations and stressors associated with each role. Students will be encouraged to clarify their own expectations and to become more aware of any unrealistic demands that might be placed on them.

SD 293 Advanced Elimination of Self-Defeating Behavior 1(1-0)

Advanced Elimination of Self-Defeating Behavior is designed to help people reinforce life-giving choices learned in the prerequisite course. Learning why life-giving choices work according to how they are carried out is the goal of the course. The work in this course is aimed at enhancing life-giving behaviors through review of concepts and discussion of participants' experience at placing the concepts into action during daily living.

STUDENT FINANCIAL SERVICES

Director: Neil G. Shriner
112 Student Personnel Services Building

The Student Financial Services Program at Lansing Community College assists students who demonstrate need in meeting some of the College costs that cannot be met by personal or family resources. An objective method of need determination approved by the Federal government is used to evaluate student's and family's financial circumstances. Some scholarships are available through the respective divisions of the College that are based on academic achievement or talent.

Students are eligible to apply for financial assistance if they have graduated from high school, have completed a G.E.D., or their high school class has graduated. They must be enrolled in collegiate programs of study leading to a certificate or degree and must be citizens or permanent residents of the United States.

Sources of Financial Assistance

Financial assistance programs are funded from federal, state, college and private sources. Four major sources of financial aids are scholarships, grants, loans and jobs. Most students receive a combination of these forms known as a "package."

Scholarships: non-repayable money, usually awarded for academic achievement or talent may or may not be based on need.

- Board of Trustees Scholarships are awarded to outstanding district high school graduates.
- Divisional Scholarships are awarded to outstanding students who apply directly to the College division or department of their area of study.
- Athletic Scholarships are awarded through the Athletic Department. Talented athletes contact coaches of their respective sports.
- Michigan Competitive Scholarships are based upon a qualifying examination given during the junior and senior year in high school. Students may receive an "honorary" award not based on need, or monetary award based upon need.
- Private Scholarships are available through the College or private organizations. A Scholarship and Financial Aid Booklet is available in the Office of Student Financial Services giving information about private scholarships, grants, loans, employment and college transfer scholarships available to LCC students.

Grants:

Non-repayable money usually based upon need.

- Federal Pell Grants are based on need by filing an LCC Admissions and Financial Aid Form and an Application for Federal Student Aid, (or) Financial Aid Form to College Scholarship Service, (or) Family Financial Statement to the American College Testing Service. Students must submit the Federal Pell Grant Student Aid Report, received through the mail, to LCC Office of Student Financial Services to receive the grant.
- Supplemental Educational Opportunity Grants are awarded to "high" need students by submitting the same application forms as for Pell Grants.
- Michigan Educational Opportunity Grants are awarded to needy students who have been Michigan residents at least 12 consecutive months.
- Michigan Adult Part-time Grants are awarded to self-supporting, part time (3-11 credits), needy students who have been out of a high school program for at least 2 years.
- Women's Resource Center Grants are available for tuition, child care, displaced homemakers, and special populations. Students apply through the Women's Resource Center, Student Personnel Services Building, 2nd Floor.
- Center for Aging Education Tuition Assistance is available to persons 60 years of age or older for up to four (4) credits per term. Students must meet moderate income guidelines. Students apply through the Center in Room 207 Old Central Bldg. or call 483-1179.

Loans:

Money that must be repaid beginning six to nine months after graduation or enrollment of less than six (6) credits.

- National Direct Student Loans are low interest loans determined upon the basis of need. Students apply by filing an LCC Admissions and Financial Aid Application and an Application for Federal Student Aid, (or) Financial Aid Form to College Scholarship Service, (or) Family Financial Statement to the American College Testing Service.
- Federal Guaranteed Student Loans may be obtained from banks, savings and loan associations or credit unions. Students apply three (3) months or more before needing the funds.
- State Direct Loan applications may be obtained at the College's Student Financial Services Office if students are unable to obtain a guaranteed loan from their lender. At least three (3) months are required to process the State Direct Loan.
- Short-Term Loans are available on a limited-basis through the Student Financial Services Office for tuition, books and emergency expenses.
- Nursing Loans are available based upon need to students enrolled in the Nursing Program. Students apply the same as for the National Direct Student Loans and specifically request a Nursing Loan if the student is in the program.

Jobs:

Employment opportunities to assist students in earning money to meet part of their educational expenses.

- Federal College Work Study is based upon need. Students submit an LCC Admissions and Financial Aid Application Form and an Application for Federal Student Aid, (or) Financial Aid Form to College Scholarship Service, (or) Family Financial Statement to American College Testing Service.
- Michigan Work Study is awarded to needy students to help meet expenses while attending college. Students may be employed by the college, public non-profit organizations, private business and industry.
- Student Aide jobs are available to students at the College based upon skills and abilities and not necessarily upon need.
- College Placement Office at LCC posts Federal Work Study Jobs, Stu-

dent Aide Jobs, Part-time Jobs and Full-time Jobs Off-Campus. Students obtain information at the Placement Office and must interview at the department's or employer's office.

Special Situation Funds:

Are available for certain students. The College's Student Financial Services Office has information regarding application procedures for the following programs:

- Armed Services
- Bureau of Indian Affairs
- Children of Disabled or Deceased Veterans
- Clubs, Organizations & Business Scholarships
- Job Training Program (JTPA)
- LCC Emergency Fund
- Michigan Commission on Indian Affairs
- Michigan Economics for Human Development for Migrant Workers
- Private Donor Scholarships
- Veterans' Benefits
- Vocational Rehabilitation Services

How and When to Apply

Financial Assistance Forms are available to students and their parents through high school counselors or at the College Student Financial Services Office located in the Student Personnel Services Bldg., 1st floor.

To make application for financial assistance at the College, two (2) forms must be submitted:

1. An LCC Application for Admissions and Financial Assistance Form must be completed and returned to: Lansing Community College, Admissions Office, 530 North Capitol, Box 40010, Lansing, Michigan 48901.
2. One (1) of the following Financial Statements must be submitted:
 - Application for Federal Student Aid (Free Form) OR
 - Financial Aid Form to College Scholarship Service (Fee Required) OR
 - Family Financial Statement to American College Testing Service (Fee Required)

Guaranteed Student Loans are available by applying directly through the student's or parents' bank, savings and loan association or credit union.

State Direct Loans are available if the student is refused a Guaranteed Student Loan by his/her bank or lender. Students may request forms at the Student Financial Services Office for State Direct Loans.

LCC Board of Trustees Scholarships are available through district high school counseling offices.

Divisional Scholarships are available by applying directly to the respective College division or department of the student's major area of studies.

Financial Aid Funds are limited; therefore it is to the student's advantage to make early application for financial assistance. It is recommended that students apply by the month of April prior to the year for which attendance is planned. Applications will be accepted after April, but awards will be made only if funds are available.

Students transferring from other colleges must submit a Financial Aid Transcript from their previous colleges when they apply for financial assistance at LCC.

Once the student has submitted the LCC Application for Admissions and Financial Assistance to the Admissions Office and the Federal Pell Grant Student Aid Report (SAR), which the student receives through the mail, and Financial Aid Transcripts to the Office of Student Financial Services, processing of the student's application for financial assistance will be completed and the student will be notified.

The amount of the student's award will be based on a standardized cost of attending LCC, less the expected student's and family's contribution. The College will attempt to meet student's need based upon available funds.

All financial assistance applications are confidential.

Rights and Responsibilities of Students Receiving Financial Assistance

As a recipient of financial assistance, a student enters into an agreement with Lansing Community College which affects the receipt and continuation of assistance. Therefore, students should be sure to read this information carefully.

Need and Financial Assistance Package

Financial need is determined by subtracting the expected family contribution and other financial resources from the appropriate College budget. The College will attempt to meet the student's need within the limitations of available resources. Also, if any errors are made by the College in determining eligibility for assistance or awarding of assistance, they will necessarily be corrected. Finally, should any major changes occur in the student's financial circumstances or other aid be provided to the student, the student will report these changes to the Office of Student Financial Services.

Expected Family Contribution

If a student is a dependent student, the College assumes that parents have the first obligation to provide for the student's cost of education to the extent that they are able, based on a standardized method of determining parental

contribution. The second obligation falls upon the student to contribute to his/her own education from personal assets and earnings, which may include the need to borrow against future earnings.

If a student is a self-supporting or independent student, the College assumes that since a student is the prime beneficiary of education, the student has a primary obligation to provide for the cost of education to the extent the student is able, based on a standardized method of determining student contribution. The student's expected contribution will come from personal earnings, spouse's earnings if applicable, savings and assets, which may also include the need to borrow against future earnings.

Falsification of Information

Falsification of information submitted by the student or parents for the purpose of receiving financial assistance may result in cancellation of assistance, billing back for assistance received and referral to the appropriate federal authorities.

The Office of Student Financial Services may be required to validate information provided on the Financial Assistance Form by requiring income tax statements or other documentation of financial status.

Credit Hour Load

Financial assistance offered to a student is based on enrollment as a full-time student; i.e., 12 credit hours or more per term. If a student enrolls for less than 12 credit hours the student will receive only a portion of the financial assistance package. For example, if a student's enrollment is for 9-11 credit hours per term, the student will receive approximately three-quarters (¾) of the full-time financial aid package. If a student enrolls for 6-8 credit hours per term, the student will receive approximately one-half (½) of the full-time financial assistance package. If a student enrolls for less than six credit hours per term, the student will not be eligible for financial assistance.

Audited courses for non-credit do not count when determining your financial aid and cannot be billed to financial aid.

Please note: While a reduction in credit hours below a full-time level will result in a reduction of the total financial assistance package, it will not necessarily represent a proportional reduction in the Pell Grant. Where the Pell is involved, all reductions are based on standardized tables provided by the U.S. Department of Education which do not result in simple proportional reductions. In fact, situations may occur where students having a high Pell "eligibility index" enroll for less than 12 credit hours and are no longer eligible to receive Pell funds.

Budgeting Financial Aid Package

The student is responsible for properly budgeting all financial aid offered for each term. The financial aid package will be distributed to the student in the following manner: (1) tuition and fees will be deducted from the financial aid during registration if sufficient funds are available and if tuition and fees are not paid by the student or other sources; (2) the student will receive an advanced financial assistance check during the first full week of classes, if the student is eligible; and (3) the student will receive the balance of grants, loans or scholarships approximately one week after the end of the College's 50% refund period. The student must be prepared to meet his/her living expenses during the period prior to check distribution.

Financial Assistance Advance Check

Students may receive an advance financial assistance check if enrolled by the last day of on-campus registration and if, as resident students, they have award totals of at least \$300 per term or if, as non-residents, they have award totals of at least \$425 per term. The financial assistance advance check will be calculated by subtracting the actual amount of the student's tuition and fees from the total award and advancing 10% of the remainder to 6-8 credit hours; 30% for 9-11 credit hours; or 50% for 12 or more credit hours, if the resulting total is \$20.00 or more. Any other monies due will be distributed after to 50% drop and add period.

College Work Study

If a student has been offered College work student eligibility, the student must first secure employment through the Placement Office (Room 211, Vocational Technical Building) prior to receiving these funds which will be disbursed on a regular hourly salary payment schedule.

Repayment of Grants

If a student withdraws from Lansing Community College or is withdrawn by the College because of not attending classes, a portion of any grants awarded to the student may be repaid and grades received may affect continuation of aid.

Satisfactory Academic Progress Requirements

To continue on financial assistance, students must maintain "Satisfactory Academic Progress" each term. Satisfactory Academic Progress for students receiving federal financial assistance is defined as:

1. Maintaining a grade point average (G.P.A.) above the Withdrawal Range as defined elsewhere in the catalog.
2. Completing 50% or more of the credits attempted each term. Students, who do not complete 50% or more credits for two terms during the academic year, will be cancelled from financial assistance with the right of written appeal to the Director of Student Financial Services.

If a student is withdrawn because of unsatisfactory progress, the student may be readmitted and allowed to reenroll under a learning contract in such programs as "Project Stay" or "Project 60" and be considered as making satisfactory academic progress for financial assistance programs as long as the student adheres to the terms of the educational agreement or until the student has raised his or her cumulative grade point average above the withdrawal range, and completes 50% or more of the credits attempted each term.

Students who do not successfully complete the terms of their educational contract with "Project Stay" or other support programs will be cancelled from financial assistance.

Renewal of Financial Assistance

Financial assistance is not automatically renewed. Awards are granted for one year only. A student must reapply for assistance for the following year by completing all required application forms by stated deadlines on the application. For renewal a student must be enrolled in a certificate or degree program.

To be continued on financial assistance, the student must not be in default on any past educational loans at the College. Also, the student must not owe any repayments for educational grants, due to withdrawing from college or being withdrawn from college because of not attending classes.

A student will not be awarded federal financial assistance at Lansing Community College beyond 180 credits. A transfer student will not be awarded Federal financial assistance beyond 180 credits, including transfer credits accepted by LCC.

Exceptions are:

1. Students who have one term to complete a degree or certificate program.
2. Students who have 180 credits or a Bachelors Degree may be recommended for a Federally Guaranteed Student Loan, or Nursing Loan to complete a degree or certificate program for the purpose of obtaining employment.

Rights of Information

It is the student's right to obtain information pertaining to financial aid programs available through the College and to discuss, with a financial aid advisor, information pertinent to the student's assistance application, file folder (records) and assistance package.

Appeals

It is the student's right to appeal any decisions made regarding the assistance application or package. The student may meet with a financial assistance advisor to discuss his/her package. The student may meet with a financial assistance advisor to discuss extenuating circumstances to the above policies or any other policies affecting the student as an assistance recipient. A financial assistance review committee will meet periodically to consider appeals.

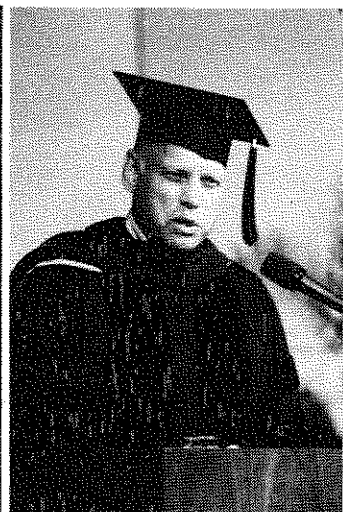
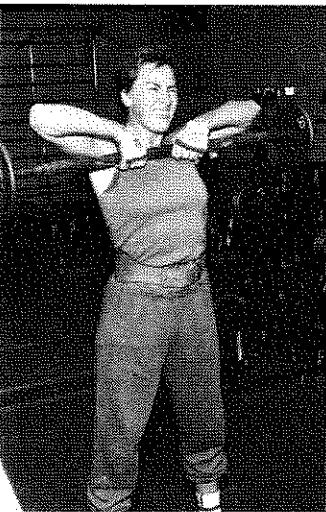
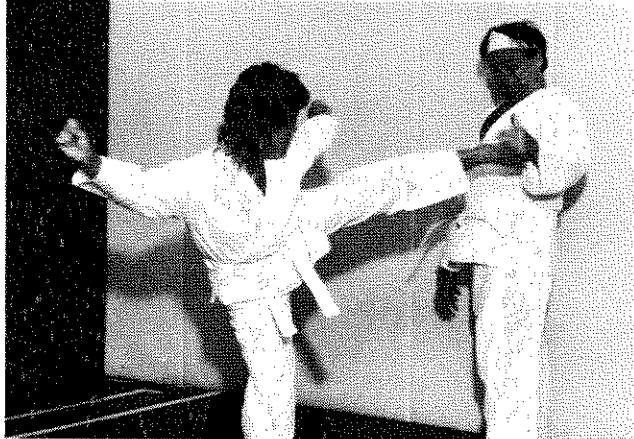
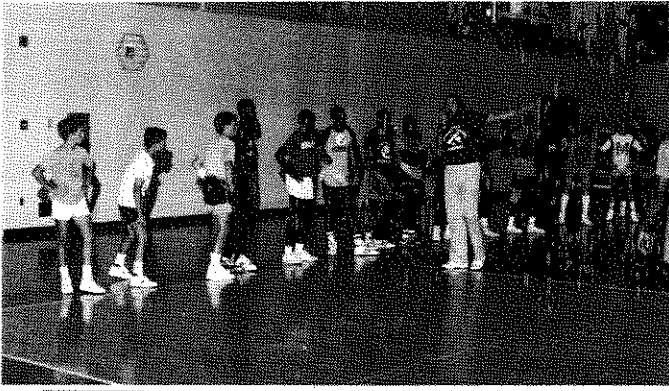
Student Financial Services Committee

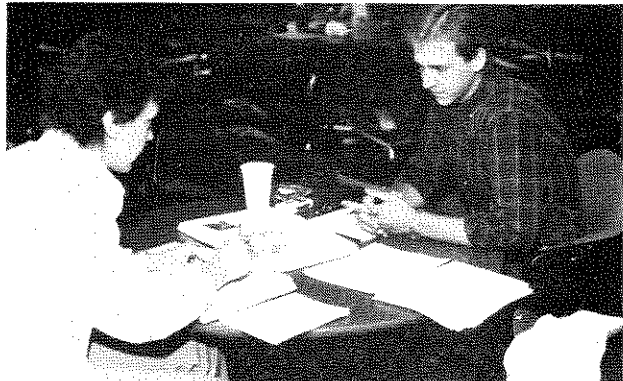
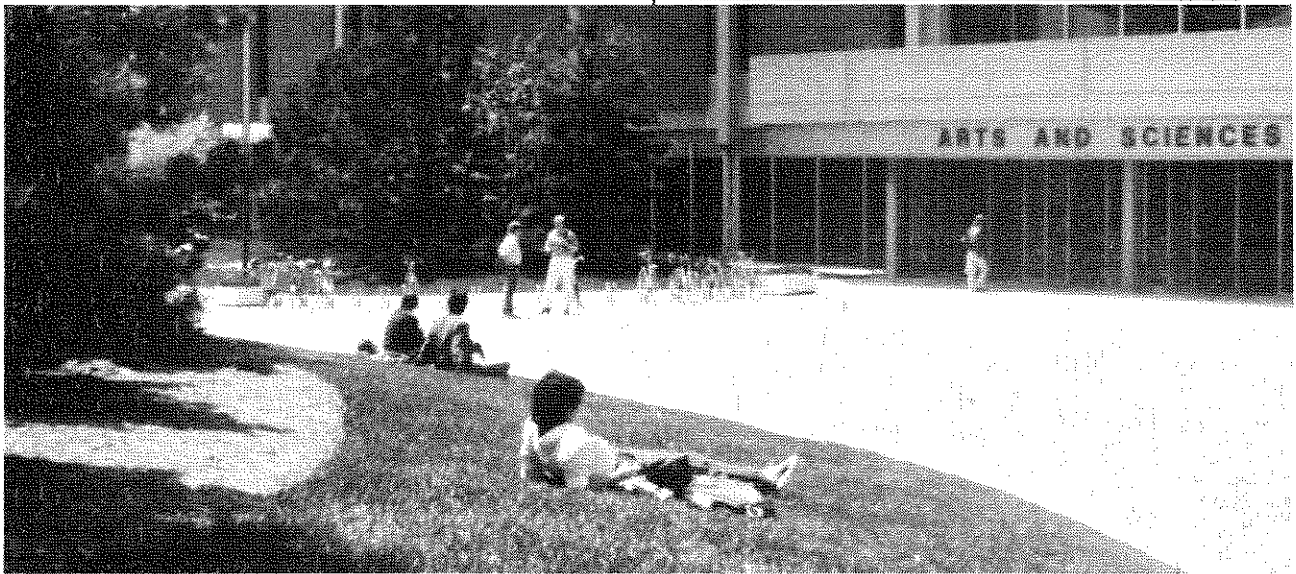
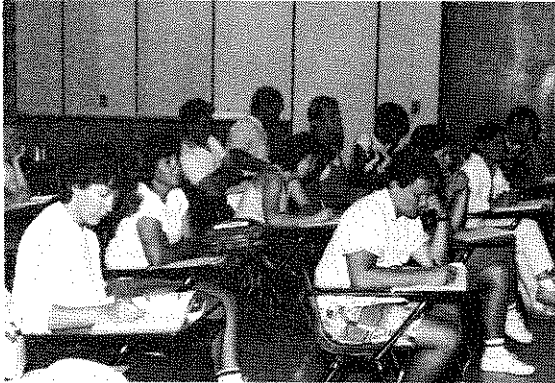
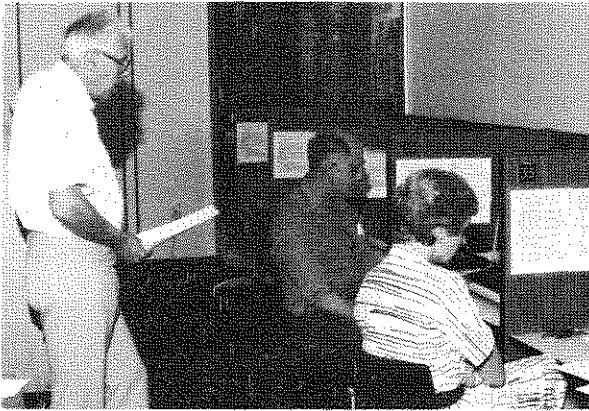
A College-wide Committee on Student Financial Assistance has been established at Lansing Community College. The membership of this committee is as follows:

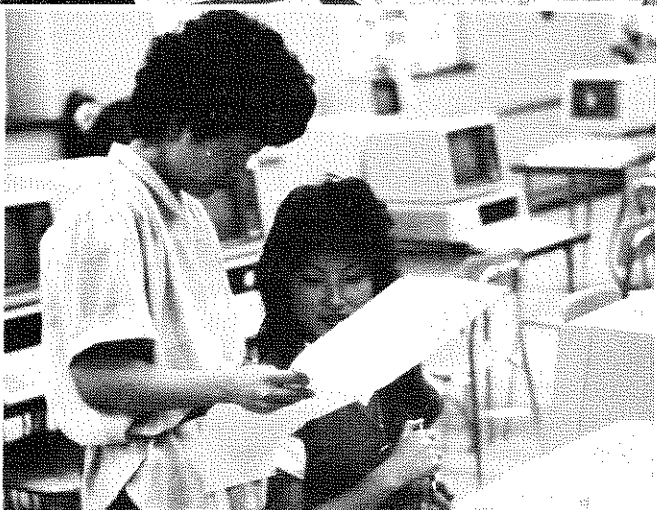
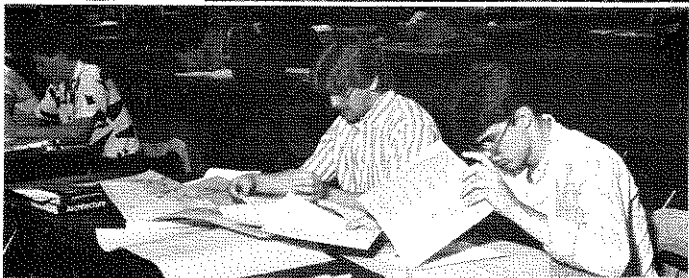
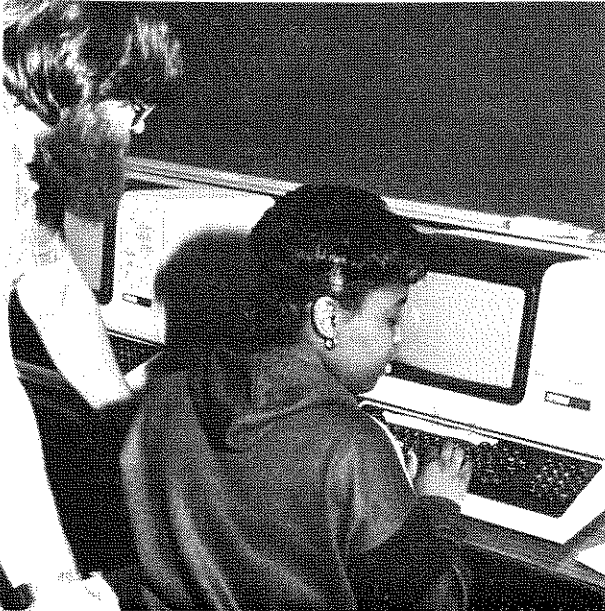
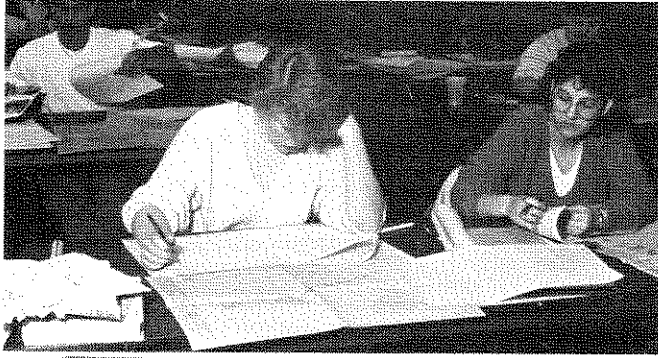
1. The Director of Student Financial Services (Chairperson).
2. One faculty member from each of the three instructional divisions; Business, Arts and Sciences, Division of Technology and Applied Sciences—to be appointed by the appropriate deans.
3. Two students to be appointed by the President of Student Government with the consent of Student Government.
4. The Director of Student Activities.
5. The Business Manager or his Representative.
6. The Dean of Student Personnel Services.

The functions of this committee are:

1. To assist in the development of programming and procedure with the Office of Student Financial Services of the College.
2. To assist in the evaluation of existing procedures and programming within the Office of Student Financial Services of the College.
3. To assist in the area of communications about the student financial assistance program and to provide input from the various sub-populations of the College.







Lansing Community College



Dean Neal A. Raisman

DIVISION OF ARTS & SCIENCES

Department of Communication
Department of Humanities
Department of Mathematics & Computer Science
Department of Science
Department of Social Science

DIVISION OF ARTS AND SCIENCES

Dean Neal A. Raisman
111 Arts and Sciences Building

The Division of Arts and Sciences offers developmental, transfer and general education in support of the College's mission and goals for learning. The Division helps the College meet its thirteen goals by exercising these functions:

1. Providing general education for all students.
2. Offering freshman and sophomore liberal arts and science courses paralleling the first two years of university education.
3. Awarding Associate Degrees in Arts and Associate Degrees in Science to students who earn 90 credits of study and who also meet the academic requirements for graduation as stated by the College.
4. Offering pre-professional curricula enabling students to transfer after two years of study to advanced training at four-year colleges and universities.
5. Providing a program of study through which the student is assisted to develop an awareness of self and to build a foundation for the choice of a value system.
6. Encouraging the student to search for knowledge in the heritages of all civilizations and to become aware of the depth and range of the human achievement.
7. Providing support courses for vocational programs for other Divisions of the College.
8. Offering seminars in special subjects as part of a lifelong learning program for the community.
9. Offering career programs providing training for entry level positions in Human Service agencies in the fields of Social Welfare, Mental Health, Hearing Impaired, Child Development and Education.

DIVISIONAL OBJECTIVES

To facilitate the attainment of these goals, the Division of Arts and Sciences has the following objectives:

- To provide students with a variety of instructional environments: independent study, computer-assisted instruction, off-campus courses in the field and community, individualized self-paced learning courses, audio-visual-tutorial studies, lecture-discussion, laboratory and seminar courses.
- To provide students with courses during the day and evening, permitting an appropriate schedule selection for those students who need to spend part of each day at work.
- To provide for all students courses that will assist them to read with comprehension and to write and speak with clarity and purpose.
- To establish honors courses, invite guest speakers, hold special workshops and seminars for the academically able student with a wider range of interest.
- To provide assistance to students needing improvement of academic skills to succeed at the college level through remedial-developmental courses in reading, writing and mathematics and placement testing services for diagnostic purposes.

Students are encouraged to select those courses and programs which help them acquire that broad base of understanding and range of abilities which lead to the development of analytical reasoning and informed judgement. Such individuals will be more versatile in dealing with the complexities of change in a modern technological society and be better prepared for positions of leadership and responsibility.

Completing distribution requirements in communication, humanities, science and social science will fulfill general education requirements for the Associate Degree in Arts or Sciences. It is to the advantage of students to complete their general education at Lansing Community College before transferring because many Michigan colleges and universities will then not require additional basic course work.

ORGANIZATION OF RESOURCES

The five departments of the Division of Arts and Sciences are staffed by faculty who have attained at least the Master's Degree within an academic discipline and many hold the Doctorate. The faculty and staff of the departments strongly support the Division's dedication to the College's Open Access Commitment. Students with a full range of abilities have the availability of working with faculty who have been educated and trained to help students with diverse abilities and goals meet their learning objectives. The Division also has a wide-range of computer-assisted instruction to assure a full flexibility to meet student learning styles, needs and availability. The Division's use of Computer-Managed Learning plus Computer-Assisted Instruction helped the College be recognized as a leader in computer-based education. Computer-based education used as an adjunct to classroom learning permits students to progress at their own rate of comprehension and achievement to assure Open Access is a continuous path to educational and career horizons and goals. The Division is also proud of offering instruction in small classes to assure positive interaction of student and teacher with maximum possibility for recognition of individual needs and abilities. The Division also provides for ability assessment and counseling in basic skill areas to direct students toward meeting their fullest learning goals and potential without prejudice to the skills they bring with them to the College.

DUAL ENROLLMENT

High school students who have demonstrated academic ability may, upon recommendation of their high school principal, be admitted during their junior year in high school to the dual enrollment program of the college. Students are accepted prior to graduation from high school and may earn a number of hours of credit toward their pre-professional or Associate Degree while they complete their high school program. Students usually attend afternoon or evening classes. They enroll in regular sections of the courses for which they are registered and their credits are fully transferable to other colleges and universities.

SEMINAR SERIES

Special seminars are drawn from any area within departments in the Division of Arts and Sciences. The courses are designed and offered by faculty in topics that may reflect the forefront of knowledge about ourselves or others and are designed to help us acquire new skills or insights. Credits are variable from one to four. Prerequisites are listed individually for each offering.

HONORS PROGRAM

The Division of Arts and Sciences offers an Honors Program for students of outstanding academic ability. This program offers the advantages of independent study as well as regularly scheduled honors courses, and provides these students with the opportunity to explore their academic interests in depth.

Awards covering full tuition and fees are offered each year to new students of superior academic ability who intend to study in this Division. These awards are competitive and are based solely on academic excellence. Application forms are available on request from the Honors Program Coordinator, Division of Arts and Sciences, Room 111, A&S Bldg.

DEPARTMENT OF COMMUNICATION

Chairperson: Dr. George R. Bramer
201 Arts and Sciences Building

The Department of Communication offers instruction in the following areas, under the codes indicated:

CHN: Chinese	JPN: Japanese
COM: Communication	JRN: Journalism
ESL: English as a Second Language	RDG: Sign Language
FRN: French	SPN: Spanish
GRK: Greek	SPH: Speech
GRM: German	WRI: Writing
ITL: Italian	

The goal of the Department of Communication is to develop students' communication skills. The department offers instruction in a variety of communication modes and in various languages. Skills are developed in reading, writing, speaking, listening and signing. Courses are offered in English skills, seven foreign languages, and American sign language. The department attempts to offer instruction appropriate for each student's personal needs, instructional level, and educational goals.

The department has five distinct programs: Reading, Writing, Speech, Foreign Language/English as a Second Language, and Sign Language/Interpreter Training. The Reading Program provides developmental instruction in basic skills. The Writing Program offers developmental work, transfer-level general education courses, and specialized instruction in creative and practical writing, including journalism. The Speech Program has a range of offerings in general and specialized speech communication, and offers a pre-major curriculum. The Foreign Language/English as a Second Language Program provides transfer-level instruction in Spanish, French, German and Japanese; conversation courses in those four languages as well as Italian, Greek and Chinese; special-purpose seminars; and a pre-major curriculum. The Sign Language/Interpreter Training Program offers certificate and degree curricula in manual communication and in interpreting, as well as more limited instruction for personal enrichment.

All of the five programs can arrange special instruction and related services for business, industry, government and other organizations.

Seminars

The Department of Communication offers seminars in reading, creative and functional writing, speech, conversational foreign languages, and sign language. These courses, generally open to all, are of special interest to adults who are continuing their education, and also to certificate or degree students whose curricula require electives. They may be taken on an audit basis or for a grade and credit.

Degree credit varies according to seminar content; transfer credit depends on the institution to which the student transfers. Information about degree credit and level of instruction will be provided at the first class meeting or in advance at the department office. In general, seminar course numbers at the 200 level and above indicate increased challenge.

Special Services

The department offers testing services to help students select appropriate courses in writing, reading and/or spelling. Students are urged to inquire in the Communication Department Laboratory about a writing or spelling placement test. Reading testing and advising are offered during regular registration

before each term. Additional reading testing and advising can be arranged in the department laboratory.

Additionally, the department can arrange or assist with special services for off-campus groups and organizations in such areas as skills testing, readability testing, manuscript writing and editing, performance speaking and audio tape production, translating, cross-cultural orientation, manual communication and sign language interpreting.

Independent Study

Prerequisite: department approval. Individual projects in communication, writing, reading, journalism or Spanish. Students will spend at least two hours a week for each credit in Independent Study.

COURSE DESCRIPTIONS

Chinese (CHN)

Department of Communication
Division of Arts and Sciences

CHN 191 Seminar: Conversational Chinese I 2(2-0)

Intended for people who have no background in the Chinese language and culture. Students learn the four tones of Mandarin Chinese, and the Yale writing system of Romanization. They learn to use essential Chinese grammar and vocabulary for conversing with native speakers in realistic situations. Selected aspects of Chinese culture are introduced.

CHN 192 Seminar: Conversational Chinese II 2(2-0)

Continuation of Conversational Chinese I. Intended for people who have limited background in the Chinese language and culture. Continues study of pronunciation, grammar, and vocabulary, as well as selected aspects of Chinese culture.

Communication (COM)

Department of Communication
Division of Arts and Sciences

COM 010 Introduction to Phonics 4(4-0)

Familiarize students with the relationship of English language sounds to their corresponding printed alphabetical letters and letter combinations. Examines rules governing variations in these sounds, the process of syllabication, accent, the dictionary pronunciation system, structural analysis of words, and the relationship of phonics to reading and spelling.

COM 031 Vocabulary Improvement I 2(2-0)

Knowledge of and extensive practice with word parts (roots, prefixes, and suffixes) are used to expand vocabulary. Pronunciation, correct usage and dictionary skills are also emphasized.

COM 032 Vocabulary Improvement II 2(2-0)

Builds on the work of Vocabulary Improvement I, offering activities for expanding the student's ability to recognize and use words in various contexts.

COM 050 Spelling Improvement I 2(2-0)

Focuses on basic spelling problems and principles progressing from elementary three-letter words through words frequently used but commonly misspelled. Emphasizes use of dictionaries for finding correct spelling. Prepares students for Spelling Improvement II.

COM 051 Spelling Improvement II 2(2-0)

Advances from intermediate to college level. Covers words frequently misspelled and misused in business, general college work and practical adult life situations. Includes prefixes, suffixes, meaning, pronunciation and the most useful spelling principles plus their exceptions.

COM 091 Seminar: Stratford Theater Trip 1(1-0)

A "communication practicum" providing students with the opportunity to experience exemplary theatrical productions. It is communication through performance, lecture, and interaction with professionals in the field. Skills of listening and analysis are also exercised through exposure to some of the world's finest classical writing and assessment of both oral interpretation and text.

COM 097 Seminar: Individualized English 3(0-6)

Individualized instruction in one or several of these areas: writing sentences, paragraphs, or essays; improving in punctuation, grammar, spelling, or vocabulary. Students choose their own study materials, set their own schedules, work at their own pace, and receive professional tutorial assistance whenever they are working in the laboratory. (P-Z grading system)

COM 209 Mass Communication 4(4-0)

Introductory course acquainting students with the major mass media and their impact on American society. Students investigate current communication

theory and research on a broad range of topics related to the mass media, including values the mediacurrent communication theory and research on a broad range of topics related to the mass media, including values the media portray, the effects of televised violence on viewers, news, advertising, and media stereotypes.

COM 230 Introduction to English Linguistics 4(4-0)

Examines the English language from the perspective of contemporary American linguistics: generative syntax, phonology, regional and social variation. Considers implications for teachers.

COM 260 Intercultural Communication 4(4-0)

Provides students with an understanding of the intercultural communication process. Students learn about the value system of their own culture and develop a sensitivity for and an appreciation of other cultures in a developing world. Lectures, readings, simulations, games, class discussions, and multi-media presentations are employed.

COM 280 Seminar: The Story of English 3(3-0)

A telecourse that traces the growth and development of English from its Germanic tribal origins to its present status as an international language.

English As A Second Language (ESL)

Department of Communication
Division of Arts and Sciences

ESL 016 Beginning English as A Second Language 5(5-0)

For advanced beginners who have been introduced to some basic English structures but have not yet mastered them. Class sessions focus on the spoken form and homework on the written form. Tapes provide supplementary aural-oral experience.

ESL 017 Intermediate English as A Second Language 5(5-0)

Reinforces the instruction of ESL 016, introduces new verb forms and complex sentence patterns, and gives increased attention to writing. Tapes provide supplementary aural-oral experience.

ESL 018 Advanced English as A Second Language 5(5-0)

Emphasis is on advanced grammatical structures with some preparation for taking college classes. Tapes provide supplementary aural-oral experience.

French (FRN)

Department of Communication
Division of Arts and Sciences

Advanced placement in French study may be arranged for students who have satisfactorily completed two or more years of French in high school, and those who have established French proficiency by other means.

FRN 101 Elementary French I 5(5-0)

Explores topics of current interest in French-speaking cultures as well as elementary language patterns. Workbook accompanies the text, provides students with additional structured exercises, and expands the student's ability to communicate in writing. Cassette recordings help students enhance their pronunciation and listening comprehension, and provide an opportunity to practice oral skills outside of class.

FRN 102 Elementary French II 5(5-0)

Prerequisite: FRN 101 or department approval. Continuation of FRN 101. Designed for students with basic prior knowledge of French who wish to enhance their language skills and acquire a greater ability to master the structure of the grammar and the verb tenses. Emphasis is on drilling exercises, vocabulary, reading and comprehending elementary texts. Includes class discussions once a week on preassigned subjects as well as five written compositions. Poems presented, as well as films and slides for students to learn about French culture and society.

FRN 103 Elementary French III 5(5-0)

Prerequisite: FRN 102 or department approval. Continuation of FRN 102. Final course of a three-term sequence in elementary contemporary French. Designed to offer further knowledge of French grammar and wider coverage of French expressions and vocabulary that will allow the students to understand a French-speaking person in a normal conversation. Emphasis is on grammar exercises, speaking and comprehending the French language without recourse to a dictionary. Includes the writing of compositions, memorization of poems, and weekly discussions.

FRN 185 Seminar: Intensive Conversational French I 4(4-0)

Designed for people with little or no knowledge of French who wish to acquire conversational skills. Students learn how to communicate orally in everyday life situations and in travel abroad. Emphasis is on the development of ability

to understand spoken French as well as to speak it in order to convey one's thoughts to French-speaking people. Pronunciation and vocabulary are developed through class discussions. French culture is explored.

FRN 191 Seminar: Conversational French I 2(2-0)

Designed for people with little or no knowledge of French who wish to acquire conversational skills. Students learn how to communicate orally in everyday life situations and when traveling. Emphasis is on the development of ability to understand spoken French as well as to speak it in order to convey one's thoughts to French-speaking people. Pronunciation, vocabulary, and French culture are emphasized.

FRN 192 Seminar: Conversational French II 2(2-0)

Continuation of Conversational French I. Designed for those beginners who have acquired some knowledge of the language and are familiar with basic pronunciation and elementary sentence patterns. Emphasis is on building vocabulary and refining pronunciation through intensive oral work in the classroom.

FRN 193 Seminar: Conversational French III 2(2-0)

Continuation of Conversational French II. Designed for slightly advanced beginners who are familiar with elementary sentence patterns, basic pronunciation and vocabulary. Through class discussions the student learns to use a vocabulary of 500 words including idiomatic expressions. Increases students' ability to understand fluently spoken French and help students communicate without the help of a dictionary.

FRN 194 Seminar: Conversational French IV 2(2-0)

Continuation of Conversational French III. Designed for slightly advanced beginners who wish to improve their ability to speak French in the context of daily living. Emphasis is on vocabulary and pronunciation through class discussions. Expands the students' knowledge of French culture.

FRN 201 Intermediate French I 5(5-0)

Prerequisite: French 103 or department approval. Offers students advanced training and practice in French speaking, reading and writing. The first course of a three-term sequence in intermediate contemporary French. Includes a review of basic French grammar, intensive vocabulary with a variety of reading selections, group discussions on assigned topics, guided compositions and student presentations of short contemporary stories.

FRN 202 Intermediate French II 5(5-0)

Prerequisite: FRN 201 or department approval. Second course of a three-term sequence in intermediate contemporary French. Offers students the opportunity to enrich their language skills (speaking, listening, comprehension, reading and writing) with grammar review and intensive vocabulary. Students read and discuss short stories and poetry, write compositions, make oral presentations and participate in small discussions.

FRN 203 Intermediate French III 5(5-0)

Prerequisite: FRN 202 or department approval. Third course of a three-term sequence in intermediate contemporary French. Includes a general review of important grammar points through specific readings. Students acquire an advanced level of vocabulary and idiomatic expressions that they will use in compositions and oral presentations. Also includes group discussions on contemporary subjects and analyses of literary texts.

**German (GRM)
Department of Communication
Division of Arts and Sciences**

Advanced placement in German study may be arranged for students who have satisfactorily completed two or more years of German in high school, and those who have established German proficiency by other means.

GRM 101 Elementary German I 5(5-0)

The first course of a three-term sequence in contemporary German. Students explore topics of current interest concerning German-speaking cultures as a vehicle for learning basic communication skills. Conversation and class participation are emphasized. Tape recordings accompanying the text provide additional exercise in pronunciation and comprehension.

GRM 102 Elementary German II 5(5-0)

Prerequisite: GRM 101 or department approval. Second course of a three-term sequence in contemporary German. Students explore topics of current interest concerning German-speaking cultures as a vehicle for learning basic communication skills. Conversation and class participation are emphasized. Tape recordings accompanying the text provide additional exercise in pronunciation and comprehension.

GRM 103 Elementary German III 5(5-0)

Prerequisite: GRM 102 or department approval. Third course of a three-term

sequence in contemporary German. Students explore topics of current interest concerning German-speaking cultures as a vehicle for learning basic communication skills. Conversation and class participation are emphasized. Tape recordings accompanying the text provide additional exercise in pronunciation and comprehension.

GRM 191 Seminar: Conversational German I 2(2-0)

First course in a four-term sequence. For persons with no knowledge of German who wish to develop some conversational skills. Students learn correct pronunciation, essential language structures, and a practical vocabulary which is applied in conversational exchanges. Selected aspects of German culture are introduced through multi-media presentations featuring the "Guten Tag" film series.

GRM 192 Seminar: Conversational German II 2(2-0)

Second course in a four-term sequence. For persons with some familiarity with German who wish to improve their conversational skills. Students learn correct pronunciation, essential language structures, and a practical vocabulary which is applied in conversational exchanges. Selected aspects of German culture are introduced through multi-media presentations featuring the "Guten-Tag" film series.

GRM 193 Seminar: Conversational German III 2(2-0)

Third course in a four-term sequence. For persons with some knowledge of German who wish to improve their conversational skills. Students learn correct pronunciation, essential language structures, and a practical vocabulary which is applied in conversational exchanges. Selected aspects of German culture are introduced through multi-media presentations featuring the "Guten Tag" film series.

GRM 194 Seminar: Conversational German IV 2(2-0)

Fourth course in a four-term sequence. For persons with some knowledge of German who wish to improve their conversational skills. Students learn correct pronunciation, essential language structures, and a practical vocabulary which is applied in conversational exchanges. Selected aspects of German culture are introduced through multi-media presentations featuring the "Guten Tag" film series and the "Passport to Germany" filmstrips.

GRM 201 Intermediate German I 5(5-0)

Prerequisite: GRM 103 or department approval. First course of a three-term sequence in intermediate contemporary German. Students receive advanced training and practice in the four basic skills—speaking, listening comprehension, reading, and writing. Course includes a thorough review of basic German grammar, intensive vocabulary building, small-group discussions, writing compositions, and student presentations on German culture. Class is taught entirely in German.

GRM 202 Intermediate German II 5(5-0)

Prerequisite: GRM 201 or department approval. Second course of a three-term sequence in intermediate contemporary German. Students receive advanced training and practice in the four basic skills—speaking, listening comprehension, reading, and writing. Course includes a thorough review of basic German grammar, intensive vocabulary building, small-group discussions, writing compositions, and student presentations on German culture. Class is taught entirely in German.

GRM 203 Intermediate German III 5(5-0)

Prerequisite: GRM 202 or department approval. Third course of a three-term sequence in intermediate contemporary German. Students receive advanced training and practice in the four basic skills—speaking, listening comprehension, reading, and writing. Course includes a thorough review of basic German grammar, intensive vocabulary building, small-group discussions, writing compositions, and student presentations on German culture. Class is taught entirely in German.

**Greek (GRK)
Department of Communication
Division of Arts and Sciences**

GRK 191 Seminar: Conversational Greek 2(2-0)

Designed for persons with little or no knowledge of Modern Greek who seek to acquire basic conversational skills. Students learn the Greek alphabet, essential sentence patterns and a practical vocabulary. Various aspects of Greek culture are presented through lectures, slides, films, and recordings.

GRK 192 Seminar: Conversational Greek II 2(2-0)

Continuation of conversational Greek I. Includes a review of the Greek alphabet, vocabulary and grammatical structures covered in GRK 191. New vocabulary is presented as well as phrases and sentences which would assist the visitor to Greece. Other areas of Greek culture are presented through lectures and slides.

GRK 193 Seminar: Conversational Greek III 2(2-0)

Continuation of Conversational Greek II. Emphasis is placed on reviewing basic conversational patterns as well as the teaching of new vocabulary and grammatical structures. Topics of cultural and historical interest are presented through lectures, slides and recordings.

Italian (ITL)
Department of Communication
Division of Arts and Sciences

ITL 191 Seminar: Conversational Italian I 2(2-0)

Designed for persons who have no knowledge of Italian, and who wish to develop very basic conversational skills in the language. Students learn the pronunciation of some Italian sounds, practical vocabulary and essential grammar for expressing themselves in simple Italian. Familiarization with some aspects of Italian culture is also included.

ITL 192 Seminar: Conversational Italian II 2(2-0)

Continuation of Conversational Italian I. Intended for beginners who have acquired some feel for the language and are familiar with pronunciation and elementary sentence patterns. Students expand their basic knowledge of Italian through written and oral exercises. Emphasis is on speaking and pronunciation as well as vocabulary building, through class discussion and dramatizations of everyday situations. Instructional materials include tape recordings prepared by native speakers and films of Italian culture.

ITL 193 Seminar: Conversational Italian III 2(2-0)

Continuation of Conversational Italian II. Develops greater mastery of conversational skills and provides a strong cultural context as the basis for discussion. Class is conducted primarily in Italian. Emphasis is placed on increasing vocabulary, knowledge of idiomatic expressions, and more complex language structures.

Japanese (JPN)
Department of Communication
Division of Arts and Sciences

Advanced placement in Japanese study may be arranged for students who have satisfactorily completed two or more years of Japanese in high school, and those who have established Japanese proficiency by other means.

JPN 101 Elementary Japanese I 4(4-0)

Designed to provide students with basic knowledge of the Japanese language for practical communication. Develops skill in speaking, reading, writing, and listening. Also provides information concerning the everyday life and culture of Japan. Practical vocabulary and topics of conversation are emphasized. Cassette tapes accompanying the textbook aid listening comprehension.

JPN 102 Elementary Japanese II 4(4-0)

Continuation of JPN 101. Designed to provide students with basic knowledge of the Japanese language for practical communication. Develops skill in speaking, reading, writing, and listening. Also provides information concerning the everyday life and culture of Japan. 60 Chinese characters, KANJI, are introduced. Students learn additional, more advanced grammatical structures and expressions. Practical vocabulary and topics of conversation are emphasized. Cassette tapes accompanying the textbook aid listening comprehension.

JPN 103 Elementary Japanese III 4(4-0)

Continuation of JPN 102. Designed to provide students with basic knowledge of the Japanese language for practical communication. Develops skill in speaking, reading, writing, and listening. Also provides information about culture and everyday life in Japan. Previously acquired knowledge and skills are refined, and ability to communicate in Japanese is increased. 90 additional Chinese characters, KANJI, are introduced. Cassette tapes accompanying the textbook aid listening comprehension.

JPN 191 Seminar: Conversational Japanese I 2(2-0)

Designed for people with little or no knowledge of the Japanese language who wish to acquire conversational skills. Students learn correct pronunciation, basic sentence structures, and practical vocabulary for conversing in Japanese in everyday situations. Selected features of Japanese culture are introduced throughout the course.

JPN 192 Seminar: Conversational Japanese II 2(2-0)

Continuation of Conversational Japanese I. Designed for persons with some prior knowledge in Japanese who wish to improve their conversational skills for everyday use and traveling in Japan. Selected features of Japanese culture are introduced throughout the course via audio-visual presentations and informal lectures.

JPN 193 Seminar: Conversational Japanese III 2(2-0)

Continuation of Conversational Japanese II. Designed for persons with some

prior knowledge in Japanese who wish to improve their conversational skills for everyday use and traveling in Japan. Selected features of Japanese culture are introduced throughout the course via audio-visual presentations and informal lectures.

Journalism (JRN)
Department of Communication
Division of Arts and Sciences

For additional journalism-related courses, see COM 031, 032, 050, 051, 209 and 230.

JRN 150 Press in a Free Society 3(3-0)

An examination of the role and impact of journalism, print and electronics, in a democratic society. Major focus is on an understanding of the concepts of "freedom" and "responsibility" and on development of the student's ability to evaluate press performance intelligently.

JRN 151 Newswriting 4(4-0)

Considers what is of news interest and how to turn news facts into a publishable news story. Students learn news terminology, the importance of news style, objectivity, attribution, and accuracy.

JRN 152 Reporting 4(4-0)

Prerequisite: JRN 151. Shows how, when and where to go after facts, how to conduct interviews, and how to cover speeches, meetings and news conferences. Students develop a sense for digging out information and using facts for a clear, readable, balanced news story.

JRN 254 Editorial Writing 4(4-0)

Prerequisite: JRN 151. A course in how to write effective editorials and concentrated study of editorial concept, structure, and style. Student analyzes editorial models, learns methods of research, and writes at least six editorials on local issues.

JRN 256 Newsletter Writing and Production 4(4-0)

Provides the student with a working knowledge of writing and editing in journalistic style, and the techniques necessary for producing a newsletter or house organ.

Reading (RDG)
Department of Communication
Division of Arts and Sciences

For additional reading-related courses, see COM 031, 032, 050, and 051.

RDG 006 Reading Laboratory No credit

RDG 006 arranges the days and times when students will attend Reading Clinic courses. Students must register for both a Reading Clinic course, such as RDG 016, and a section of RDG 006.

RDG 011 Personal Reading I 1(0-2)

Prerequisite: Department approval. Same content and approach as RDG 016, 017 and 018. May be taken concurrently with RDG 016, 017, or 018 to provide extra instruction and practice.

RDG 012 Personal Reading II 2(0-4)

Prerequisite: Department approval. Same content and approach as RDG 016, 017, and 018. May be taken concurrently with RDG 016, 017, or 018 to provide extra instruction and practice.

RDG 013 Personal Reading III 3(0-6)

Prerequisite: Department approval. Same content and approach as RDG 016, 017, and 018. May be taken concurrently with RDG 016, 017, or 018 to provide extra instruction and practice.

RDG 016 Reading Clinic I 4(0-8)

Teaches basic reading skills and improves confidence. Provides a personal reading program which combines private tutoring with directed practice in the reading lab. At the time of registration, a student must register for both a specific course—such as RDG 016—and a RDG 006 section. The RDG 006 section arranges the times for the student's attendance in the Communication Department Laboratory.

RDG 017 Reading Clinic II 4(0-8)

Continuation of RDG 016.

RDG 018 Reading Clinic III 4(0-8)

Continuation of RDG 017.

RDG 019 Reading Comprehension I 4(4-0)

Deals with strategies for understanding the printed word. Special attention is given to comprehension, vocabulary building, and study techniques as preparation for college level reading assignments.

RDG 020 Reading Comprehension II 4(4-0)

Improves the student's ability to read critically. Enables the student to perceive reading not merely as a mechanical process but as one of absorbing and interpreting ideas. Emphasis is placed on analyzing the message and its implications.

RDG 021 Speed Reading 4(4-0)

Designed for the student of average or better-than-average reading ability. Increases reading rate and comprehension for greater efficiency in studying and in general reading. Special attention is given to vocabulary improvement, the multiple purposes of reading, the importance of flexibility in reading, and increased concentration.

RDG 023 College Reading Survival Skills 2(2-0)

Designed for beginning college students, whether recent high school graduates or returning adults. Develops college survival skills. Includes work on reading speed and flexibility, study techniques, concentration and memory, note-taking, test-taking, and vocabulary expansion.

RDG 091 Seminar: Individualized Reading 3(0-6)

A program for average readers, especially adults in the working community, who wish to improve their reading skills in a laboratory environment. Skill building is totally personalized through private consultation, tutorial conferences and specialized programmed materials.

RDG 093 Seminar: Individualized Reading Alternate 4(0-8)

A program for average readers, especially adults in the working community, who wish to improve their reading skills in a laboratory environment. Skill building is totally personalized through private consultation, tutorial conferences and specialized programmed materials.

RDG 094 Seminar: Concentrated Speed Reading 2(2-0)

Designed for the average or better-than-average reader. Emphasis is on improving rate of reading through practicing good reading habits, developing flexibility in reading various kinds of materials, and studying vocabulary. Students should experience improvement in their reading rate, comprehension, and vocabulary.

**Sign Language (SGN)
Department of Communication
Division of Arts and Sciences**

Students who apply for the Sign Language Interpreting Program, which begins with SGN 261, must pass a screening test before being admitted. The interpreting program can be entered only in the Fall Term.

SGN 160 Orientation to Deafness 2(2-0)

Introduces the student to deafness and its effects. Lectures and audio-visual presentations cover areas of interest to those working professionally with deaf persons, parents, and families of deaf individuals, and those desiring greater awareness of the "world of the deaf." Class experience includes guest lectures to further acquaint students with the deaf community.

SGN 161 Sign Language I 4(3-2)

Prerequisite: SGN 160 or concurrent enrollment. Provides students with a basic understanding of American Sign Language (ASL). ASL grammar, syntax and vocabulary are introduced and weekly laboratory sessions develop elementary receptive and expressive skills.

SGN 162 Sign Language II 4(3-2)

Prerequisite: SGN 161 or department approval. Provides students with an intermediate understanding of American Sign Language (ASL). Students are videotaped and further grammar, syntax and vocabulary are presented. Weekly laboratory sessions are continued and elementary conversational skills are developed.

SGN 163 Sign Language III 4(3-2)

Prerequisite: SGN 162 or department approval. Provides students with more advanced understanding of American Sign Language (ASL), including additional vocabulary and ASL idioms. Expressive and receptive conversational skills are emphasized in both class and laboratory sessions.

SGN 164 Fingerspelling 2(2-0)

Prerequisite: SGN 161 or department approval. Provides concentrated instruction and practice in fingerspelling, emphasizing the development of receptive and expressive skills.

SGN 165 Receptive Manual Communication 4(3-2)

Prerequisite: SGN 163 or department approval. Designed to increase the student's skill in conversational sign language. Focuses on the reception, analysis and comprehension of the various manual communication systems utilized by the hearing impaired in conversational situations. Skills in American Sign Language (ASL) are emphasized.

SGN 180 Deaf Culture 3(3-0)

Builds on SGN 160, looking more closely at the unique experiences of those in the deaf community. Examines the history of the deaf community in America, the sociology of the hearing-impaired (both deaf and the hard-of-hearing), and the psychological ramifications of deafness.

SGN 261 Principles of Interpreting I 5(4-2)

Prerequisite: Successful completion of screening test. Surveys basic interpreting through lecture, role playing, and classroom discussion. Introduces the ethics (RID Code) and responsibilities of the interpreter. Examines the role and necessary skills of the interpreter in various interpreter settings and to develop proficiency in interpreting. Increases awareness of oral and deaf-blindness of various interpreter settings and to develop proficiency in interpreting. Increases awareness of oral and deaf-blind interpreting and interpreting for individuals with minimal language skills. Provides sign language acquisition with emphasis upon specific vocabularies through laboratory experiences.

SGN 263 Sign to Voice Interpreting 3(3-0)

Prerequisite: SGN 261. Designed to provide an understanding of the principles and problems of interpreting the manual, oral and written communication of deaf persons into their spoken or written standard English equivalents. Develops skill and fluency in receiving and expressing all levels of communication of deaf individuals.

SGN 267 Practicum I 4(2-4)

Prerequisite: SGN 261 or department approval. Combines lecture and supervised placement in various interpreter settings to allow directed observation and application of practical interpreting skills.

SGN 268 Advanced Practicum I 4(2-4)

Prerequisite: Department approval. Designed to provide interpreting experience through placement in various settings. Includes weekly lectures and individual conferences between interpreter trainee and practicum supervisor. Students spend 4 hours each week in their placement setting.

SGN 269 Advanced Practicum II 5(2-6)

Prerequisite: Department approval. Designed to provide interpreting experience through placement in various settings. Includes weekly seminars and bi-weekly individual conferences between interpreter trainee and practicum supervisor. Students spend 6 hours each week in their placement setting.

SGN 270 Advanced Practicum III 6(2-8)

Prerequisite: Department approval. Designed to provide interpreting experience through placement in various settings. Includes weekly seminars and individual bi-weekly conferences between interpreter trainee and practicum supervisor. Students spend 8 hours each week in their placement setting.

**Spanish (SPN)
Department of Communication
Division of Arts and Sciences**

Advanced placement in Spanish study may be arranged for students who have satisfactorily completed two or more years of Spanish in high school, and those who have established Spanish proficiency by other means.

SPN 101 Elementary Spanish I 5(5-0)

First course of a three-term sequence in elementary Spanish. Designed for persons who want a solid foundation in the essentials of the Spanish language and Hispanic culture. Provides practice in listening comprehension, speaking, reading comprehension, and writing, and provides useful information about Hispanic culture. Emphasizes pronunciation of Spanish sounds, practical vocabulary, and essential grammar for expressing oneself in Spanish and for understanding native speakers of the language. Students become familiar with many aspects of Hispanic culture through readings, informal lectures, and audio-visual presentations. Class is taught largely in Spanish.

SPN 102 Elementary Spanish II 5(5-0)

Prerequisite: SPN 101 or departmental approval. Second course of a three-term sequence in elementary Spanish. Designed for persons who want a solid foundation in the essentials of the Spanish language and Hispanic culture. Provides practice in listening comprehension, speaking, reading comprehension, and writing, and provides useful information about Hispanic culture. Emphasizes pronunciation of Spanish sounds, practical vocabulary, and essential grammar for expressing oneself in Spanish and for understanding

native speakers of the language. Students become familiar with many aspects of Hispanic culture through readings, informal lectures, and audio-visual presentations. Class is taught largely in Spanish.

SPN 103 Elementary Spanish III 5(5-0)

Prerequisite: SPN 102 or departmental approval. Third course of a three-term sequence in elementary Spanish. Designed for persons who want a solid foundation in the essentials of the Spanish language and Hispanic culture. Provides practice in listening comprehension, speaking, reading comprehension, and writing, and provides useful information about Hispanic culture. Emphasizes pronunciation of Spanish sounds, practical vocabulary, and essential grammar for expressing oneself in Spanish and for understanding native speakers of the language. Students become familiar with many aspects of Hispanic culture through readings, informal lectures, and audio-visual presentations. Class is taught largely in Spanish.

SPN 185 Seminar: Intensive Conversational Spanish I 4(4-0)

First course of a two-term sequence in intensive conversational Spanish. Designed for persons who have no knowledge of Spanish, and who wish to develop very basic conversational skills in the language. Students learn pronunciation of some Spanish sounds, practical vocabulary, and essential grammar for expressing themselves in simple Spanish. They become familiar with different aspects of Hispanic culture through readings in English, informal lectures, and audio-visual presentations.

SPN 186 Seminar: Intensive Conversational Spanish II 4(4-0)

Second course of a two-term sequence in intensive conversational Spanish. Designed for persons who have no knowledge of Spanish, and who wish to develop very basic conversational skills in the language. Students learn practical vocabulary, and essential grammar for expressing themselves in simple Spanish. They become familiar with different aspects of Hispanic culture through readings in English, informal lectures, and audio-visual presentations.

SPN 191 Seminar: Conversational Spanish I 2(2-0)

First course of a four-term sequence in conversational Spanish. Designed for persons who have no knowledge of Spanish, and who wish to develop very basic conversational skills in the language. Students learn the pronunciation of some Spanish sounds, practical vocabulary, and essential grammar for expressing themselves in simple Spanish. They become familiar with different aspects of Hispanic culture through readings in English, informal lectures, and audio-visual presentations.

SPN 192 Seminar: Conversational Spanish II 2(2-0)

Second course of a four-term sequence in conversational Spanish. Designed for persons with some proficiency in Spanish who wish to improve their conversational skills for everyday use and for travel abroad. Students learn correct pronunciation, practical vocabulary, and essential grammar for expressing themselves in simple Spanish. Students also become familiar with some aspects of Hispanic culture via narratives and audio-visual presentations. Class is conducted primarily in Spanish.

SPN 193 Seminar: Conversational Spanish III 2(2-0)

Third course of a four-term sequence in conversational Spanish. Designed for persons with limited mastery of Spanish who wish to improve their conversational skills. Students learn correct pronunciation, practical vocabulary, and essential grammar for expressing themselves in Spanish. Students also become familiar with many aspects of Hispanic culture via narratives and audio-visual presentations. Class is conducted primarily in Spanish.

SPN 194 Seminar: Conversational Spanish IV 2(2-0)

Fourth course of a four-term sequence in conversational Spanish. Designed to allow students to develop greater mastery of conversational skills. Class is conducted primarily in Spanish. Students learn to pronounce new vocabulary and to use more advanced language structures for expressing themselves in Spanish. Cultural presentation using slides, films and informal lectures illustrative of varied aspects of Hispanic culture are included.

SPN 196 Seminar: Spanish for Medical Personnel 4(4-0)

Develops skills for using Spanish in common medical practitioner-patient relationships. Students learn correct pronunciation of Spanish sounds, common medical terms and phrases, and essential grammar. Students practice Spanish extensively in pairs and small groups in situations simulating those commonly encountered by health care professionals.

SPN 201 Intermediate Spanish I 5(5-0)

Prerequisite: SPN 103 or department approval. First course of a three-term sequence in intermediate Spanish. Sequence provides a thorough review of grammar presented in the elementary Spanish sequence, intensive vocabulary building, extensive small-group discussion, writing compositions, and lectures on Hispanic culture. Classwork emphasizes practice in listening comprehension, explanations and discussions of Spanish grammar, and abundant con-

versation in Spanish. Homework assignments focus on developing reading and writing skills. Class is taught entirely in Spanish.

SPN 202 Intermediate Spanish II 5(5-0)

Prerequisite: SPN 201 or department approval. Second course of a three-term sequence in intermediate Spanish. Sequence provides a thorough review of grammar presented in the elementary Spanish sequence, intensive vocabulary building, extensive small-group discussion, writing composition, and lectures on Hispanic culture. Classwork emphasizes practice in listening comprehension, explanations and discussions of Spanish grammar, and abundant conversation in Spanish. Homework assignments focus on developing reading and writing skills. Class is taught entirely in Spanish.

SPN 203 Intermediate Spanish III 5(5-0)

Prerequisite: SPN 202 or department approval. Third course of a three-term sequence in intermediate Spanish. Sequence provides a thorough review of grammar presented in the elementary Spanish sequence, intensive vocabulary building, extensive small-group discussion, writing compositions, and lectures on Hispanic culture. Classwork emphasizes practice in listening comprehension, explanations and discussions of Spanish grammar, and abundant conversation in Spanish. Homework assignments focus on developing reading and writing skills. Class is taught entirely in Spanish.

**Speech (SPH)
Department of Communication
Division of Arts and Sciences**

For additional speech-related courses, see COM 031, 032, 209 and 230.

SPH 101 Human Communication 4(4-0)

Introductory course examining the communication process in its three major settings: interpersonal interaction, small group discussion, and public speaking. The learning approach utilizes readings, lectures, discussions, participative classroom exercises, and oral and written assignments to help students increase their understanding of human communication while improving their communication skills.

SPH 102 Interpersonal Communication 4(4-0)

Introductory course providing students with an understanding of interpersonal communication theories and their application in everyday interactions with family, friends, and co-workers. Through in-class activities, students' interpersonal communication skills will be increased in areas including openness, empathy, supportiveness, descriptiveness, conflict resolution, and behavioral flexibility in interaction.

SPH 103 Small Group Communication 4(4-0)

Theoretical study and guided practice in small group discussion (formal and informal, vocational and avocational). Emphasizes learning about the group: structure, purposes, leadership styles, and roles.

SPH 104 Fundamentals of Public Speaking 4(4-0)

Helps beginning speakers develop the skills and confidence needed to speak effectively to audiences in public situations. Through a carefully planned series of speaking assignments, students learn the proper techniques for researching, developing, organizing, outlining, and delivering effective, informative and persuasive speeches.

SPH 105 Voice and Articulation 3(3-0)

Theory and practice of effective voice production and precise diction. Emphasis on understanding the speech organs and their operation and on applying successful techniques to make the best use of the instruments of speech.

SPH 195 Seminar: Listening Skills 2(2-0)

Helps students develop the skills needed to listen effectively in the home, workplace, and classroom. Topics include the nature of listening, types of listening, verbal and nonverbal dimensions of listening, and barriers to effective listening. Diagnostic tests, exercises, and assignments help students improve their abilities to comprehend, judge, and empathize while listening.

SPH 206 Nonverbal Communication 4(4-0)

Provides the student with an understanding of the many ways people communicate without words. Students learn what messages the face, the body, personal appearance, touch, time and space convey in American culture. The student's skills as a nonverbal communicator are increased through in-class activities.

**Writing (WRI)
Department of Communication
Division of Arts and Sciences**

For additional writing-related courses, see COM 031, 032, 050, 051 and 230.

Placement testing is conducted during the first week of each term for all

students in WRI 101, WRI 111, and WRI 121. Some students are advised to drop the course for which they have registered and to add a more appropriate course, either more basic or more advanced. Waiver or credit for WRI 121-123 may be achieved through various national and local testing programs. Inquire about these possibilities in the Admissions Office or the Department of Communication.

The Composition/English requirement for the Associate Degree in Arts or Sciences (A.A. or A.S.) can be fulfilled in various ways. The second required course can be either WRI 122 or ENG 122, and the third can be either WRI 123 or ENG 123. Students who receive permission to waive WRI 121 are required to select another four-credit course in Communication, Writing or English to fulfill the twelve credit requirement for the Associate in Arts or Sciences Degree. Writing course requirements for curricula outside the Division of Arts and Sciences are specified in individual curriculum guides, which are available at counseling offices or department offices on campus.

WRI 006 Writing Laboratory **No credit**

WRI 006 arranges the days and times when students will attend writing lab courses. Students must register for both a writing lab course, such as WRI 101, and a section of WRI 006.

WRI 091 Seminar: Personal Writing **2(2-0)**

Develops self-expression and sharpened awareness through writing about personal observations and life experiences. Emphasizes free choice in subject matter and sensitivity to the language and styles appropriate to description, storytelling, and memoirs. (P-Z grading system)

WRI 101 Fundamentals of Writing **4(1-6)**

An individualized course to help prepare the student for freshman writing. Builds confidence and increases fluency. Develops skill in choosing words and writing sentences, paragraphs, and brief essays. Includes laboratory activities with professional tutorial assistance, and group work in weekly class meetings. Requires enrollment in WRI 006 to schedule lab attendance.

WRI 102 Grammar and Mechanics in Writing **4(4-0)**

Designed to help students master, in their own writing, the basic grammatical and mechanical skills (except spelling) that are expected upon entry to WRI 121. Students will learn about and apply knowledge of basic grammar, mechanics, and sentence punctuation.

WRI 111 Business Writing: Grammar and Mechanics **4(1-6)**

Designed to meet the demands of business writing. Course components include study of grammar, punctuation, and style of business prose. Revision and proofreading skills necessary for correct manuscript form in business correspondence are emphasized through practice and testing. Requires enrollment in WRI 006 to schedule lab attendance.

WRI 121 Composition I **4(4-0)**

Designed to help students develop writing ability. Emphasizes the organization and development of informational prose. Includes instruction in use of the dictionary and college reading skills.

WRI 122 Composition II **4(4-0)**

Prerequisite: WRI 121. Builds upon the writing skills developed in WRI 121, but emphasis shifts from the expository essay to the argumentative or persuasive essay. Teaches students to write logically, with style appropriate for support of an argument or proposition.

WRI 123 Composition III **4(4-0)**

Prerequisite: WRI 122 or ENG 122. Continuation of the composition sequence and an alternative to ENG 123 in many programs. Emphasizes investigative techniques, library resources, and writing the research paper with full documentation.

WRI 131 Honors Composition I **4(4-0)**

Prerequisite: Department approval. Covers the same material as WRI 121, but with additional work to challenge the superior writer.

WRI 132 Honors Composition II **4(4-0)**

Prerequisite: Department approval. Covers the same material as WRI 122, but with additional work to challenge the superior writer.

WRI 133 Honors Composition III **4(4-0)**

Prerequisite: Department approval. Covers the same material as WRI 123, but with additional work to challenge the superior writer.

WRI 195 Seminar: Writing Software Instructions **2(2-0)**

Designed for developers of computer software. Improves the ability to write plain-English instructions for software users. Emphasizes the structure and

sequence of sound directions. Focuses on avoiding irrelevant and confusing details. Students learn to write clear, direct sentences and to make jargon-free, accurate word choices.

WRI 261 Seminar: Media Literacy **3(3-0)**

An analysis of form and content in film and television in order to identify, evaluate, and understand these media as unique art forms.

WRI 262 Seminar: Prose Style **3(3-0)**

An advanced study of non-fictional prose styles. Directed writing practice helps students make stylistic choices to improve the effectiveness of their own writing. Workshop sessions include an examination of the relationship of purpose to audience and slant, and of grammar to punctuation and style. Writings are both assigned and self-chosen.

WRI 269 Seminar: Writing About The Arts **3(3-0)**

Develops criteria for evaluating the arts (the visual arts, literature, music, and the performing arts) through reading, observing, and writing about them. Students will be introduced to the concepts of form and content, style and medium of expression.

WRI 281 Writing For Publication **3(3-0)**

Students review a variety of effective writing techniques; study marketing information in their particular fields, such as manuscript preparation, query letters, and potential publishers; and discuss their writing in a workshop setting.

WRI 282 Forum For Authors **3(3-0)**

An advanced course for writers working on manuscripts. Students meet to discuss their writing and to solve problems in a workshop setting. The study of effective writing techniques and market information is continued from WRI 281.

WRI 293 Seminar: Creative Writing I **3(3-0)**

Designed to help students develop expressive abilities in writing poetry and short stories. Emphasizes narrative modes of the short story; traditional meter and free verse forms of poetry. Includes models from masters in both fiction and poetry.

WRI 294 Seminar: Creative Writing II **3(3-0)**

Designed for students who have successfully completed a creative writing or a publications class. Emphasizes improving their ability to write effective poems, short stories and novellas. Students select their own subjects and receive immediate responses through group discussion.

WRI 295 Seminar: Writing Workshop **3(3-0)**

Examines language and style as the most critical choices a creative writer makes in directing the reader's perception of and response to the work. Develops the writer's ability to control tone and style. Manuscripts are reproduced and discussed in a workshop setting.

WRI 296 Seminar: Persuasive Writing **3(3-0)**

Designed to introduce students to the tools and techniques employed in written argument—discourse intended to convince others or to persuade them to a course of action. Students practice with the tools and techniques, and sharpen them, in written exercises.

DEPARTMENT OF HUMANITIES

Chairperson: Dr. Joseph L. Anderson
255 Arts and Sciences Building

The Department of Humanities offers courses under the following codes:

ENG: English
HST: History
HUM: Humanities
PHL: Philosophy
REL: Religion

All of the courses offered by this department require college level reading and writing skills. Analytical and critical papers and examinations are considered normal requirements for most courses.

The Composition/English requirement for the Associate Degree in Arts or Science can be fulfilled in a number of ways. A student who has completed or has been permitted to waive WRI 121 may elect ENG 122 and ENG 123 as alternatives to WRI 122 and WRI 123.

The Humanities requirement for the Associate Degree in Arts or Science can also be fulfilled in a number of ways. HUM 211, 212, 213: World Civilizations I, II, III is the recommended sequence of courses. Students may substitute other courses in the curriculum of the Humanities Department for any of the

above, provided that these are distributed in at least two of the following five areas:

- Art and Music history (HUM 101, 150, 151, 152)
- History (HST 104-296)
- Literature (ENG 201-296 and HUM 102)
- Philosophy and Religion (PHL 101-296; REL 150-296 and HUM 104)
- Interdisciplinary Humanities (HUM 121, 122, 123) may be substituted as a whole or in part for HUM 211, 212, 213.

Please note that World Civilizations courses (HUM 211, 212, 213) are counted as History courses when only one or two of them are taken to fulfill general education requirements.

Seminars

Each term seminars may be offered in any of the disciplines of art and music history, history, literature, philosophy, or religion. Each seminar has its own course code and a descriptive title which includes the designation "seminar." Course codes, credit value and applicability toward degrees depend on the seminar content.

Transferability is decided on an individual basis by the institution to which the student transfers. Information about degree credit and level of instruction will be provided at the first class meeting or in advance at the department office. In general, seminar course numbers above 200 indicate increased challenge.

Independent Study

Prerequisite: Arrangement with an instructor and approval by the Department Chairperson before registration. Special research projects and/or individual readings in English, History, Humanities, Philosophy, or Religion. Students will invest no less than 20 hours for each credit earned. Enrollment is usually restricted to Honors students who have grade-point averages of at least 3.0 in courses offered by this department.

COURSE DESCRIPTIONS

English (ENG)
Department of Humanities
Division of Arts and Sciences

ENG 122 Freshman English II 4(4-0)

Prerequisite: WRI 121. A continuation of WRI 121. An alternative to WRI 122. Emphasis is on the reading of short stories. Writing skills are also emphasized, plus a further development of library and research skills.

ENG 123 Freshman English III 4(4-0)

Prerequisite: ENG 122 or WRI 122. A continuation of ENG 122 or WRI 122. An alternative to WRI 123. An introduction to the various literary forms, plus the development of analytical and writing skills and research techniques.

ENG 132 Freshman English II: Honors 4(4-0)

Prerequisite: Department approval. Same as ENG 122 but taught on an advanced level.

ENG 133 Freshman English III: Honors 4(4-0)

Prerequisite: Department approval. Same as ENG 123 but taught on an advanced level.

ENG 134 Honors Colloquy 4(4-0)

Prerequisite: Department approval. A forum for invited speakers and a vehicle for discussion among the students and faculty of the Honors Program in the division of Arts and Sciences. A central theme will be selected each time the Colloquy is offered.

ENG 201 The Poetic Imagination 4(4-0)

Prerequisite: ENG 122 recommended. Designed to help students understand and appreciate various forms of the poetic imagination. Emphasizes the nature of poetic language and meaning, as well as literary techniques and conventions.

ENG 202 Introduction to Drama 4(4-0)

Prerequisite: WRI 121 (ENG 122 recommended). Introduces drama and its literary techniques and conventions. Attention is given to principles and theory, but understanding of the plays is emphasized. Representative plays from Greek, European, English, and American dramatists.

ENG 203 Introduction to Prose 4(4-0)

Prerequisite: WRI 121 (ENG 122 recommended). Designed to introduce students to the epic in prose translation, the romance, the novel, and satire. Students will read representative selections ranging from Homer's *The Odyssey* to Chaucer's *Canterbury Tales* to Sinclair Lewis' *Babbitt*.

ENG 210 The American Novel 4(4-0)

Prerequisite: ENG 122 or WRI 122. Study of the major 19th and 20th century American novels from James Fenimore Cooper to Jack London to Ernest Hemingway and John Steinbeck. Emphasis is on historical development of the novel form in America and the novelist's interpretation of the American scene.

ENG 220 Science Fiction 4(4-0)

Prerequisite: WRI 121 (ENG 122 recommended). Designed to acquaint students with this popular and modern literary form. Some history and definitions of science fiction, but emphasis is on short stories and novels and their unique view of the future. Also included are movies and audio-tapes.

ENG 225 The Popular Political Novel 4(4-0)

Prerequisite: WRI 121 (ENG 122 recommended). Inherently an interdisciplinary course concerned with popular culture, the novel form as used by popular and commercial writers, and politics. Although a non-American novel or two may be used, the emphasis is on recent American novels that deal with the American political scene.

ENG 240 The Film as Art 4(2-3)

Prerequisite: WRI 121 (ENG 122 recommended). An introduction to film as an art form capable of making a meaningful and perceptive comment on our civilization. Viewing and analysis of six to eight films, both foreign and American, of recognized merit.

ENG 245 Popular Culture and Mass Media 4(4-0)

Prerequisite: WRI 121 (ENG 122 recommended). A study of the popular culture distributed by mass media (including film, television, newspapers, magazines and radio) and how the media and popular culture reflect and shape our cultural beliefs. Extensive use of multi-media.

ENG 250 Masterpieces of American Literature 4(4-0)

Prerequisite: WRI 121 (ENG 122 recommended). Designed to acquaint the student with some of the masterpieces of great American writers. Emphasis on such works as the essays of Emerson and Thoreau, poetry of Whitman and Frost, prose of Hawthorne, Melville, and Hemingway, and plays of O'Neill. Required for most students in pre-elementary teaching.

ENG 255 Russian Literature in Translation: The "Golden Age" of Realism 4(4-0)

Prerequisite: WRI 121 (ENG 122 recommended). An in-depth study of representative works by acknowledged masters of Russian realistic fiction, emphasizing but not limited to Turgenev, Dostoevsky, Tolstoy, and Chekhov; and set against the background of Pushkin and Lermontov's romanticism, and Gogol's naturalism.

ENG 260 Black American Literature 4(4-0)

Prerequisite: WRI 121 (ENG 122 recommended). A survey of Black American literature from the seventeenth century to the twentieth century. Introduces the various genres in the literature of Black Americans.

ENG 270 Literature by Women 4(4-0)

Prerequisite: WRI 121 (ENG 122 recommended). A study of the works of nineteenth and twentieth century North American women. Designed to further understanding and appreciation of the themes, images, issues and modes of expression of female writers.

ENG 275 The Philosophical Imagination in Literature 4(4-0)

Prerequisite: ENG 122 or WRI 122. This course presents an interdisciplinary approach to philosophy and literature through selected readings in the various literary genres and media: the literary essay, the novel, the drama, poetry, and the cinema. The course offers a general background of important philosophical ideas channeled into aesthetic and ethical problems.

ENG 290 Shakespeare 4(4-0)

Prerequisite: ENG 122 or WRI 122. Introductory course in the dramatic works of William Shakespeare. Students will read six to nine plays representative of the author's comedies, histories, and tragedies.

History (HST)
Department of Humanities
Division of Arts and Sciences

HST 105 The Twentieth Century World 4(4-0)

A survey of the most significant developments in twentieth century world history and politics with particular emphasis on the period since the end of World War II.

- HST 111 United States History to 1865** 4(4-0)
A history of the United States from the colonial beginnings through the Civil War.
- HST 112 United States History: 1865 to the Present** 4(4-0)
A history of the United States from the reconstruction of the nation after the Civil War to the present.
- HST 150 American Black History** 4(4-0)
Traces the developments which led to the African slave trade, the slave systems in North and South America, the cultural heritage of the black man in the Americas, and the problems of race in North American culture.
- HST 160 Modern Mexico** 4(4-0)
Political, social, economic and intellectual developments in Mexico since 1850. Particular emphasis on the Revolution of 1910 and relationships with the United States in the 20th Century.
- HST 210 Studies in American History** 4(4-0)
Prerequisite: HST 111 or HST 112 and approval of the instructor. Covers problems of research, writing, philosophy of history and interpretation, involving a detailed examination of a particular area of American history.
- HST 215 Women in American History** 4(4-0)
A survey of American history from colonial times to the present which examines women's roles in the family, production, social and political life.
- HST 220 Michigan History** 4(4-0)
A survey of the political, economic and social development of Michigan from pre-colonial times to the present.
- HST 225 Michigan Black History** 4(4-0)
A study of the history of Black people in the state of Michigan. An effort will be made to relate local Black history to national trends.
- HST 230 British History I (1066-1689)** 4(4-0)
A survey of British history and culture from the Norman conquest (1066) to the Glorious Revolution (1688-89). Special emphasis will be placed on the interaction of political, constitutional, legal, social, and cultural forces and influences which shaped British history from the Middle Ages to the seventeenth century.
- HST 231 British History II (1689-present)** 4(4-0)
A survey of the political, economic and social forces which shaped the development of British history and society from the seventeenth century to the present with particular emphasis on the nineteenth and twentieth centuries.
- HST 232 History of Modern Ireland** 4(4-0)
Nineteenth and twentieth century Irish history and politics with special emphasis on the causes and nature of the conflict in Northern Ireland. Also relates Irish to United States and Michigan history.
- HST 255 African History: An Introduction** 4(4-0)
A general survey of the African continent with emphasis on special selected topics (and regions) as follows: Precolonial Africa, the scramble for Africa, the rise of African Nationalism and Independence, Africa's internal and external relations.
- HST 260 Conflict and Revolution in Southern Africa** 4(4-0)
A study of representative social institutions and value systems of southern Africa designed to acquaint students with the workings of European colonialism in southern Africa. Focus is on Zimbabwe as a case study of the triumph of African nationalism over competing European colonial interests.
- HST 270 The Modern Middle East** 4(4-0)
An historical survey of the region extending from the eastern Mediterranean to eastern Iran, with the main emphasis upon the contemporary Middle East. Ethnic, social, and political diversities of the states in the area will be traced as a background to the smoldering, even explosive, character of Middle Eastern rivalries and problems.
- HST 275 Modern East Asia** 4(4-0)
Traces the transformation of East Asia in the modern era, including an introduction to the cultural, religious, and political traditions of its peoples. Emphasis on the development of China and Japan, the impact of the West, and the differing responses of these two civilizations to the modern world.

- HST 285 Seminar: Soviet Union Today** 4(4-0)
A survey of the Soviet Union and its people with special emphasis on the ideological roots and origins of the Soviet regime and system from the Russian Revolutions of 1917 to present. Also examined and analyzed will be the multinational character of the Soviet Union and the different forces that have shaped Soviet history, society, and politics from 1917 to the present, including U.S.-Soviet relations.
- HST 290 Seminar: Vietnam: A Television History** 4(4-0)
The purpose of VIETNAM: A TELEVISION HISTORY is to provide, through the medium of television and classroom discussion, a balanced, loosely chronological study of the war in Vietnam, beginning with events leading up to the August revolution of 1945, when the Vietminh first declared the independence of Vietnam, and ending with the surrender of South Vietnam and the departure from Saigon of the American mission in April, 1975. By way of conclusion and summary, the course will go beyond the climactic events of 1975 to assess the long-term effects of the war, particularly on Vietnam and the United States.
- HST 294 Seminar: The American Legal Tradition** 4(4-0)
This course is a chronological and thematic approach to the history of American law, legal-constitutional institutions, and important personalities, who were instrumental in its development.

Humanities (HUM)
Department of Humanities
Division of Arts and Sciences

- HUM 101 Art and Music History in Western Civilization** 4(4-0)
An introduction to the masterpieces of art and music history from pre-historic times to the present, and their importance in Western Civilization. Extensive use made of multi-media.
- HUM 102 Mythology** 4(4-0)
An introduction to mythic thinking and its importance in literature and culture as a way of self-understanding. Classical myths and their contemporary functioning will be emphasized.
- HUM 104 Introduction to Humanities** 4(4-0)
An interdisciplinary approach to people as users of language and makers of meaning. Emphasis will be placed on the creation of symbolic universes and human self-interpretation through the arts and sciences.
- HUM 121 Power and Morality: The Present** 4(4-0)
The first in a series of courses dealing with the general theme of Power and Morality in the Modern world. This course explores the question of how one can remain human in face of the presence and uses of power in the state, in the family, in the work environment, and in one's confrontation with the divine.
- HUM 122 Power and Morality: The Past** 4(4-0)
The second in a series of courses dealing with the general theme of Power and Morality. While the first course, HUM 121, presented contemporary definitions of Power and Morality, HUM 122 goes back to the past, to achieve an historical understanding of this theme.
- HUM 123 Power and Morality: The Future** 4(4-0)
The third in a series of courses dealing with the general theme of Power and Morality. The emphasis in this course is on how people can remain human in the future in the light of such contemporary trends as the increased emphasis on technology, the ecological crisis, and the threat of nuclear war.
- HUM 150 History of Art I** 4(4-0)
Study of architecture, painting and sculpture in Egypt, the Middle East, Byzantium, and Europe from prehistoric times to early Middle Ages. Slide lectures and museum excursions.
- HUM 151 History of Art II** 4(4-0)
Study of architecture, painting and sculpture in Italy, the Low Countries, France, Germany, Spain and England from the high Middle Ages through the Renaissance, Baroque and Rococo periods. Slide lectures and museum excursions.
- HUM 152 History of Art III** 4(4-0)
Study of architecture, painting and sculpture in Italy, France, Germany, England, and the United States, from the late Baroque through the present. Slide lectures and museum excursions.

HUM 211 World Civilizations I 4(4-0)

First of a series of three courses in the cultural foundations of the major ancient world civilizations of Africa, Asia, Europe, and the Americas. Emphasizes the relationship of man's creative works to his beliefs, values, and needs showing how others have understood themselves and how this understanding has shaped our views and conditions today.

HUM 212 World Civilizations II 4(4-0)

Prerequisite: HUM 211 or 201. Second of a series of three courses in the cultural foundations of the major world civilizations of Africa, Asia, Europe, and the Americas from the seventh to the seventeenth centuries. Emphasizes the relationship of man's creative works to his beliefs, values, and needs showing how others have understood themselves and how this understanding has shaped our views and conditions today.

HUM 213 World Civilizations III 4(4-0)

Prerequisite: HUM 212 or 202. Third of a series of three courses in the cultural foundations of the major world civilizations of Africa, Asia, Europe, and the Americas in the modern era. Emphasizes the relationship of man's creative works to his beliefs, values, and needs showing how others have understood themselves and how this understanding has shaped our views and conditions today.

HUM 215 Utopia: The Future Through The Past 4(4-0)

Prerequisite: WRI 121 (ENG 122 recommended). The study of representative utopian literature of the western world, plus a few anti-utopian works, for the dual purposes of reviewing and understanding the past but also, and more importantly, considering and evaluating social, political, economic, and moral issues of the near future.

HUM 260 Seminar: Ancient Egypt 4(4-0)

Explores the history and cultures of one of the earliest and most successful of world civilizations. This course emphasizes Egyptian achievements in art, architecture and literature and will consider the roles played by religion, geography and climate in the Egyptian way of life. The great discoveries and discoverers of Egyptian archaeology will also be featured. Multi-media presentations.

HUM 265 Seminar: Ethical Issues in Medicine 3(3-0)

The purpose of this course is to present some of the ethical problems which arise in relation to health and health care, and to develop a framework for decision making with which to approach these and other related problems. Some of the topics that will be discussed are: nature of health counseling, withholding and withdrawing treatment, autonomy, confidentiality and informed consent. This course is open to all interested persons. Although ethical considerations will involve some philosophical principles, the necessary background will be provided in class so no prior philosophy is required.

HUM 294 Seminar: The Apostle Paul 4(4-0)

A study of the religious figure Paul, both as a product of his time and a shaper of those times as revealed in his writings.

**Philosophy (PHL)
Department of Humanities
Division of Arts and Sciences**

PHL 101 Introduction to Logic 4(4-0)

An introduction to the elements of reasoning with special attention given to the role of language in reasoning, the identification of fallacious arguments in both deductive and inductive reasoning, and the use of reason in everyday life.

PHL 102 Philosophy of Science 4(4-0)

A critical examination of some of the basic concepts and problems of the natural and social sciences. Particular consideration is given to the concept of "confirmation" and related problems of scientific concept formation. Theory construction and explanation are also considered.

PHL 103 Introduction to Ethics 4(4-0)

A course designed to explore essential requirements for moral reasoning. Basic moral principles will be examined and moral priorities discussed in the context of important social issues.

PHL 201 History of Philosophy I 4(4-0)

First in a series of three courses. Surveys major developments in western philosophy and their relation to the historical context in which they occur. From the early Greek nature philosophers to the thought of Socrates, Plato, and Aristotle.

PHL 202 History of Philosophy II 4(4-0)

Continuation of History of Philosophy I; medieval to early modern philosophy. From scholastic thought to the scientific revolution and Copernicus, Descartes, Newton, Locke, and Hume.

PHL 203 History of Philosophy III 4(4-0)

Continuation of History of Philosophy II; modern and contemporary philosophy. From Kant, and the structure of human thought to the meaning of belief and William James, Russell, and Whitehead.

PHL 211 Who Am I? 4(4-0)

Philosophy of person. Philosophical questions concerning concepts of self, the egocentric predicament, sensation and reason as sources of knowledge, and rationality and self definition. Examination of one's personal position through reading and discussion of primary and secondary sources.

PHL 212 Self and Society 4(4-0)

Philosophy of society and culture. Philosophical questions concerning knowledge and acculturation, law and conscience, and individual decisions and social responsibility. Examination of one's personal position through reading and discussion of primary and secondary sources.

PHL 213 Life, Cosmos, Meaning 4(4-0)

Philosophy of nature and the transcendent. Philosophical questions concerning reality behind appearances, faith and knowledge as sources of meaning, cosmology and our place in nature, and ecology and perspective on life. Examination of one's personal position through reading and discussion of primary and secondary sources.

PHL 215 Modern Formal Logic: An Introduction 4(4-0)

A survey of modern logic as a tool for analysis of reasoning expressed in any language. Using a standard logical shorthand, useful methods are applied to determining the consistency, inconsistency, or equivalence of statements and the validity or invalidity of deductive arguments. Practical applications for analysis of technical language (regardless of subject matter) are stressed.

**Religion (REL)
Department of Humanities
Division of Arts and Sciences**

REL 150 World Religions 4(4-0)

Survey of the thought and practice of five major religions: Hinduism, Buddhism, Judaism, Christianity, and Islam. Emphasis is upon deepening our understanding of ourselves and others through a new appreciation of the role of religion in the development of human culture and values.

REL 201 Religions of East Asia 4(4-0)

Survey of the traditional religions of China and Japan with primary emphasis on the contemporary role and influence of these religions in the modern world.

REL 203 Religion in American Life 4(4-0)

The changing role of religion in the history of the United States from colonial days to the present. Emphasis on contemporary institutional and theological trends in relation to American culture and society.

REL 211 Old Testament Literature 4(4-0)

The origin and development of Hebrew religion and Judaism as reflected in the canon of the Hebrew Bible (Old Testament).

REL 212 New Testament Literature 4(4-0)

A study of Christian origins and beliefs as reflected in the literature of the New Testament, viewed in its original historical setting.

DEPARTMENT OF MATHEMATICS AND COMPUTER SCIENCE

Chairperson: Dr. Gary Knippenberg
165 Arts and Sciences Building

The Department of Mathematics and Computer Science offers courses under the following course codes:

CPS: Computer Science
MTH: Mathematics/Statistics

The Department of Mathematics and Computer Science offers courses in four different program areas. These include transfer level mathematics, statistics, computer science, and developmental mathematics. In each of these areas the curriculum is designed to provide students with the opportunity to start a program of study at a level which is appropriate for their experience and educational background, and then to proceed to any level of mastery which they need or desire.

The transfer level courses parallel freshman and sophomore levels of university work in mathematics, statistics, and computer science. They are taught using a traditional lecture format. Credits earned are transferable to other colleges and universities. Many of the transfer level mathematics and statistics courses require the use of computers. Computing facilities are readily available and instruction for use of these facilities is provided as a part of these courses.

Some computer science courses are designed for students who simply want a brief introduction to the discipline. Most, however, are designed to equip students with the background in computer science necessary to continue a major in this discipline or in mathematics, science, or engineering at a four-year college or university.

The developmental mathematics curriculum includes courses in arithmetic and algebra. Each course is offered using varying instructional modes. First, each developmental course is offered in the Mathematics Laboratory. This facility allows students to proceed through their course at a flexible pace, working independently, but at the same time always having one-to-one instruction available from Laboratory Instructors. Some sections of the Mathematics Laboratory courses also make use of weekly group lectures. In addition, two developmental courses, MTH 012 and MTH 102, are also offered using the traditional lecture method of presentation.

To determine the proper entry level course, students are encouraged to avail themselves of the Department's Math Placement Testing Service. This free testing is provided in the Mathematics Laboratory. Students are advised to make use of this service before registering for a math course.

Seminars

Each term seminars may be offered in any of the disciplines of computer science or mathematics. Each seminar has its own course code and a descriptive title which includes the designation "seminar."

Course codes, credit value and applicability toward degrees depend on the seminar content. Transferability is decided on an individual basis by the institution to which the student transfers. Information about degree credit and level of instruction will be provided at the first class meeting or in advance at the department office. In general, seminar course numbers above 200 indicate increased challenge.

COURSE DESCRIPTIONS

Computer Science (CPS)
Department of Mathematics and Computer Science
Division of Arts and Sciences

CPS 100 Introduction to Computers 4(4-0)

This course is designed so that the computer becomes an understandable tool to the student. Introduction to and practice is provided in word processing, spread sheet applications, the programming language BASIC, and user networks. In addition, the student learns of the application of computers to society at large by considering their social and economic implications, uses of large data banks and questions of privacy and security, and recent advances in computer technology.

CPS 110 BASIC for Arts and Sciences 4(4-0)

Prerequisite: MTH 012 or Placement Test and experience in BASIC. This course is intended to provide students with a background in programming using an extended version of the language BASIC. Primary focus is on learning the language and standard methods of structured programming by writing programs. Top-down design and stepwise refinement are emphasized in algorithm development and problem solving.

CPS 150 FORTRAN 4(4-0)

Prerequisite: MTH 165. Structured programming techniques are applied in the design of algorithms and their implementation in FORTRAN 77. Topics included are Nassi-Shneiderman designs, stepwise refinement outlines, control structures, functions and subroutines, input and output procedures, data types and their associated formatting, and arrays.

CPS 210 Advanced Programming in BASIC 4(4-0)

Prerequisite: CPS 110 and MTH 165. The primary emphasis of this course is to apply the language BASIC to engineering and scientific computation. It focuses on applications of science and mathematics. Emphasis is placed on programming techniques and style; the use of extensions of standard BASIC is encouraged. Topics emphasized include files, arrays, sorting and searching, linked lists and indexed files. Computer projects related to other courses will be encouraged.

CPS 220 Introduction to Graphics 4(4-0)

Prerequisite: MTH 165. CPS 110 is recommended. The course is designed to develop skills in the use of computer graphics, to provide knowledge of computer graphic systems, and to familiarize students with applications of computer graphics programming. Of special interest to students in the physical and biological sciences, mathematics, engineering, and computer science.

CPS 240 Statistical Computing in SPSSX 3(3-0)

Prerequisite: MTH 170 or MTH 205 or equivalent. For anyone having completed at least one course in introductory statistics, this course introduces the novice user to the most commonly used features and procedures of the SPSSX statistical computing language. Topics include: fundamentals of an SPSSX job and associated files, descriptive statistics, measures of association for two-way tables, chi-square and normal distributions, tests for equality of means, and bivariate and multiple regression analysis.

CPS 250 Advanced Programming in FORTRAN 4(4-0)

Prerequisite: CPS 150. Advanced programming techniques are applied in a top-down fashion to problems involving common data structures (stacks, queues, trees and other linked data structures) and file handling. Additional topics included are internal representation of data, string processing, and algorithm efficiency.

CPS 253 Pascal as a Second Language 4(4-0)

Prerequisite: MTH 165 and previous programming experience. For the student with experience in programming in another language. Emphasizes Pascal's special features and top-down program design and implementation. Includes functions, procedures, loop structures, file handling, recursion, user defined types, sets, arrays, records, pointers, and data structures. Computer science majors cannot apply both CPS 253 and CPS 255, 256 to requirements for an Associate in Science Degree.

CPS 255 Algorithms and PASCAL I 4(4-0)

Prerequisite: MTH 213. This course is designed to establish an understanding of fundamental computational procedures which form a basis for continuing study in computer science. Techniques of top-down design are applied in the design of algorithms and their implementation in Pascal. Topics included are Nassi-Shneiderman designs, stepwise refinement outlines, control structures, functions, procedures, recursion, input and output operations, data types, arrays, and string processing.

CPS 256 Algorithms and PASCAL II 4(4-0)

Prerequisite: CPS 255. Topics included are internal representation of data, sets, records, files, dynamic variables, stacks, queues, trees and other linked data structures, and algorithm efficiency.

CPS 260 Introduction to Discrete Structures 5(5-0)

Prerequisite: MTH 213 and CPS 256 or CPS 250. An introduction to the logical and algebraic structures and techniques required for further study in computer science. Topics included are statement logic and proof techniques, relations, functions, directed and undirected graphs and their matrix representations, Boolean algebra and logic networks, Hamming codes, finite-state machines, recognizers and regular expressions.

CPS 265 Assembly Language and Computer Organization (DEC/VAX) 5(5-0)

Prerequisite: MTH 213 and CPS 250 or CPS 255. An introduction for computer science majors to machine structure, registers, and operations, as implemented on DEC/VAX minicomputers. Assembler, loader, and execution tasks are delineated. Internal mathematical representation of data and related algorithms are studied. VAX-11 Macro assembly language programming is studied to illustrate the principles behind machine-oriented language features. Macro facilities, especially for input-output operations, and subprogram linkage are emphasized.

CPS 296 Seminar: System Support 3(3-0)

Prerequisite: Department approval. An introduction to the Digital VAX computer system. Software systems covered include the Digital Command Language, the Course Authoring System, Computer Managed Learning, the Digital Editor, and the Digital accounting structure. Spreadsheets, graphics software, and operating systems are considered. Students also do production programming.

Mathematics (MTH)
Department of Mathematics and Computer Science
Division of Arts and Sciences

Developmental Courses

MTH 095 Mathematics Laboratory No credit

At the time of registration in a Math Lab Course, a student must register for both a specific course (such as MTH 008 or MTH 009) and a MTH 095 section. The MTH 095 section determines the time for the student's attendance in the Mathematics Laboratory; it is not a course. The courses available in the Mathematics Laboratory include MTH 008, MTH 009, MTH 012, and MTH 102. MTH 012 and MTH 102 are also available in a lecture format which is conducted in a traditional classroom environment.

MTH 008 Basic Arithmetic 5(0-5)

Prerequisite: Placement Test. The course focuses on practical uses of arithmetic. Skills and practical applications with whole numbers, decimals, fractions, percents and proportions are emphasized. An introduction to measurement is presented. Work is done both with and without a calculator.

MTH 009 Pre-Algebra 5(0-5)

Prerequisite: MTH 008 or Placement Test. The emphasis is on those concepts and skills needed before a student begins an algebra course. Topics emphasized include operations on fractions, percents, proportions, measurement, statistical charts, and simple algebraic equations. An introduction to geometry and the Metric System is included. Word problems are emphasized with all topics. Use of a calculator is optional for checking calculations.

MTH 012 Beginning Algebra 5(0-5)

Prerequisite: MTH 009 or Placement Test. An introductory course in algebra covering the real number system, linear equations, polynomials, factoring, rational expressions, radicals, systems of equations, graphing and applications.

MTH 102 Intermediate Algebra 5(0-5)

Prerequisite: MTH 012 or Placement Test. An extension of Beginning Algebra with emphasis on functions, graphing, inequalities, polynomials, systems of equations, rational expressions, radicals, rational exponents, quadratic equations and applications.

Transfer Level Mathematics**MTH 164 College Algebra and Trigonometry I 5(5-0)**

Prerequisite: MTH 102 or Placement Test. Topics include exponents and radicals, linear equations and inequalities, quadratic equations and inequalities, use of calculator in solving numerical problems involving logarithmic and exponential functions, matrices, systems of linear equations, complex numbers, synthetic division and theory of equations.

MTH 165 College Algebra and Trigonometry II 5(5-0)

Prerequisite: A grade of 2.0 or higher in MTH 164. A continuation of MTH 164. Topics included are trigonometric functions, trigonometric identities, applications, DeMoivre's Theorem, sequences, mathematical induction, combinatorics and linear programming.

MTH 166 Finite Mathematics 5(5-0)

Prerequisite: MTH 164. An alternate course to MTH 165 for students whose program does not require the study of trigonometry. Topics include systems of linear equations, matrices, and applications; linear inequalities and linear programming; permutations, combinations and probability theory including Bayes' Formula, Bernoulli Trials, and Markov Chains; game theory and mathematical decision making.

MTH 200 Arithmetical Foundations 5(5-0)

Prerequisite: MTH 102 or proficiency on Placement Test. Required of all elementary pre-teachers. Included is a study of the real number system, numeration, measurement and intuitive geometry. An activity-oriented approach is emphasized using standard teaching aids.

MTH 213 Analytic Geometry and Calculus I 5(5-0)

Prerequisite: MTH 165 or Placement Test. The concept of slope of a curve is used to motivate and introduce the derivative. Topics include: formulas for differentiation with applications to curve tracing, optimization, related rates and the solution of equations. Conic sections, the indefinite integral and the calculus of trigonometric functions are also introduced.

MTH 214 Analytic Geometry and Calculus II 5(5-0)

Prerequisite: Grade of 2.0 or higher in MTH 213. The concept of area under a curve is used to motivate and introduce the definite integral. The Fundamental Theorem of Calculus is proved with applications to problems involving area, volume, arc length, surface area, work, and center of mass. Methods of differentiation and integration of transcendental functions are studied.

MTH 215 Analytic Geometry and Calculus III 5(5-0)

Prerequisite: Grade of 2.0 or higher in MTH 214. Topics to be covered include: polar coordinates, infinite sequences, infinite series, power series, an introduction to vectors in 2 and 3-space, and an introduction to partial derivatives.

MTH 216 Analytic Geometry and Calculus IV 5(5-0)

Prerequisite: Grade of 2.0 or higher in MTH 215. Topics to be covered include: the calculus of vector functions, additional applications of partial derivatives, multiple integrals and ordinary differential equations.

MTH 234 Linear Algebra 5(5-0)

Prerequisite: MTH 215. An introduction to Linear Algebra. Topics include systems of linear equations, matrices, determinants, vector spaces, linear transformations, eigenvalues, eigenvectors and quadratic forms.

MTH 239, 240 Honors Seminars in Mathematics 2(2-0) each

Prerequisite: By departmental invitation. The student will maintain an individualized program in problem solving at a level higher than usually encountered in an introductory course. Meetings with instructors are arranged.

MTH 251 Introductory Numerical Analysis 5(5-0)

Prerequisite: MTH 215 and CPS 150. An introduction to the use of computing algorithms and their FORTRAN implementations for solving the typical problems that arise in science, engineering and technology. Topics include: Approximations to roots of equations, polynomial interpolation, curve fitting, numerical differentiation and integrations, and numerical solutions of ordinary differential equations.

Statistics**Department of Mathematics and Computer Science
Division of Arts and Sciences****MTH 170 Introduction to Statistics 5(5-0)**

Prerequisite: MTH 164 or equivalent. Topics include descriptive statistics, elementary probability, estimation, confidence intervals and hypothesis testing. The course is especially designed for students in curricula such as social science, political science, medical technology or human ecology where only one term of statistics is required.

MTH 205 Statistics 5(5-0)

Prerequisite: MTH 165 or MTH 166 or equivalent. Topics include frequency distributions, measures of central tendency and dispersion, Chebyshev's Theorem, laws of probability, random variables, expectation, probability distributions, limit theorem, sampling distributions, estimation and confidence intervals. Computer applications using the statistical package SPSSX are included. The course is especially designed for students in curricula such as business or economics.

DEPARTMENT OF SCIENCE

Chairperson: Dr. Allan Saaf
408 Arts and Sciences Building

The Department of Science offers courses in a variety of disciplines, principally Biology, Physics, Chemistry, and Earth Science. The following course prefixes identify various subjects among the Science Department courses in order of their appearance in the subsequent text:

ANT: Anatomy
AST: Astronomy
BIO: Biology
CEM: Chemistry
GE: Geology
MET: Meteorology
MIC: Microbiology
NS: Natural Science
OCN: Oceanology
PGY: Physiology
PHY: Physics
SC: Science Seminars and
Independent Study

General education is a central part of the Science Department's effort. Courses stress understanding of broad scientific principles and emphasize the importance of scientific reasoning, careful observation, and problem solving techniques.

The instructional program of the Science Department is designed to serve three basic purposes. These are, to provide a full range of courses that fulfill general education science requirements for an Associate Degree, to develop and offer specialized courses in support of programs offered by other departments within the College, and to provide an opportunity for qualified students to select independent study, Honors options or seminars on science subjects.

Students who wish to acquaint themselves with a science subject, but have no need for a grade or credit in that course, may register to audit. The Science Department welcomes the opportunity to provide this option to interested students.

COURSE DESCRIPTIONS

Anatomy (ANT)
Department of Science
Division of Arts and Sciences

ANT 145 Introductory Anatomy and Physiology 4(3-2)

Prerequisite: None. A one term course in human anatomy and physiology. Course combines 3 hours of lecture and 2 hours of laboratory to teach body systems and their functions. It is designed to provide non-science majors with a basic understanding of the parts of the human body and how they work.

ANT 151 Anatomy and Physiology I 4(3-2)

Emphasizes the function of all systems in the human body. Study of cells, tissues, skeletal system, muscular system, nervous system and special sense organs. The first of a two-term sequence in Human Anatomy and Physiology, designed for students pursuing certain vocational programs including medical secretaries, psychology majors, dental assistants, and other programs that require a basic understanding of human systems.

ANT 152 Anatomy and Physiology II 4(3-2)

Prerequisite: ANT 151. A continuation of ANT 151. The course covers the circulatory, respiratory, digestive, urinary, reproductive, and endocrine systems.

ANT 211 Human Anatomy 5(3.5-3)

Prerequisite: BIO 101 or equivalent. A study of the anatomy of the human body designed to meet the needs of students in biology or related applied fields, such as nursing, radiologic technology, respiratory therapy, and physical education. The structures of the skeletal, muscular, nervous, sensory, circulatory, respiratory, digestive, excretory, endocrine and reproductive systems are studied.

Astronomy (AST)
Department of Science
Division of Arts and Sciences

AST 201 Introduction to Astronomy 4(4-1)

A non-mathematical survey of astronomy with emphasis on recent discoveries. Topics include: astronomical instruments and measurements, solar system, stellar evolution, quasars, black holes, cosmology, and the expanding universe. The LCC Planetarium will be used to simulate the night sky. Laboratory activities are designed to illustrate major astronomical concepts and may include astronomical observations.

Biology (BIO)
Department of Science
Division of Arts and Sciences

BIO 100 Human Nutrition 2(2-0)

An introductory course in human nutrition. Topics include an explanation of the Recommended Dietary Allowance (RDA), a discussion of the nutritional status of the U.S. population, the misuse of vitamins, misconceptions about organic foods, the relation of diet to heart disease, the interest in fad diets, and other current topics in nutrition. The chemistry and utilization of nutrients are included.

BIO 101 Biology 4(3-3)

Prerequisite: CEM 110. A course in selected biological, physical and chemical concepts which are fundamental to the understanding of human physiology and microbiology. Topics include cell structure and function, cellular chemistry, transport mechanisms, cell division, genetics, and modern gene theory.

BIO 107 Cell Biology I 4(3-3)

Prerequisite: CEM 110 or HS Chemistry. First course in a three-term biology sequence for science majors. Lecture topics include: atomic structure and bonding; chemistry of carbohydrates, lipids, and proteins; structure and function of all eukaryotic cell organelles; biochemistry of respiration and photosynthesis; mammalian nerve cell; and the human immune system. Laboratory emphasizes techniques used in cell and molecular biology.

BIO 108 Cell Biology II 4(3-3)

Prerequisite: BIO 107. Second course in the biology sequence. This course stresses the flow of genetic information in cells and in populations of living organisms. Lecture topics include: mitosis and meiosis, structure and function of DNA, RNA, and genes; chromosome function; general principles of heredity; recombinant DNA technology; cancer and oncogenes; regulation of gene expression; and the genetic basis of evolution. Laboratory emphasizes techniques used in genetics and molecular biology.

BIO 109 Principles of Ecology 4(3-3)

Prerequisite: None. Third course in the biology sequence. Lectures stress the theories of ecology at the population, community, and ecosystem levels. Laboratory work includes population sampling, a class field project, computer and statistical analysis of data, and physical and chemical analysis of lake ecosystems. A day long trip to Gull Lake is usually included.

BIO 140 Evolution 4(3-3)

A course in the study of evolution of life on Earth. As a background to the study of organic evolution, the origin and evolution of the universe and the planet Earth are considered. The scientific method and the scientific treatment of theories and evidence are emphasized throughout the course.

BIO 201 Zoology I 4(3-3)

First of two courses designed to survey the field of zoology and serve as a foundation for advanced courses. Deals with the characteristics of life, cellular structures and their functions, cellular divisions, histology, anatomy, and physiology. Emphasis is on the organ systems of the vertebrates, principally mammals.

BIO 202 Zoology II 4(3-3)

Prerequisite: BIO 201 or department approval. Continuation of BIO 201. Begins with an introduction to heredity, population genetics and the theory of evolution. Deals principally with the taxonomy and comparative anatomy of members found within the major animal phyla. A phylogenetic approach is used to study the various animal phyla from Protozoa through Chordata.

BIO 210 Issues in Conservation 4(3-3)

Study of natural renewable resources and their utilization through management and conservation. Topics include history of conservation, soils, water, forests, wetlands, wildlife, and the impact of humans on such renewable resources of the earth. The laboratory consists of field investigations and projects for natural resource majors or others according to interest.

BIO 211 Foundations of Biological Science 4(3-3)

Prerequisite: NS 123 or equivalent college biology course; PHY 209 recommended. Primarily for students seeking an elementary education certificate. Emphasis is on modern biology. Topics include photosynthesis, energy transfer, nutrition, metabolism, and heredity. Laboratory activities involve students directly with natural phenomena including their relationships and the application of principles studied. Applicable techniques of biological science teaching are included.

BIO 213 Foundations of Biological Science for Elementary School Teachers 4(2-4)

Prerequisite: Designed for elementary school teachers. This course is designed to serve elementary school teachers who desire to gain new experience and ideas to use in their classrooms. Particular emphasis is given to developing classroom activities, demonstrations, and science discovery projects that would be useful in the participant's classroom.

BIO 250 Entomology 4(3-3)

Prerequisite: None. An introduction to the study of insects that emphasizes their classification, evolution, life cycles, and behavior. External and internal structures and functions are included. The biology and control of economically and medically significant species is discussed, with emphasis on the various ecological roles of insects. Laboratory and field work stresses identification and collection of major insect groups found in Michigan.

BIO 260 Botany 4(3-3)

Prerequisite: One term of biology recommended. A morphological study of plants. The course deals with plant structures and life cycles, and consideration of ontological and evolutionary development.

BIO 262 Systematic Botany 4(3-3)

This course deals with the classification and relationships of vascular plants. The study includes the adaptive value of morphological features. Evolutionary trends and mechanisms are emphasized. In the laboratory the student will practice methods common to plant systematics in the study of important families and genera. Fluency in the use of dichotomous keys will be stressed.

BIO 270 Human Genetics 4(4-0)

Prerequisite: BIO 101 or general biology required. Presents general principles of genetics with specific application to the human species. Topics include: Mendelian genetics, mitosis and meiosis, chromosome structure, sex determination and X-linkage, chromosome aberrations, molecular basis of inheritance, gene mutations, cancer genes, recombinant DNA technology, and genetic screening and counseling.

BIO 280 Histology 5(2-6)

Prerequisite: BIO 107 or equivalent and PGY 212 are desirable. Deals with cells and their arrangement in tissues. Composition, appearance, function, and interrelation of tissues are studied. While non-human tissues may be used occasionally for illustration, the emphasis is on non-pathological human tissue.

- BIO 290 Principles of Embryology** 3(3-0)
Prerequisite: ANT 211 recommended. Emphasis is on processes and mechanisms of development beginning at the molecular level and extending to the cellular and tissue levels. Cellular and tissue differentiation and interaction are examined in detail. Students should enroll in BIO 291 concurrently.
- BIO 291 Embryology Laboratory** 3(0-6)
Prerequisite: BIO 290 or concurrent. This course is the laboratory experience for BIO 290. It emphasizes observation of preserved embryos, and of prepared slides of embryos, whole and sectioned. The student becomes familiar with developmental stages of chick and pig embryos with some comparison made to human embryos.
- Chemistry (CEM)**
Department of Science
Division of Arts and Sciences
- CEM 110 Fundamentals of Chemistry I** 5(5-0)
Prerequisite: MTH 009 or equivalent. First of three lecture courses designed to meet the needs of students who require one year of chemistry or those who require a one-term course in inorganic concepts. Introduces the principles of measurement, dimensional analysis, properties and structure of matter, nuclear chemistry, electronic structure, chemical bonding, nomenclature, solution chemistry, and acid-base ionic equilibria.
- CEM 111 Fundamentals of Chemistry II** 3(3-0)
Prerequisite: CEM 110 and MTH 102 or equivalent. Augments concepts of the quantum mechanical description of the atom, stoichiometry and solution chemistry, and introduces further concepts in molecular geometry, chemical kinetics, chemical equilibrium, oxidation-reduction, and thermodynamics. The student should take CEM 181 concurrently.
- CEM 112 Fundamentals of Chemistry III** 3(3-0)
Prerequisite: CEM 111. A survey of the principles of organic chemistry. Introduces the student to the structure, nomenclature, chemical and physical properties, selected characteristic preparations and reactions of the most common classes of organic compounds. Other topics include polymers, optical isomerism and selected reaction mechanisms. Students enrolled in this course should take CEM 122 concurrently.
- CEM 122 Fundamentals of Organic Chemistry Laboratory** 1(0-3)
Prerequisites: CEM 111 and CEM 181 or equivalent. An organic chemistry laboratory course that parallels the lecture course CEM 112. The class is designed to give the student experience with techniques, equipment and chemicals commonly employed in organic laboratories. Particular attention is given to reinforcing principles through experiences which directly relate to the material presented in CEM 112.
- CEM 165 Concepts in Biochemistry** 5(4-2)
Prerequisites: High school chemistry within past two years or CEM 110. BIO 101 or equivalent also recommended. This course is designed to provide an understanding of the chemistry of life processes. Topics include: enzymes, carbohydrates, lipids, proteins, metabolic pathways, amino acids, nucleic acids, genetics, blood, urine, hormones and vitamins. Physiological and pathological applications are incorporated into the topics. Required for students pursuing nursing, other Health Career programs, and the Biotechnology program.
- CEM 170 Introduction to Chemistry** 2(2-0)
Prerequisites: High school chemistry, concurrent enrollment or completion of MTH 102 or equivalent. CEM 170 is a "refresher course" for students who have had high school chemistry.
Students whose curriculum lists the CEM 171 sequence may be advised, depending upon a placement test score, to take CEM 110 or CEM 170 before beginning CEM 171.
- CEM 171 General Chemistry Lecture I** 4(4-0)
Prerequisites: High school chemistry or CEM 110 and algebra or MTH 102. Students should enroll in CEM 181 concurrently. CEM 171 is the first of three lecture courses which form an introduction to general chemistry for students in the physical sciences, life sciences, and engineering. Covers atomic and molecular structure, chemical bonding, nomenclature, stoichiometry, gas laws, solutions, phase rule, the liquid and solid states, and colloids.
- CEM 172 General Chemistry Lecture II** 3(3-0)
Prerequisites: CEM 171 and MTH 164. Students should enroll in CEM 182 concurrently. CEM 172 is a continuation of CEM 171. Topics include acid-base theory, a brief introduction to ionic equilibria, oxidation-reduction, electrochemistry, chemical kinetics, chemical equilibrium, basic thermodynamics, and descriptive chemistry of the nonmetals.
- CEM 173 General Chemistry Lecture III** 3(3-0)
Prerequisites: CEM 172 or departmental approval. CEM 173 is the third course in the 170's lecture series. Topics include ionic equilibria, solubility product constants, and introduction to coordination chemistry, organic chemistry, biochemistry, nuclear chemistry, and fundamental particles.
- CEM 181 General Chemistry Laboratory I** 1(0-3)
Prerequisite: Credit or concurrent enrollment in CEM 111 or CEM 171. CEM 181 is the first in a series of three general chemistry laboratory courses which is designed to accompany the CEM 170's lecture sequence. Stresses techniques and includes a treatment of density determination, synthesis, gas laws, freezing point depression, and acid-base titrations.
- CEM 182 General Chemistry Laboratory II** 3(1-6)
Prerequisites: Credit or concurrent enrollment in CEM 172 and credit in CEM 181. CEM 182 is the second term general chemistry laboratory with emphasis on quantitative analysis. Includes acid-base titrations, oxidation-reduction titrations, complexation titrations, spectrophotometric analysis, chemical kinetics, and gravimetric methods of analysis.
- CEM 183 General Chemistry Laboratory III** 2(0-6)
Prerequisite: Credit or concurrent enrollment in CEM 173 and credit in CEM 182. CEM 183 is the third term general chemistry laboratory. It is a systematic qualitative analysis lab which uses semi-micro techniques to determine the presence of common cations and anions.
- CEM 241 Principles of Organic Chemistry I** 4(4-0)
Prerequisites: CEM 172 and CEM 182 or equivalent. CEM 241 is the first lecture course of a sequence designed primarily to introduce the field of organic chemistry to those requiring only one year in this subject. Topics include the chemical and physical properties of aliphatic hydrocarbons with an emphasis on nomenclature, preparation, reactions, mechanisms, and spectroscopy.
- CEM 242 Principles of Organic Chemistry II** 4(4-0)
Prerequisite: Satisfactory completion of CEM 241. CEM 242 is a continuation of Chemistry 241. Topics include aromatic compounds, alkenes, carboxylic acids and their derivatives, carbonyl compounds, and amines. Nomenclature, preparations and reactions are stressed with emphasis on synthetic and analytical applications of the reactions studied.
- CEM 243 Principles of Organic Chemistry III** 3(3-0)
Prerequisite: Satisfactory completion of CEM 242. CEM 243 is a continuation of Chemistry 242. Topics include amino acids, carbohydrates, lipids including fats and oils, and nucleic acids.
- CEM 244 Principles of Organic Chemistry Lab I** 1(0-3)
Laboratory exercises are selected to give students experience with the chemicals, techniques, and equipment commonly employed in organic laboratories, with particular attention given to compounds studied in CEM 242.
- CEM 245 Principles of Organic Chemistry Lab II** 1(0-3)
A continuation of CEM 244 with emphasis on multi-step synthesis and isolation of organic materials. Particular attention is given to compounds studied in CEM 243.
- CEM 251 Organic Chemistry I** 3(3-0)
Prerequisites: CEM 172 and CEM 182 or equivalent. CEM 251 is the first lecture course of a three-term sequence in Organic Chemistry designed primarily for chemistry majors and other students wishing rigorous preparation for advanced courses in chemistry, biochemistry, pharmacy, or other fields related to the physical sciences. Topics include structure and bonding, hybridization, nomenclature, stereochemistry, thermodynamics and kinetics of organic reactions, and functional groups, including many reactions and their mechanisms.
- CEM 252 Organic Chemistry II** 3(3-0)
Prerequisite: Satisfactory completion of CEM 251. A continuation of CEM 251. Topics include a study of conjugation and resonance, alcohols, ethers, epoxides, alkynes, aromatic compounds, and spectroscopy. Emphasis on mechanism and stereochemistry is continued.
- CEM 253 Organic Chemistry III** 3(3-0)
Prerequisite: Satisfactory completion of CEM 252. Continuation of CEM 252. Topics include aldehydes, ketones, carboxylic acids, carboxylic acid derivatives, amines, and phenols. There is a continued emphasis on mechanism, stereochemistry and spectroscopy.

CEM 254 Organic Chemistry I Laboratory 2(0-6)

Prerequisite: CEM 251 concurrently. CEM 254 is the first course of a three term organic laboratory sequence. Laboratory exercises are selected to give the student experience with the chemicals, techniques, and equipment commonly employed in organic laboratories. Particular attention is given to compounds studied in CEM 251.

CEM 255 Organic Chemistry II Laboratory 2(0-6)

Prerequisite: CEM 254 and CEM 252 concurrently. CEM 255 is the second course of a three term organic laboratory sequence. Laboratory exercises are synthesis experiments chosen to reinforce the reactions and mechanisms discussed in CEM 252.

CEM 256 Organic Chemistry III Laboratory 2(0-6)

Prerequisite: CEM 255 and CEM 253 concurrently. CEM 256 is the third course of a three term organic laboratory sequence. Laboratory exercises emphasize qualitative organic analysis. Identities of unknowns are established using physical properties, chemical tests, derivatives, and spectroscopic information.

Geology (GE)
Department of Science
Division of Arts and Sciences

GE 201, 202, 203 Geology Field Studies 1 to 3 credits

Prerequisites: Concurrent enrollment in GE 221, 222, 223, 224, or previous completion of an equivalent course. Field studies in geology for students concurrently enrolled in another geology course for which extensive outdoor field work is essential. Students should consult the class schedule before enrolling in a field study course.

GE 221 Geology I 4(3-3)

Minerals and rocks of the earth's crust; constructive and destructive forces, including: erosion by water, ice, gravity, wind and waves, and volcanism. Laboratory activities include study and identification of minerals and rocks and the introduction to topographic and geologic maps to illustrate geologic features and concepts. Field activities may be included as part of the laboratory.

GE 222 Geology II 4(3-3)

Applies the principles of Historical Geology to the study of the development of the earth from its inception to the present. Topics included are: absolute and relative age dating, correlation, uniformitarianism, fossils and their interpretation, chemical and organic evolution, environments of deposition, geologic time, and methods of dating geologic features. Laboratory activities include fossil study, physical stratigraphy, interpretation of paleoenvironments, and interpretation of geologic maps and cross sections. Field activities may be included as part of the laboratory.

GE 223 Geology III 4(3-3)

Applies the modern geological concepts developed over the past three decades to the interpretation of the earth's behavior. Topics include: sea floor spreading, plate tectonics, nature and role of volcanoes and earthquakes, mountain building, and solar system geology. Laboratory activities include: the interpretation and construction of several types of geological maps and other graphic representations that summarize geologic data.

GE 224 Michigan Geology 4(3-3)

A general survey of the geology of Michigan and its immediate environs. Topics include: the Canadian Shield areas of the northern peninsula, development and nature of the Michigan Basin, the Pleistocene Epoch in Michigan. Emphasis is placed on economic, environmental and special interest aspects of the Michigan's geologic past. Laboratory includes: study of the minerals and rocks that are found in Michigan, economic resources, and the interpretation of maps or other geologic information representing areas of interest. Field activities may be included as part of the laboratory.

Meteorology (MET)
Department of Science
Division of Arts and Sciences

MET 212 Introduction to Meteorology 4(3-3)

Prerequisite: NS 121 or instructor's approval. Study and observations of the atmosphere designed to acquaint students with the elements of weather, interrelationships of elements, meteorological instruments, and weather maps. General and specific weather phenomena of the United States are emphasized. Various climatic regions of the world are studied as well as natural and human induced climatic changes. Laboratory includes: weather observations, predictions, and interpretations.

Microbiology (MIC)
Department of Science
Division of Arts and Sciences

MIC 203 Microbiology 4(3-3)

Prerequisite: BIO 101 or equivalent. An introductory study of the history of microbiology and classification of rickettsia, yeasts, molds, and protozoa. Emphasis is given to bacteria, viruses, immunology, genetics, selected diseases, culture media, isolation of pure culture, identification of unknown bacteria, staining methods, practical sterilization, and the collecting and handling of specimens.

Natural Science (NS)
Department of Science
Division of Arts and Sciences

A three-course series in Natural Science designed to acquaint the student with fundamental scientific principles of the world around us. Scientific method and science reasoning are emphasized in order to provide a clear definition of science and its limitations, and to have students aware of the relevance of science in their lives.

NS 121 The Physical World (Physical) 4(3-3)

Prerequisite: Proficiency in MTH 009 or equivalent. Introduces the fundamental laws, theories, and principles of chemistry and physics with an emphasis on real world examples. The unifying theme of each unit is energy and matter. The course emphasizes scientific processes and associated reasoning skills.

NS 122 Rocks and Stars (Physical) 4(3-3)

Topics include an introduction to astronomy and the Solar System; minerals and rocks, geological processes, plate tectonics, and environmental geology.

NS 123 Living World (Biological) 4(3-3)

Provides students with a basic understanding of the structure and function of Earth's ecosystems, the importance of preserving them, and the value of the natural populations that depend on them. Through lab exercises, tape-slide modules, computer programs, textbook readings, films and lectures, students explore the beauty and diversity of life on Earth.

Oceanography (OCN)
Department of Science
Division of Arts and Science

OCN 225 Basic Limnology and Oceanology 4(4-2)

An introduction to the physical and chemical properties of natural waters, wave action, currents, geological structures and formations of the ocean and lake basins, marine and fresh water biology, and man's interactions with natural waters. Laboratory activities are designed to illustrate basic concepts of oceanography. Field activities may be included as part of the laboratory.

Physiology (PGY)
Department of Science
Division of Arts and Sciences

PGY 212 Human Physiology 5(5-0)

Prerequisite: ANT 211 and BIO 101 or department approval. The physiology of the muscular, nervous, sensory, circulatory, respiratory, digestive, urinary, endocrine, and reproductive systems is studied. Other topics include metabolism, water and electrolyte balance, acid-base balance, and stress.

PGY 213 Human Physiology Laboratory 1(0-3)

Prerequisite: PGY 212 or concurrently. The course is designed to permit students to develop an understanding of basic principles in human physiology through experimentation in the laboratory. A series of laboratory exercises, chosen in sequence to complement PGY 212, will be performed by the students. Areas in which experiments are available include the physiology of sensory, motor, digestion, endocrinology, cardiovascular, renal, and respiratory systems.

Physics (PHY)
Department of Science
Division of Arts and Sciences

PHY 191 Physics for the Life Sciences 5(5-0)

Prerequisite: MTH 012 or equivalent required. A one-term course in general physics designed to fulfill the physics requirement for certain Life Science and Health Career programs. Topics include force, motion, and energy; conservation laws, fluid pressures and flow; and wave phenomena, including sound and light. This course may not be taken in place of a full year of physics; nor does it satisfy any other general physics requirement unless prior approval is obtained.

PHY 201 Physics (Mechanics and Heat) 4(4-2)

Prerequisite: MTH 165 or equivalent. First of a series of three courses designed to give the student an understanding of the fundamental principles of physics. Considers the principles of mechanics (the laws of translational motion and equilibrium and their relation to force, work, energy, and power) as they are applied to solid bodies. Also includes the principles of heat and thermodynamics.

and their relationship to the operation of engines. It also includes consideration of rotational motion and equilibrium, heat, and thermodynamics.

PHY 202 Physics (Electricity, Magnetism and Wave Motion) 4(4-2)

Prerequisite: PHY 201 or equivalent. Designed to describe the electrical and magnetic nature of matter. Electrostatics, electricity, magnetism, DC and AC circuits are investigated.

PHY 203 Physics (Optics and Modern Physics) 4(4-2)

Prerequisite: PHY 201 or equivalent. A course in modern physics. Included are topics concerning wave phenomena, geometrical and physical optics, relativity, and atomic, molecular, and nuclear structure.

PHY 209 Foundations of Physical Science 4(2-4)

This course surveys the physical science concepts and information commonly taught in elementary school. Students develop concepts and a collection of classroom activities, demonstrations, and science discovery projects useful in teaching physical science at the elementary level.

PHY 210 Foundations of Physical Science for Elementary School Teachers 4(2-4)

Prerequisite: Designed for elementary school teachers. This course is designed to serve elementary school teachers who desire to gain new experience and ideas to use in their classrooms. Particular emphasis is given to developing classroom activities, demonstrations, and science discovery projects that would be useful in the participant's classroom.

PHY 215 General Physics I Lecture (Mechanics) 4(5-0)

Prerequisite: MTH 213 or equivalent. Provides an introduction to the static and dynamic behavior of solids and fluids, using calculus extensively. The first in a series of three lecture courses designed for science and engineering majors. Students should enroll in PHY 225 (Physics I Lab) concurrently.

PHY 216 General Physics II Lecture (Electricity and Magnetism) 4(5-0)

Prerequisite: PHY 215 and MTH 214, or equivalents. Provides an introduction to the basic principles of electricity and magnetism, using calculus extensively. The second of three lecture courses designed for physical science and engineering majors. Students should enroll in PHY 226 (Physics II Lab) concurrently.

PHY 217 General Physics III Lecture (Optics and Modern Physics) 4(5-0)

Prerequisite: PHY 215 and MTH 215, or equivalents. The third of three lecture courses designed for science and engineering majors. Topics include geometric and physical optics and modern physics topics such as atomic and nuclear phenomena, relativity, solid state physics, and quantum physics. Students should enroll in PHY 227 (Physics III Lab) concurrently.

PHY 225 General Physics I Lab 1(0-2)

Laboratory topics in mechanics, which complement the lecture course PHY 215. Students should take 215 and 225 concurrently.

PHY 226 General Physics II Lab 1(0-2)

Laboratory topics in electricity and magnetism, which complement the lecture course PHY 216. Students should take 216 and 226 concurrently.

PHY 227 General Physics III Lab 1(0-2)

Laboratory topics in optics and modern physics, which complement the lecture course PHY 217. Students should take 217 and 227 concurrently.

**Seminars
Department of Science
Division of Arts and Sciences**

Seminars

Seminars are developed from many areas within the natural science disciplines. Each seminar has its own course code and a descriptive title which includes the designation "seminar". Course codes, credit value and applicability toward degrees depend on the seminar content. Transferability is decided on an individual basis by the institution to which the student transfers. Information about degree credit and level of instruction may be obtained at the first class meeting or in advance from the department office.

HOR 101 Yard and Garden Culture 2(2-0)

Basic principles of horticultural science related to fruits, flowers, vegetables, lawns, and landscape plants. Emphasis is on the selection of plant varieties, planting, soil management, fertilization, pruning, spraying, and grafting. Field trips are included.

HOR 102 Introduction to Horticulture 3(3-0)

An introduction to the study of horticulture highlighting the four major fields of interest. The fields include floriculture, woody ornamentals, vegetables and fruits, and nuts. Job opportunities and the general role of horticulture will be discussed. Field trips and laboratory experiments will be included when appropriate.

HOR 103 Indoor Plants 2(2-0)

Designed for students interested in both career opportunities in horticulture, such as floral shop art, and home oriented use of plants. Topics include terrariums, hanging baskets, dish gardens, exotic house plants, dried flower arrangements, and seasonal floral decorations. A field trip to a greenhouse displaying unusual plants is part of the course.

HOR 104 Plants for Profit or Pleasure 2(2-0)

This course provides information helpful to small plant businesses, fund raising groups, and those interested in more information and additional techniques. Topics include plant propagation, culture techniques, and the maintenance of a home greenhouse. The course also provides useful information for workers in therapy and rehabilitation.

HOR 106 Grow Your Own Vegetables 3(3-0)

An introduction to vegetable gardening covering the steps from seed to harvest and storage. The design and use of planting plans and garden calendar will be included.

HOR 107 Floral Arranging 2(2-0)

Principles of floral design are taught with the students creating corsages and various arrangements under the guidance of the instructor. There is nominal cost for those materials not supplied by the student.

HOR 110 Insects and Diseases of Ornamental Plants 2(2-0)

This class will cover those insects and diseases that commonly affect ornamental plants. Problem pests such as rabbits, deer and mice will also be discussed. Integrated Pest Management techniques will be highlighted. Detection, identification, and control methods will be the main topics of this class. A good class for the homeowner, nursery man, horticulturists, or plantmen.

OER 102 Wilderness Survival 3(3-0)

A course designed to provide basic outdoor survival skills and techniques to campers, outdoorsmen and group leaders. Topics include shelter, fire, water, signaling and orienteering, food procurement, and hot/cold stress management.

OER 103 Wild Food Plants 2(2-0)

This course introduces sixty-five genera of the edible wild plants of Michigan and adjoining North America and their toxic look-alikes. The students learn to distinguish these genera on the basis of observed taxonomic plant characteristics. The material is illustrated in slides and handouts. Several outdoor experiences in recognizing, collecting, and preparing wild food plants are provided. Conservation of endangered species and care of the environment is also stressed.

OER 104 Wilderness Survival II 2(2-0)

Prerequisite: OER 102 or equivalent. Advanced survival technique has a slightly more "world-wide" emphasis, but builds on topics from Wilderness Survival I. Topics include, survival at sea, toxic bites, general rules for approaching a primitive culture, advanced orienteering, edible plants of the world, etc. Optional three day field trip.

OER 105 Wild Food Plants II 2(2-0)

Prerequisite: OER 102 recommended. This course presents approximately 100 genera of the common edible wild plants of Michigan and the Northeast United States, in addition to the ones covered within Wild Food Plants I. Additional herbs and food plants, their toxic look-alikes, and survival situation applications will be discussed. Recommended for youth group leaders, teachers, backpackers, survivors, and sportsmen.

SC 010 North American Mammals 2(2-0)

This introductory course describes the important species, or groups, of mammals found in the U.S. and Canada. In particular, it emphasizes identification of about 35 species of mammals, and describes the history, biology, ecology, habitat, and economic importance of each. Other topics include: behavior and territory, management (past and present), population ecology, hunting and trapping.

SC 011 Michigan Wildflowers 2(2-0)

An introduction to botany that emphasizes identification of the common Michigan Wildflowers. Their usefulness to mankind and importance in the environment are emphasized. Spring or summer wildflowers will be emphasized depending on the term.

SC 013 Michigan Fishes 2(2-0)

This introductory course will enable the student to identify many families and species of fish important in Michigan. It will cover, by species, the fishes' biology, ecology, behavior, food habits, and economic importance. Some other topics will include field study methods, fishing techniques (sport and commercial) and power plant effects on fish.

SC 014 Stream Ecology 2(2-0)

This course examines the interactions between stream organisms and their physical environment. Topics include the measurement of water quality parameters and some invertebrate identification.

SC 018 Animal Behavior 3(3-0)

This course examines the basic principles of animal behavior, with examples from invertebrates, insects, fish, reptiles, birds, mammals, and man. The course emphasizes relationships between behavior and ecology. Topics include: instinct, learning, biological clocks, camouflage, mimetic coloration, social behavior, and human behavior.

SC 019 Introduction to Wildlife Ecology for Michigan Outdoorsmen 2(1-2)

A course designed for students interested in the biology and management of Michigan Wildlife. This course covers the history and development of the ecological principles utilized in sound game management practices. Techniques used by wildlife biologists will be employed by students in the laboratory and in field trips.

SC 100 Science Discovery—A Process 3(2-3)

Course emphasis is on reducing science anxiety and improving those reasoning skills necessary for participation in science courses. Specific methods to identify and reduce science anxiety associated with science topics will be presented. Science reasoning skills needed will be inventoried, including: observation, experimental techniques, critical thinking and communication techniques. Students will gain experience designed to improve their competency in these areas. SC 100 will NOT satisfy general Natural Science requirements.

SC 115 Volcanic Geology 2(2-0)

This course is an introductory discussion of those internal earth processes which are responsible for producing volcanic mountains such as Mt. St. Helen's. Class discussions emphasize the details of those internal earth processes, their consequences at the surface of the earth, and the kinds of material produced by such eruptions.

SC 120 Planetarium Education 2(2-0)

This course is designed to present the fundamentals of operating the star projector and support equipment in the LCC Planetarium. Theory and design of planetarium program development will be presented. An astronomy related program will be studied, practiced and presented by each participant.

SC 122 The Gene Scene 2(2-0)

This course is designed to introduce teachers and other interested people to modern gene biology, including the structure and function of DNA, recombinant DNA gene biology technology and its applications, "jumping genes," split genes, and oncogenes. Readings will be drawn largely from current literature.

SC 124 Sex Differences in the Human Brain 2(2-0)

This controversial topic will be explored through analysis of current research literature during class lectures and discussions. Some topics include lateralization in the brain, women's "intuition," development of gender roles and hormonal influences on behavior. Students will also develop relevant topics of their own choosing during the term.

SC 130 Birds of Michigan 2(2-0)

This course will introduce the student to the species of birds seen in Michigan. General avian taxonomy, morphology, ecology, behavior, and life history will be included. Field trips will be optional.

SC 210 Michigan Field Geology 2(0-2)

This course explores the geologic agents which have shaped the face of mid-Michigan (glaciers, streams, wind and man) through field investigations. Each class period will be a visit to an area of geologic significance. Included will be studies of glacial landforms, stream valleys, shorelines, dunes, quarries, rocks and fossils. Appropriate for teachers, environmentalists, rock and fossil collectors, or anyone interested in the geologic heritage of mid-Michigan.

Independent Study
Department of Science
Division of Arts and Sciences
SC 297, 298, 299

1 to 3 credits

Prerequisite: Arrangement with an instructor and approval by the Department Chairperson before registration. Special study, field work, or laboratory work in specific science topics such as geology, astronomy, physiology, chemistry, physics, ecology, zoology, or other natural sciences. The topic is chosen by the student and the project is supervised by a member of the Science Department. Students devote an average of three or more hours per week to their research projects, and meet with a supervising instructor as arranged.

DEPARTMENT OF SOCIAL SCIENCE

Chairperson: Dr. Manuel Diaz
 353 Arts and Sciences Building

The purpose of general education as perceived within Social Science is to prepare the individual for the responsibilities all persons have as citizens, and for creative participation in a wide range of interpersonal activities.

Social Science is a body of information which is gathered in an attempt to discover and explain behavior patterns of individuals and groups of people in a systematic manner. Social Science is based on the following five steps of the scientific method: (1) Asking the right question, (2) Collecting the data necessary to answer the question, (3) Analyzing the results, (4) Drawing a conclusion, (5) Reformulating the question.

The Department of Social Science offers courses under the following course codes:

SS: Basic Social Science
 CD: Child Development
 ED: Education
 GEO: Geography
 HUS: Human Services
 PLS: Political Science
 PSY: Psychology
 PS: Public Service
 SA: Sociology/Anthropology
 SW: Social Work

Social Science includes the fields of education, geography, psychology, sociology, anthropology, economics, political science, government, and job training in human services. Students who envision careers in teaching, law, social work, guidance counseling, public administration, personnel work, clinical psychology, urban planning, child development, youth service, foreign service, social research or similar occupations might begin their preparation by majoring in this department. Several courses are designed to meet specific requirements of majors in other areas.

For Associate degrees in Arts and Sciences the student is required to take a core of at least 12 credits in Social Science.

The 12 required credits in Social Science must include either SS 103, Politics in Society; SS 104, American Government; or SS 105, State-Local Government. Any of these will satisfy the requirement of one course in government.

The remaining eight credits may be selected from any two of the following: SS 101, SS 102, PSY 200 or GEO 201. PSY 200 and GEO 201 cannot be used as core general education courses for psychology or geography majors respectively.

The three-term sequence of courses, Social Science 101, 102, and 103 form an integrated introduction to the social sciences which meets the general education requirements in this area. These courses may be taken in any order, though the numbered sequence is recommended.

The Social Science Department also includes the Human Services Program, a two-year curriculum which provides skills needed for certain human service careers and also basic requirements for transfer to four-year colleges. Courses may be taken separately by people who are already employed in human services and want to upgrade their knowledge and skills. Courses with the following codes are career training courses which belong to the Human Services Program: CD, ED, HUS, PS, and SW.

Seminars

Each term seminars may be offered in any of the disciplines of political science, psychology, geography, sociology/anthropology or human services. Each seminar has its own course code and a descriptive title which includes the designation "seminar."

Course codes, credit value and applicability toward degrees depend on the seminar content. Transferability is decided on an individual basis by the institution to which the student transfers. Information about degree credit and level of instruction will be provided at the first class meeting or in advance at the department office. In general, seminar course numbers above 200 indicate increased challenge.

Independent Study

Credit for independent study is available for special projects involving research, reading, or field experiences in any subject area. Proposals for such projects must be approved by the department chairperson in advance of registration. To obtain approval the student must be currently enrolled for other courses and must have demonstrated competency through courses taken

previously at L.C.C. The project must meet academic goals and must include enough supervised learning experiences to be commensurate with the amount of credit requested.

Through the psychology lab, the department offers testing facilities, tutoring, computer assisted instruction and special services for handicappers.

COURSE DESCRIPTIONS

Basic Social Science (SS) Department of Social Science Division of Arts and Sciences

SS 101 Living In Societies 4(4-0)

Survey of major concepts and methods of sociology and anthropology. Emphasis is given to selective aspects of culture, socialization, stratification, groups, social organization, population-ecology, societal and cultural history, and social change.

SS 102 The Economic Condition 4(4-0)

This course involves a study of the change in economic institutions from past to present, emphasizing structure, theory and problems of economy.

SS 103 Politics In Society 4(4-0)

Examines types of political organizations, comparing similarities and differences between governments. Introduces methods of policy making, and ways to become politically effective.

SS 104 American Government 4(4-0)

An analysis of the American political system. Gives emphasis to the Federal System, with special attention to American government at the national level.

SS 105 State and Local Government 4(4-0)

A study of state and local governmental activities, their structures, functions, and methods of organizing resources and making policy. Consideration is given to the relationship between governmental units and the problems they confront, including relations between federal, state and local government.

SS 112 Honors Section of the Economic Condition 4(4-0)

Prerequisite: Invitation only. Same as SS 102; taught on an advanced level in a seminar. Outstanding students will be notified of their eligibility before registration.

SS 113 Honors Section of Politics in Society 4(4-0)

Prerequisite: Invitation only. Same as SS 103; but taught on an advanced level in a seminar. Outstanding students will be notified of their eligibility before registration.

Child Development (CD) Department of Social Science Division of Arts and Sciences

CD 101 Infants and Toddlers, 0 to 2 1/2 Years 2(2-0)

Deals with the physiological and physical growth patterns, nutritional requirements, emotional, social, and cognitive skills of children, 0 - 2 1/2 years. Prepares individuals for caring for the child at home or in a child-care setting. Includes discussion of the relative influences of genetics and environment on growth, the relationship of the development of the body systems to the child's nutritional status and the acquisition of skills in recognizing, recording, and interpreting child behavior.

CD 102 Infant and Toddler Laboratory 2(0-4)

Prerequisite: Instructor approval. A supervised laboratory situation in which students have opportunity to work directly with infants/toddlers four hours per week. Emphasis is on application of development information and caregiving skills discussed in CD 101.

CD 110 Introduction to CDA Credentials 4(2-8)

Prerequisite: Instructor approval. This course will examine the Child Development Associate (CDA) Credential, the Credential award system; and explore ways the student can meet the CDA competency standards, and provide assistance in beginning the credentialing process through course work and supervised field experience. Grading in this course is P/Z.

CD 121 The Preschool Child, 2 1/2 - 6 Years 4(4-0)

Physiological and physical growth patterns, nutritional requirements, and emotional, social and cognitive skills of children, 2 1/2 - 6 years. This includes: relative influences of genetics and environment on growth; the relationship of the development of the body systems to the nutritional status of the child; acquisition of skills in recognizing, recording, and interpreting child behavior. This course partially addresses the first and third competencies as stated in the CDA Competency Standards.

CD 280 Preschool Administration 3(3-0)

Analysis of the administrator's role in menu planning, preparation and serving of food for infants, toddlers, and preschool children; application of philosophy, communication, and business techniques necessary to operate an early childhood education program; acquisition of knowledge about safety, licensing, and health regulations. This course addresses the sixth competency as stated in the CDA Competency Standards.

CD 281 Preschoolers with Special Needs 4(4-0)

This course addresses the special needs of preschool children including various categories of exceptionality, mainstreaming, play skill development and working with parents. A portion of competency three, as stated in the CDA Competency Standards, is covered in this course.

CD 282 Curriculum Development 4(2-4)

CD 121 recommended. This course centers on curriculum development that will encourage physical and intellectual development including the following areas: gross and fine motor skills, sense development, science, health, language, and creativity. This course, which includes field observation, specifically addresses the second competency as stated in the CDA Competency Standards.

CD 283 Preschool Learning Environment 4(2-4)

CD 121 recommended. This course focuses on the physical and social learning environment of the preschool child including safe and healthy learning environments, guidance techniques, interaction with parents, and interaction skills with early childhood staff members. This course, which includes field observation, specifically addresses the first, fourth, and fifth competencies as stated in the CDA Competency Standards.

Education (ED) Department of Social Science Division of Arts and Sciences

ED 101 Curriculum Reinforcement 3(3-0)

Role orientation of the para-professional or education student as a significant person in the reinforcement of the school curriculum. Includes introduction to instructional media, school records, safety, discipline, permissible first aid, dramatic play and story telling, and other instructional approaches.

ED 150 Introduction to Education 3(3-0)

An introduction to teaching as a profession and education as a career. Included is an overview of the foundations, philosophy, history and organization of education as a human endeavor. Current issues and trends in education are examined.

Geography (GEO) Department of Social Science Division of Arts and Sciences

GEO 101 Principles of Geography 4(4-0)

Specific geographic principles course emphasizing landforms, gradational forces, weather and climatic elements, and soils, on a worldwide basis. Offers an extensive study of these forces, noting their ecological principles and their effects on human life. Includes mapping techniques, land site analysis, and air-photo interpretation. Field trips will be an integral part of the course.

GEO 201 World Regional Geography 4(4-0)

Describes and analyzes human and natural resources of countries and cultures of the world with major emphasis on their distribution over the surface of the earth.

GEO 202 Geography of North America 3(3-0)

A study of the human and physical resources of North America. This course will identify some of the factors that influence quality of life and give character to each of the various subregions.

GEO 203 Economic Geography 3(3-0)

Study of geographic distribution of agricultural commodities, raw materials for industry, and the location of industries throughout the world. Some emphasis placed on trade of raw materials and finished products among nations.

Human Services (HUS) Department of Social Science Division of Arts and Sciences

HUS 101 Human Services: Introduction and Interventions 4(4-0)

An overview for the basic programs and social institutions which provide human services. The course will also provide the student with methods and problem-solving skills used by human service workers in a variety of settings.

HUS 102 Introduction to Mental Health 3(3-0)

This course will provide the student with an overview of the field of Mental

Health with an emphasis on a historical review; psycho-social stages of development; definition of mental illness, causes and treatment; prevention; current service delivery systems; and the role of the Mental Health Associate.

HUS 103 Introduction to Domestic Violence 3(3-0)

This course is designed to provide an overview of the historical, socioeconomic, cultural, and psychological factors related to domestic violence.

HUS 104 Introduction to Child Advocacy 4(4-0)

Discussion of children's rights, philosophy and definition of child advocacy, legislation affecting children, and an overview of advocacy skill and programs.

HUS 105 Introduction to Mental Retardation 4(4-0)

The purpose of this course is to obtain an overall understanding of the field of Mental Retardation with emphasis on historical trends; definition, causes and treatment; psycho-social development; current service delivery systems; and the role of the Mental Retardation Associate.

HUS 110 Introduction to Child Abuse/Neglect 3(3-0)

An overview of the history and scope of the problem; the dynamics of child abuse/neglect and the world of abnormal rearing; roles of community agencies and disciplines; approaches to treatment and coordination of cases and services; legal aspects and the law.

HUS 205 Personal Dimensions of Human Services 4(4-0)

An exploration of the nature and development of personal dimensions of human services to meet the needs of the people preparing to work in the "helping professions."

HUS 207 Group Process Skills 4(4-0)

Prerequisite: HUS 101 or SW 101. Introduction to the concepts, principles, goals and skills of social group work as a method of human service. Emphasis is upon the introduction of basic practice skills and intervention techniques within a framework of beginning theoretical knowledge.

HUS 212 Family Treatment-Child Abuse/Neglect 3(3-0)

This course will address the special problems encountered working as a professional, paraprofessional or volunteer with abusive and neglectful families using individual, group, and family techniques. Legal, treatment, and value issues will be considered. A secondary focus of this course will be the issue of work attrition in the field of abuse and neglect, its cause, and some individual and agency solutions to the problem.

HUS 214 Practicum I 3(0-12)

Prerequisite: Department approval. Beginning practical experience and training in the field for individual students. The student is placed with a community-based agency or school. A concurrent seminar, HUS 217, serves to integrate field experience with theoretical concepts and principles of human service, except for education students who should enroll in ED 101.

HUS 215 Practicum II 3(0-12)

Prerequisite: HUS 214. A continuation of HUS 214. A concurrent seminar, HUS 218, serves to integrate field experience with theoretical concepts and principles.

HUS 216 Practicum III 3(0-12)

Prerequisite: HUS 215. A continuation of HUS 215. A concurrent seminar, HUS 219, serves to integrate field experience with theoretical concepts and principles.

HUS 217 Organizational Systems 2(2-0)

Prerequisite: HUS 214 concurrently. The course is designed to provide the student with knowledge of the community power structure, funding bases and the internal workings of human services organizations.

HUS 218 Service Delivery Skills 2(2-0)

Prerequisite: HUS 215 concurrently. The course is designed to help the human services student identify the systems and resources that link the systems with the people and learn how to mobilize the systems and the people.

HUS 219 Employment Readiness 2(2-0)

Prerequisite: HUS 216 concurrently. The course is designed to prepare students for the job market. They will learn how to complete applications, prepare resumes and apply for state certification.

**Political Science (PLS)
Department of Social Science
Division of Arts and Sciences**

PLS 150 American Political Parties and Elections 3(3-0)

Deals with the origins, structures and functions of political parties; examines

the American political system in terms of citizen concern about the community and government, and serves as a guide to political action by the citizenry.

PLS 200 Introduction to Political Behavior 4(4-0)

Introduction to theories, concepts and methods of political science with emphasis on the functions of political institutions and behavior of political actors.

PLS 207 Government Internship 4(1-12)

Prerequisite: Department approval. This course offers the student a chance to observe the actual workings of the political process by participating in it. Participation will provide students an exposure to public policy making. The program covers all levels of government, from city and township through the federal level.

PLS 210 Contemporary Political Affairs 3(3-0)

Analysis of current domestic and international political problems utilizing theoretical background and current reading to understand the ideologies, forces and interests shaping today's politics.

PLS 260 Introduction to Comparative Government 4(4-0)

Introduction to the political institutions of modern government with emphasis given to the United Kingdom, France, Germany, USSR, and the European Economic Community. The course includes dynamics of political behavior in these and other societies as well as special problems of the newly emerging nations.

PLS 271 International Relations 4(4-0)

Course in contemporary relations, with emphasis upon politics. Concepts, theories and rudimentary methods are surveyed. Relationships between international politics, foreign policy, and domestic policy in the U.S. are explored.

PLS 280 Introduction to the Politics and Government of Japan 4(4-0)

Prerequisite: Department approval. An introduction to the Japanese governmental structures and political process, with emphasis on the unique characteristics of Japanese political culture, Japanese style of decision-making, and Japanese concepts of democracy.

**PLS 295 Seminar: Alternate Political Futures
for Our Global Community 3(3-0)**

An examination of problems the world faces in the next 25-100 years which require political solutions—problems of war, technology, resources, population, education, economics, human rights, space, etc. Focus is on whether present political institutions are adequate for the future, on alternative possibilities, and on methods of precasting political futures.

PLS 296 Seminar: Advanced Government Internship 4(1-12)

This course will provide those students who have completed the basic Government Internship Program an opportunity to use and apply the information and skills they have acquired in a new placement. The new placement will be based on an appraisal of the student's past experience and evaluation.

**Psychology (PSY)
Department of Social Science
Division of Arts and Sciences**

PSY 151 Business Psychology 3(3-0)

This course is a general, basic introduction to the field of psychology with special emphasis on aspects of the field which are particularly useful to students preparing for careers in business.

PSY 153 Psychology for Health Careers 3(3-0)

A course designed for students in the health careers who must use psychology in the areas of effective interpersonal communication, helping relationships, death and dying, and interacting with special populations such as children, the aged, and the physically and emotionally disabled.

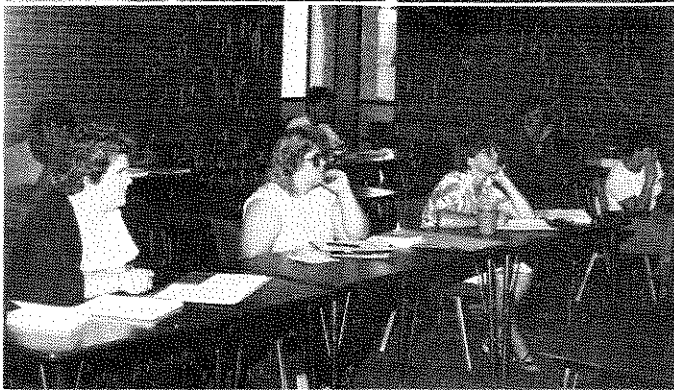
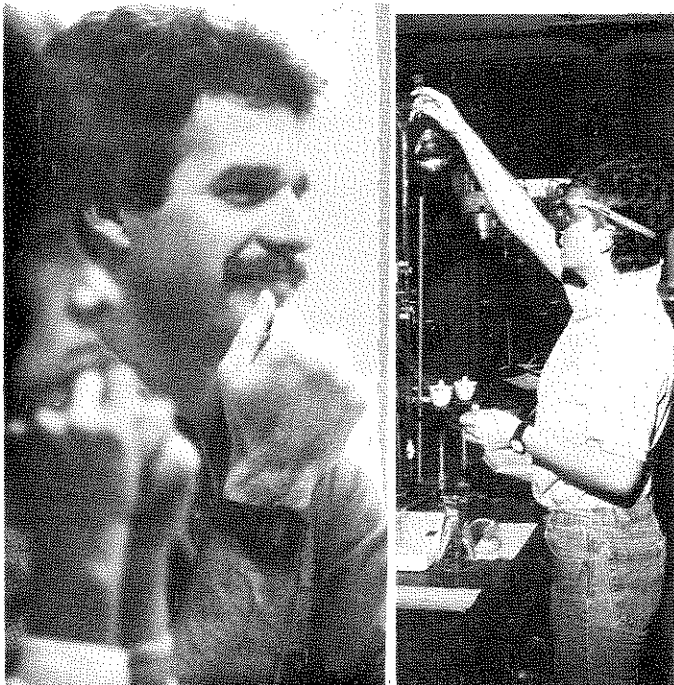
PSY 200 Introductory Psychology: Social-Individual Behavior 4(4-0)

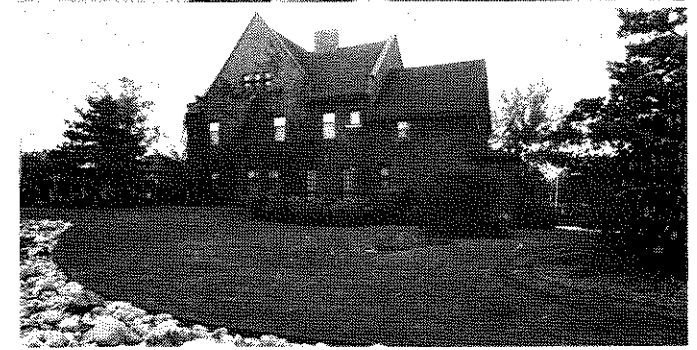
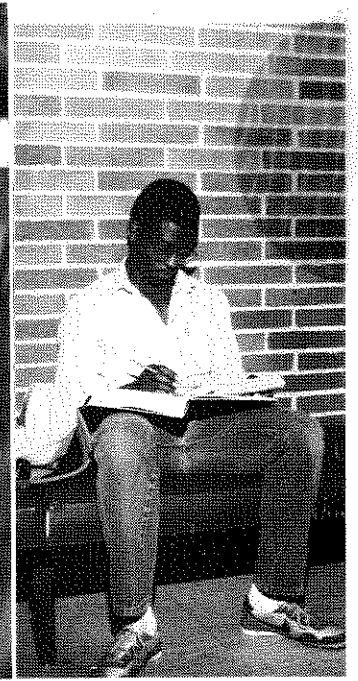
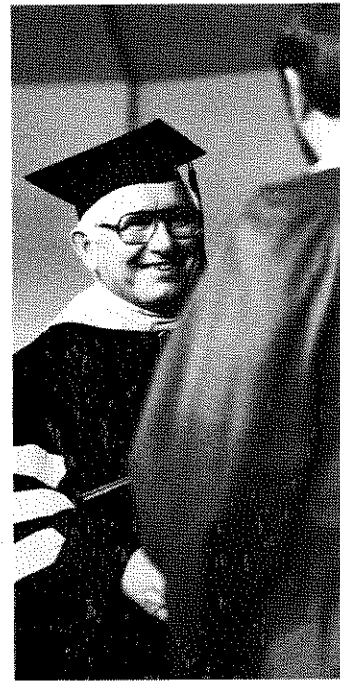
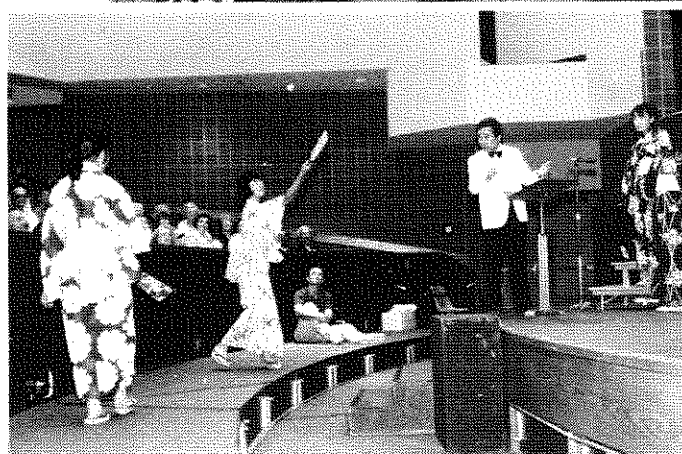
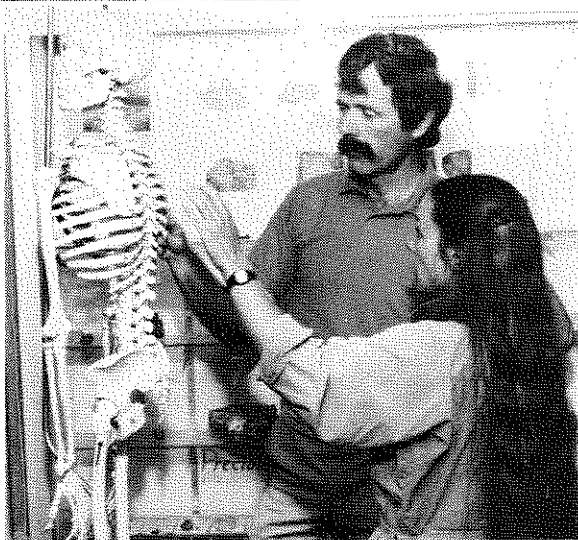
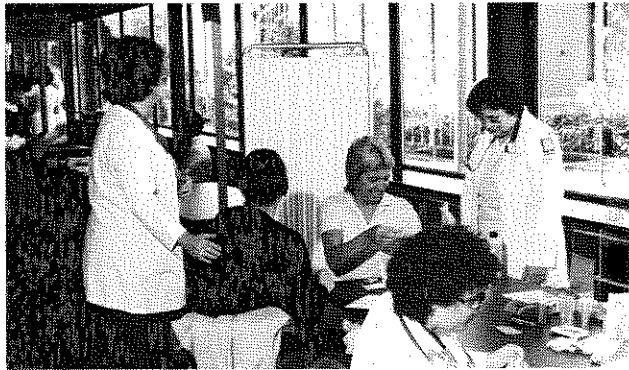
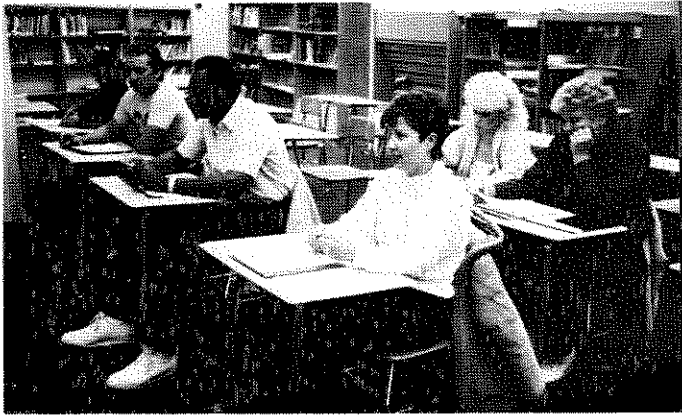
A basic orientation to the field of psychology with emphasis on social and individual behavior. Topics include interpersonal behavior, group process, personality, emotions, cognition, measurement and therapy. The course is designed both as a general survey and as a preparation for all advanced courses in psychology.

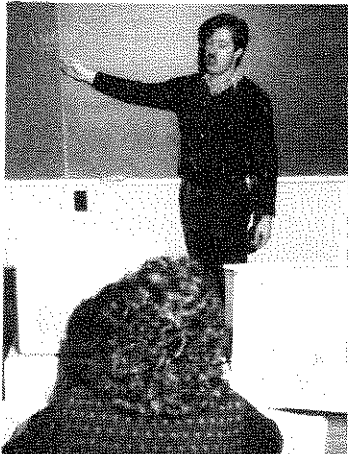
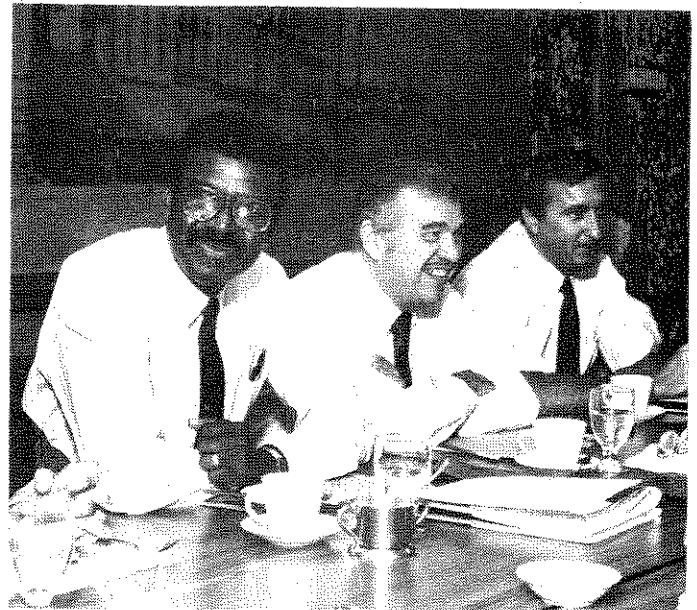
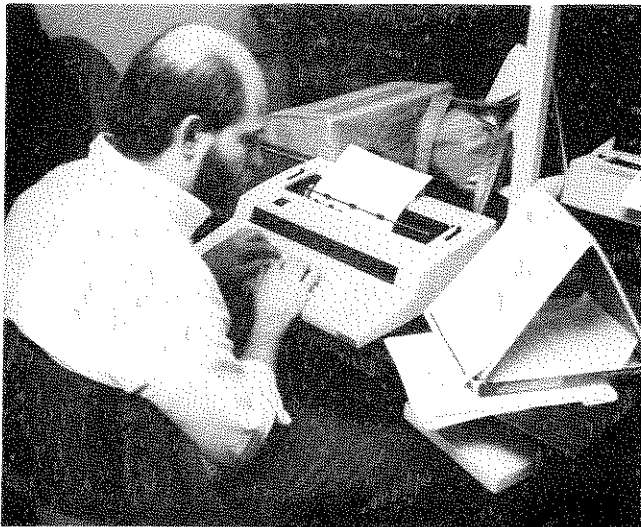
PSY 201 Introduction to Psychology: Principles and Methods 4(4-0)

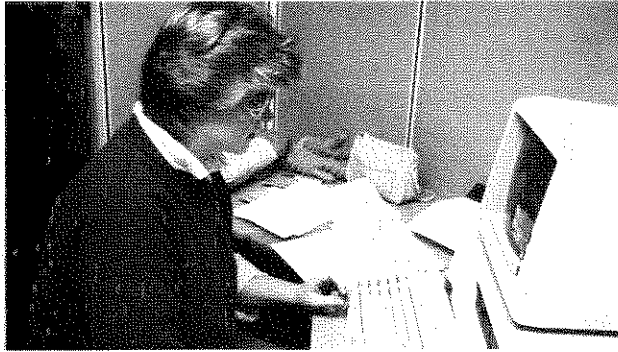
Prerequisite: PSY 200. An introduction to the methods and principles of the science of psychology. Emphasis is on processes underlying human behavior. Content includes brain function, sensation, perception, maturation, conditioning, verbal learning, and motivation. Each student will design and conduct an experiment.

- PSY 202 Psychology of Personality** 4(4-0)
Prerequisite: PSY 200. Discussion of concepts of adjustment, conflict, mental hygiene and behavior modification. Survey of leading theories of personality, emphasizing their implications for assessing and modifying normal personality.
- PSY 203 Introduction to Social Psychology** 4(4-0)
Prerequisites: PSY 200 and SS 101, or approval. Designed to give the student an understanding of the influence of social interaction upon the development of personality. Interaction between the individual and society is stressed.
- PSY 204 Educational Psychology** 4(4-0)
Prerequisite: PSY 200. An investigation of the contribution of psychology to education. Emphasis upon aspects of child growth and development, learning, measurement, and group dynamics which affect the achievements of pupils in the classroom. The course includes experiences in which students are able to practice some of the tasks and interpersonal skills involved in teaching.
- PSY 205 Human Growth and Development** 4(4-0)
Prerequisite: PSY 200. A study of the human life cycle from conception to death. Designed to investigate, describe and explain changes in human behavior that are a result of the continuous interaction of maturation and experience.
- PSY 221 Child Psychology** 4(4-0)
Prerequisite: PSY 200. Explores theories and principles of child development from conception to puberty. The course covers psychological, sociological, and biological aspects of maturation and development.
- PSY 222 Adolescent Psychology** 4(4-0)
Prerequisite: PSY 200. Examines theoretical and empirical literature related to adolescence, emphasizing biological, psychological, and sociological aspects of maturation and development from puberty to young adulthood.
- PSY 250 Abnormal Psychology** 4(4-0)
Prerequisite: PSY 200. An exploration of the nature, development, diagnosis, and treatment of psychopathology viewed from a general-systems (i.e., psychological, social, and physiological) perspective. Significant research, major theories, diagnostic techniques, and therapeutic techniques are discussed with respect to various psychological disorders.
- PSY 275 Psychology of Death: A Preparation for Living** 4(3-1)
Will examine psychological theories, concepts, and research that pertain to the study of death and personal death awareness. Topics include: the dying process, suicide, death anxiety, children's concept of death, care of dying, ethical decisions, social issues and considerations, near death experiences, and the grieving process.
- PSY 281 Seminar: Biofeedback** 4(3-2)
Advanced study of the phenomenon of biofeedback as applied to conditioning and control of autonomic responses, gaining new understanding of the physiology of emotion and investigating the determinants of emotional change. Emphasis is on developing skills in recording observations and in relating observations to hypotheses with respect to autonomic activity.
- Public Service (PS)**
Department of Social Science
Division of Arts and Sciences
- PS 201 Fundamentals of Public Administration** 4(4-0)
Deals with the development and application of the basic principles and concepts underlying the generic field of public administration in federal, state, and local government. The relevance of these principles and concepts to paraprofessional and mid-management public employees will be emphasized.
- PS 231 Staff Roles and Relations in Substance Abuse** 2(2-0)
Prerequisite: SA 230. Includes present funding sources and staffing patterns for substance abuse agencies. Points of conflict within and among agencies are addressed.
- Sociology/Anthropology (SA)**
Department of Social Science
Division of Arts and Sciences
- SA 179 Introduction to Japan** 2(2-0)
Prerequisite: Department approval. An overview of Japan's physical, social, political and economic settings as they determine the way of life of Japanese people. The course includes practical guidance in relating to Japanese customs.
- SA 200 Principles of Sociology** 4(4-0)
Introductory analysis and description of the structure of human society, with emphasis on social norms, groups, social stratification and institutions as they are analyzed by modern sociological methodology.
- SA 210 Introduction to Research Methods in Social Science** 4(4-0)
Prerequisite: SS 101. Fundamental principles basic to empirical social science research. Overview of various forms and approaches involved in planning and conducting scientific studies. Intended to develop ability to understand and evaluate social science research literature. Practicum and field experience included.
- SA 230 Introduction to Substance Abuse** 4(4-0)
An overview of substance abuse and use from a historical, sociological, and psychological perspective. Includes drug classifications, street terminology, and causes of abuse. Also examines present and past legislation regarding substance abuse and use.
- SA 254 Men, Women and Change** 4(4-0)
Prerequisite: SS 101 or PSY 200. A study of the changes in society over the past century in terms of their dramatic impact on sexual relationships, marriage, and family life. Course includes sex roles, sexual behavior, values, psychological needs, divorce, and parenting.
- SA 255 Contemporary Social Problems** 4(4-0)
Prerequisite: SS 101. Consideration of current social problems from a framework of sociological theory with special regard for current hypotheses and recent empirical studies relevant to particular problems; i.e., family stability, racism, urbanism, etc.
- SA 260 Minority Groups** 4(4-0)
An introduction to the culture and contemporary life styles of American minorities. Emphasis is placed on basic sociological and anthropological concepts with respect to selected minority groups, particularly the Black American, Mexican American, Native American and Asian American.
- SA 270 Introduction to Cultural Anthropology** 4(4-0)
Prerequisite: SS 101. Fields, methods, and findings of the science of man. Primary attention given to literature of culture. Historical development of anthropological theory and methodology will be surveyed. Students will research a cross-cultural study.
- SA 275 Introduction to Physical Anthropology and Archeology** 4(4-0)
Introduces human biological and cultural evolution; mechanisms of evolution; human origins, biological and cultural evidence from fossil record; behavior among other animals and development of human culture; culture as an adaptive mechanism; and modern human variation.
- SA 280 Introduction to the Society and Economy of Japan** 4(4-0)
Prerequisite: Department approval. An introduction to two main aspects of contemporary Japan: the Japanese way of life in its cultural context, and the Japanese economic system. Emphasis is on the unique features of the economic behavior of the people in terms of Japanese values, belief systems and cultural background.
- Social Work (SW)**
Department of Social Sciences
Division of Arts and Sciences
(Note: Students planning to transfer to the social work program at Michigan State University should follow the pre-professional curriculum guide, which includes SW 101, rather than the Human Services Program.)
- SW 101 Introduction to Social Work** 4(4-0)
Introduction to the principles of social work practice. Emphasis on social work careers, description of methods, skills and standards of practice, definitions of the helping roles, survey of helping agencies and institutions, and overview of social issues and client needs relative to social work practice.
- SW 203 Social Work Interviewing** 4(4-0)
Prerequisite: HUS 101 or SW 101. An examination of the purposes and basic concepts of the interview relationship with emphasis on the helping interview. Instruction in the techniques of interviewing with an opportunity to engage in practice interviews including videotaping and feedback.
- SW 205 Social Welfare** 3(3-0)
Prerequisite: SW 101. Introduction to the definition and concept of social welfare, its history, programs, attitudes, values and philosophy. Emphasis is upon the development of private and public services, changing patterns of services, the evolving changes in the Social Security Act and community action, with attention to current issues in social welfare policy.
- SW 209 Community Organization** 3(3-0)
Prerequisite: SW 101 or HUS 101. Introduction to the principles, concepts, and methods of community organization techniques. Emphasis is on the introduction of basic practice skills and intervention techniques within a framework of beginning theoretical knowledge.
- SW 230 Substance Abuse: Addiction and Treatment** 3(3-0)
Prerequisite: SA 230. Covers the addiction cycle of alcoholics and drug abusers, personality and interactional patterns of addiction, and casework and group work techniques.
- SW 231 Substance Abuse Agencies and Treatment Modalities** 3(3-0)
Prerequisite: SA 230. A review and analysis of current models of treatment within programs. Includes review of inpatient, outpatient, Halfway Houses, and occupational programs.

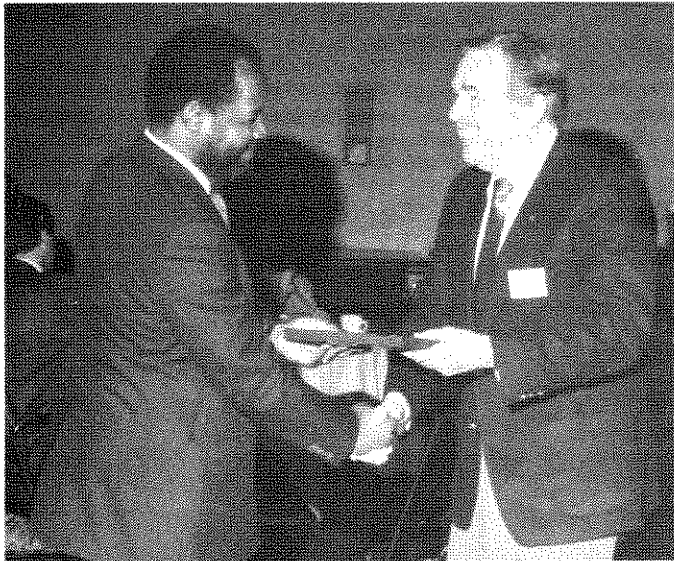




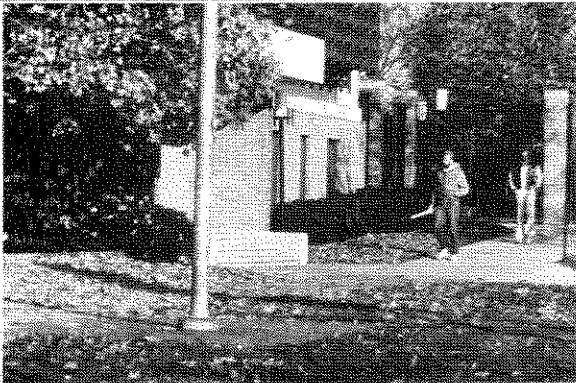




Lansing Community College



Dean James Person



DIVISION OF BUSINESS



Accounting and Finance Systems
Computer Applications and Software Systems
Criminal Justice Systems
Hospitality Systems
Management Development Center
Management Systems
Office Systems

DIVISION OF BUSINESS

Dean James E. Person
210 Old Central Building

The Business Division's programs support the major goals of the College in that the faculty seek to facilitate the growth of individuals as productive members of a business organization and of the society in which the organization is found. To achieve such growth, the Division offers instructional programs ranging from those providing instruction in the fundamentals of business operations to those providing means for acquiring more advanced business skills. Within this range, all courses offered will produce credit applicable either toward the requirements for a certificate or degree issued by the College or toward a baccalaureate degree issued by a four-year college when the credit is transferred to such an institution.

Business Division Program Objectives

To deliver quality education and training, the faculty are committed:

1. to provide pre-professional and career-oriented students with an innovative personalized process of instruction,
2. to maintain constant evaluation and assessment of themselves and their instructional methodologies in terms of student needs,
3. to structure and focus all educational subject matter around a career development theme so that such subject matter is meaningful and relevant to the student,
4. to provide all persons completing a program of the Division with the knowledge and skills necessary to (a) enter the labor market with a marketable skill, to (b) be up-graded and up-dated in their chosen field of work, or to (c) prepare them for pursuing further education,
5. to provide an instructional system which utilizes and coordinates its activities with the resources of the business, industrial, and governmental communities in the service area of the College,
6. to provide or assure the availability to all students the guidance, counseling, and instruction needed by them to develop self-direction, to expand occupational awareness and aspirations, and to develop an understanding of the personal and social significance of work,
7. to provide articulation services to each student so that he or she will know the next step toward personal development whether it be employment, further education, or re-entry into an educational program from the world of work.

Organization of Resources

To assure the relevancy of its programs, the Division of Business uses the services of a wide variety of advisory committees. The membership of these committees is comprised of leaders in occupational career fields. These advisory committees assist the Division in planning programs to meet the needs of business, industry, and government, as well as educational institutions, labor organizations, etc. for the development and training of their personnel. At the heart of the Business Division programs is the faculty who are committed to new perspectives in their teaching through active partnerships with government agencies, business, and industry. In the delivery of education and training the Division uses efficient, up-to-date instructional methods, applications and equipment.

Major Programs and Occupational/Career Fields in Business

The following list includes the names of representative occupational fields as well as some job positions. The Division of Business offers education and training for each of the listed fields and positions.

Accounting	International Business
Accounting/Data Processing	Labor Relations/Personnel
Administrative Assistant	Law Enforcement
Banking	Legal Assistant
Computer Applications Systems	Legal Secretary
Computer Operations	Management
Computer Programming	Marketing and Sales
Computer Software Systems	Medical Secretary
Computer Systems Analyst	Medical Transcriptionist
Corrections	Property Assessment
Court Administrator	Real Estate
Court Reporting	Registered Chef
Credit Union Operations	Secretary
Data Entry	Security
Financial Planner	Small Business Management
Food Specialist	Stenographer
General Clerical	Transportation Management
Hotel-Motel Management	Travel Agency
Insurance	Word Processing

Transfer Programs for Business

Transfer programs are available to students who expect to transfer to a four-year institution. Students are advised to consult the current catalog of that institution and to follow its recommendations as to courses. Specific transfer

credit information may be obtained from Lansing Community College counselors.

Community Service Programs

As stated in the objectives previously listed, an important function of the Business Division is serving the educational and training needs of local business, industrial, labor, and governmental organizations. To fulfill this function, the Division provides a variety of courses and seminars to retrain employees or to upgrade their skills. Within reasonable limits, the Division stands ready to customized courses or programs to meet the needs of these organizations. Also, the courses or programs may be developed for single or multiple sessions, depending on the needs of the students to be served.

ACCOUNTING AND COMPUTER ACADEMIC PROGRAMS

Program Director: Charles F. Parker
202 Old Central Building

The Accounting and Computer Academic Programs strive to provide the student with an opportunity to develop marketable skills and knowledge. This is accomplished by maintaining relevance and high quality in all aspects of the program. The curricula and course content are continually evaluated by students, faculty, administrators, professional organizations, and industry advisory committees. Most of the faculty are full-time, career professionals in the subject area they teach. This assures the student of access to an up-to-date and relevant orientation to the information and concepts under study.

The instructional methods of Accounting and Computer Academic Programs recognize the mixture of varying experience, commitment, and educational needs of students within the community. Both traditional and alternate delivery systems are available for the courses in most demand. Alternate delivery systems allow greater schedule flexibility, and they utilize techniques such as Computer Assisted Instruction (CAI), Audio-Visual-Tutorial (AVT), telecourse broadcasts, and self-study course materials.

Curricular guides are available for each program offered by Accounting and Computer Academic Programs from the Counseling offices and the Program Director's office. Students are encouraged to discuss any of these programs with an advisor from the Accounting and Computer Academic Programs office.

Accounting Programs

As society grows larger and more complex, the need for qualified people in accounting and finance continues to increase in all organizations: whether private, public, or governmental. Due to this reliable growth in the number of new positions in the field, the job outlook for occupations produced by the U.S. Department of Labor projects that accountants, auditors, actuaries, and financial occupations will have much better-than-average prospects for employment through at least 1995. In addition, accounting and finance positions will be among the top occupations for average expected starting salaries. The associate degree has become a preferred job entry ticket, and Lansing Community College has curricula targeting several of these fast-growing occupations.

Many professionals realize that sound decision making often depends on proper understanding and analysis of financial reports. In addition to the preparation for the many career positions in accounting, the college provides a variety of professional development opportunities for people wanting to take occasional courses or seminars rather than following a particular curriculum. This service extends to also providing Continuing Education Units (CEU's) and assistance in preparation for professional exams, such as: Certified Financial Planner (CFP), Chartered Financial Consultant (ChFC), Certified Public Accountant (CPA), Certified Administrative Manager (CAM), and Accreditation Certificate in Accountancy (ACA).

Computer Programs

Experts predict that the demand for computer professionals in business will expand by 4.5% to 5% each year through 1995. That growth means new career opportunities both for those starting their first career and for those changing careers. This growth is in a profession that provides a comfortable work environment, commensurate compensation, stimulating challenges, and the opportunity for varied experience and personal growth paced by changes in technology.

The computer information systems field encompasses a variety of occupations that center around the use of computers. The goal of professionals in this field is to electronically transform raw data into useable information. Computers can now be found in the home and car, as well as in business, industry, government, and academics. Challenging positions are available for people who can write well, think logically, and solve problems.

Instructional Methods

Accounting and Computer Academic Programs has developed a system of instruction known as audio-visual-tutorial instruction which provides the op-

portunity for learning on an individual basis with continuous assistance and supervision. The flexibility of this system allows enrollment in the course at any time during the year; instruction and practice periods any time between the hours of 8:00 a.m. and 10:00 p.m. (and not necessarily the same hours each day); and the opportunity to complete courses as rapidly or as slowly as one's capabilities and/or time commitments will allow. It also provides academic advisors with the ability to construct individual courses to remedy specific deficiencies or to upgrade in special areas.

This audio-visual-tutorial system of instruction was designed to replace the traditional classroom by programming instruction and demonstrations on audio-visual media such as slides and tapes. These individual learning units are made available to students in carrels, and practice work is completed within the same area.

Courses include the same instruction as their classroom-type predecessors and are indicated in the course description section by the designation 'AVT.'

Curriculum Guides

General curricular guides for each program offered by Accounting and Computer Academic Programs are available in the counseling offices and the Program Director's office; however, guides are frequently modified to accommodate an individual student's background, goals, and abilities. The student is encouraged to discuss unique situations with an academic advisor within Accounting and Computer Academic Programs.

Accounting Certificate Program

The curriculum for the accounting certificate is designed for students desiring to rapidly acquire those skills for entrance into paraprofessional levels of accounting employment such as those of account clerks, cashiers, and bookkeepers. (Curriculum Code 405)

Accounting Associate Degree Program

The two-year (90 credit) accounting program offers preparation in accounting and financial information to meet the needs of modern business and industry. It is based on the postulates that accounting is the language of business as well as the measurement and communication of financial data to those who will use that data, not only for its informational value, but also as a basis of decision and action. The curriculum of this program is designed to help the student develop habits of critical and logical thinking while learning to record, report and interpret economic data.

Completion of the two-year program will provide the student with sufficient skill and knowledge to meet entrance requirements of business and to progress rapidly through many levels of accounting positions. (Curriculum Code 410)

Accounting/Data Processing Program

The accounting/data processing curriculum offers, in an associate degree program, the opportunity to have two full majors, one in accounting and one in data processing. Completion of this program will enable the student to seek a position in accounting or a position in data processing or a position which requires substantial knowledge in both areas. This provides the student with a great amount of flexibility in a rapidly changing business environment. (Curriculum Code 411)

Applications Program

An Associate Degree program designed for people desiring to be applications programmers in a business environment. The student learns to program in BASIC, COBOL, RPG, and Assembly. Other courses include data base concepts, operating systems, data communications, and systems analysis. (Curriculum Code 450)

Certified Financial Planner Program

Certified Financial Planner (CFP) courses are sponsored in cooperation with The College for Financial Planning in Denver, Colorado, and the Mid-Michigan Chapter for the International Association for Financial Planning.

The CFP program provides the technical expertise in the six areas vital to personal financial planning. Each part of the CFP program includes a case analysis. The case analysis is designed to help apply the technical knowledge gained from studying a specific area of finance to the situational needs of clients.

To successfully complete the CFP program, a student must pass an examination on each of the six parts. The exams are administered across the country during April, August, and December each year and include both multiple-choice questions and a short-answer case analysis.

To be eligible for the CFP program, one must be employed in an area of the financial services industry; such as, insurance, banking, accounting, or investments. You must also meet a minimum of five enrollment credits which are awarded by combining the length of your professional experience, education, licenses, or other professional designations.

In addition to passing the exams, one must fulfill several other obligations to successfully complete the CFP program. These include signing a Code of Ethics developed specifically for professionals who obtain the CFP designation, providing three character references, and agreeing to pursue continuing education in financial planning.

If someone does not meet the enrollment requirements for the CFP program, they can still qualify for the Associate Financial Planner Program which leads to the AFP status.

Computer Operations Management Program

An Associate Degree program designed for people who aspire to supervisory positions in the computer operations area. After earning the computer operator certificate (453), 45 additional credits are required for this associate degree. (Curriculum Code 486)

Computer Operator Program

Certificate program intended for persons wishing to become computer operators. Included are basic data processing courses as well as some specialized topics relating specifically to computer operations. Can lead into computer operations management (486) associate degree program. (Curriculum Code 453)

Computer Sales Specialist Program

Associate Degree program which trains persons in computer sales. The course work is divided among data processing, marketing, and business subjects. (Curriculum Code 477)

Computer Security and Controls Program

Associate Degree program which covers fundamentals and techniques in both accounting and data processing. In addition, some law and economics courses are required. (Curriculum Code 488)

Data Processing and Management Dual Program

Intended as a second Associate Degree following the 450 degree. Additional management and business concepts are studied. Requires 46 to 48 additional credit hours after completing the applications programmer associate degree (450). (Curriculum Code 452)

General Pre-Accounting Program

The pre-accounting transfer curriculum is designed for students preparing to transfer to four-year institutions. Since the requirements vary for different four-year institutions, students should check with the program area for specific course requirements at these institutions. (Curriculum Code 412)

Microcomputer Systems Program

Associate Degree program designed for those who wish to specialize in microcomputer applications. Advanced BASIC, machine language, and data processing courses are required as well as two approved sequences of courses. Provides freedom to choose elective courses from throughout the College as a specialty area for microcomputer applications. (Curriculum Code 489)

Microcomputer Systems Program

Certificate program planned for the microcomputer enthusiast. The BASIC programming language is emphasized. Pascal, micro assembler and additional data processing courses are also required. Can lead into microcomputer systems (489) associate degree program. (Curriculum Code 454)

Systems Analysis Program

Set up as a second Associate Degree to follow the applications programmer degree (450). The student takes some advanced data processing courses as well as additional communications courses. (Curriculum Code 487)

COURSE DESCRIPTIONS

Accounting (ACC) Accounting and Computer Academic Programs Division of Business

ACC 100 Practical Accounting for Non-Majors 4(4-0)

Emphasis is on accounting terminology, journalizing, and posting economic information, trial balance preparation, payroll, preparation and posting accounts receivable and payable. Recommended for students who do not plan to transfer to a four-year institution or who do not plan to take additional accounting courses.

ACC 101 Accounting Information for Management 4(4-0)

This course is intended for general management students who do not plan to transfer to a four-year institution. Its emphasis is on accounting terminology, and the use of accounting information for decision making. Topics covered include financial statement analysis, budgeting, and decision making.

ACC 140 Individual Income Tax	4(4-0)	ACC 250 Advanced Accounting	4(4-0)
This is a basic course designed to give the skills and knowledge necessary to complete and file all returns required of individual income tax taxpayers. Course covers the basic concepts and terminology required for working with the federal, state, and local tax regulations pertaining to individuals. The course includes practical experience in filling out all common individual tax forms and schedules.		Prerequisite: ACC 222 or Program Area approval. Areas of emphasis to be included in this course are partnerships, governmental accounting, business combinations as a "pooling of interests" vs. a purchase, and preparation of consolidated statements.	
ACC 210 Principles of Accounting I (AVT Available)	4(0-8)	ACC 251 Accounting Seminar	1(1-0)
This course provides instruction to explain and apply basic principles of accounting by means of balance sheet and income statement approach. Topics include basic analysis, perpetual and periodic merchandise accounting, alternative adjustments to accounts, business documents and data flow.		This seminar is constituted of 8-14 classroom hours dealing with special topics of current interest as offered by the program area.	
ACC 211 Principles of Accounting II (AVT Available)	4(0-8)	ACC 252 Accounting Seminar	2(2-0)
Prerequisite: GPA of 2.0 in ACC 210. This course is a continuation of Accounting 210. Topics covered include payroll and tax accounting, controlling accounts and subsidiary ledgers, accounting systems and internal control, the voucher system, partnerships, corporations, and bonds.		This seminar is constituted of 15-24 classroom hours dealing with special topics of current interest as offered by the program area.	
ACC 212 Principles of Accounting III	4(4-0)	ACC 253 Accounting Seminar	3(3-0)
Prerequisite: ACC 211. This course is a continuation of Accounting 211. Topics covered include analysis and comparison of financial statements, branch accounts, manufacturing companies, cost accounting, budgeting, and sources and application of funds.		This seminar is constituted of 25-34 classroom hours dealing with special topics of current interest offered by the program area.	
ACC 220 Intermediate Accounting I	4(4-0)	ACC 254 Accounting Seminar	4(4-0)
Prerequisite: ACC 212. This course provides instruction in the balance sheet, income and retained earnings statements; in-depth review of the accounting cycle and theory, cash and temporary investments; receivables; current liabilities, and present value of assets.		This seminar is constituted of 34-45 classroom hours dealing with special topics of current interest offered by the program area.	
ACC 221 Intermediate Accounting II	4(4-0)	ACC 260 Accounting with Computers	4(4-0)
Prerequisite: ACC 220. Topics to be covered in this course include inventories, operational assets, and stockholder's equity.		Prerequisite: ACC 212. Designed to prepare students to deal with problems and issues related to computer-based accounting information systems. Students will do bookkeeping and solve accounting problems using microcomputers. Previous familiarity with computers is not necessary.	
ACC 222 Intermediate Accounting III	4(4-0)	ACC 261 Accounting Systems Analysis	4(4-0)
Prerequisite: ACC 221. This course is a continuation of ACC 221. Topics to be studied include long-term liabilities, long-term investments, leases, pensions, sources and applications of funds, and financial statement analysis.		This course is designed to teach the use of microcomputers as tools in solving accounting problems. Lotus 123 and dBase III will be the primary software taught. Students will also use Wordstar for word processing. The IBM PC Network will be used for networking and with dBase III. In addition, a variety of other microcomputer software and hardware will be demonstrated. Familiarity with computers is not necessary but students are expected to be knowledgeable of the accounting topics taught in Principles III.	
ACC 230 Cost Accounting I	4(4-0)	ACC 266 Independent Study/Accounting	1(1-0)
Prerequisite: ACC 212. This course will provide an explanation of the cost accountant's role in a business organization. It will stress the objectives of planning and controlling routine operations, decision making, inventory valuation, and income determination. Other topics to be covered include defining costs, cost/volume/profit analysis, job order costing, process costing, standard costing and variance analysis, budgeting, and the use of accounting information for motivation and control.		Prerequisite: Program Area approval. Requires 20 to 30 hours of study on topics not available through regular accounting courses.	
ACC 231 Cost Accounting II	4(4-0)	ACC 267 Independent Study/Accounting	2(2-0)
Prerequisite: ACC 230. This course emphasizes long-range planning, goal setting, and non-routine decision making. Topics to be included are cost allocation, capital budgeting, inventory planning, internal control, decentralization and transfer pricing for performance measurement and motivation, decision models, and determination of sales and production mix.		Prerequisite: Program Area approval. Requires 40 to 50 hours of study on topics not available through regular accounting courses.	
ACC 240 Federal Taxes I	4(4-0)	ACC 268 Independent Study/Accounting	3(3-0)
Prerequisite: ACC 212. This course deals with all aspects of federal income taxes pertaining to individuals. Topics include gross income, adjustments from gross income, and itemized deductions. Other topics include basis of assets, capital gains and losses, and various special topics.		Prerequisite: Program Area approval. Requires 60 or more hours of study on topics not available through regular courses.	
ACC 241 Federal Taxes II	4(4-0)	ACC 271 Principles of Finance	4(4-0)
Prerequisite: ACC 240. This course is an in-depth study of federal tax laws relating to business and professional organizations. Special topics to be included are partnerships, subchapter S corporations, and estates and trusts.		Prerequisite: ACC 212. This course emphasizes the short- and long-term decisions a financial manager can be expected to face. Topics to be included are working capital management, risk, cost of capital, capital markets, long-term debt, stocks and dividend policy, as these topics relate to obtaining financing for a business.	
ACC 245 Accounting Internship (Fall Term)	3(0-6)	ACC 275 Financial Decision Simulation Game	4(4-0)
Approval for an Accounting internship is based on the successful completion of basic Accounting courses. Placement in an approved training station to earn credits for satisfactory work performance, and earn wages for hours of work. Occupational interest are considered with background or related classes to determine employment arrangements.		Prerequisite: ACC 212. This course is a game in which participants make decisions which affect their simulated company. The instructor takes care of all computer involvement so the student needs no computer background. Lectures cover various financial topics, particularly those which help the student manage the finances of his imaginary company.	
ACC 245 Accounting Internship (Winter Term)	3(0-6)	ACC 280 Governmental Accounting	4(4-0)
ACC 245 Accounting Internship (Spring Term)	3(0-6)	Prerequisite: ACC 212 or Program Area approval. This course covers principles of fund accounting, provides a discussion of the characteristics of the government function as distinguished from commerce and industry, and analyzes the differences in records, accounting and reports required because of these differences. The essentials of fund accounting, appropriations, allotments, allocations, and budgetary controls are other topics to be covered.	
ACC 245 Accounting Internship (Summer Term)	3(0-6)	ACC 281 Governmental Budgeting and Institutional Accounting	4(4-0)
Approval for an Accounting internship is based on the successful completion of basic Accounting courses. Placement in an approved training station to earn credits for satisfactory work performance, and earn wages for hours of work. Occupational interest are considered with background or related classes to determine employment arrangements.		Prerequisite: ACC 212 or Program Area approval. This course is a continuation of Governmental Accounting (ACC 280) and it offers detailed accounting procedures and accepted practices in governmental and institutional accounting. Considerable instruction and work is devoted to program budgeting and performance measurement with emphasis on recent changes and current practices in different government units.	

ACC 290 Auditing 4(4-0)

Prerequisite: ACC 222 or Program Area approval. Specific topics covered in this course are professional ethics, types of audits, need for auditing, legal liability of auditors, auditing of E.D.P. systems, statistical sampling, audit working papers, financial statements and the attest function in audit reports.

C.P.A. Review Courses

Four C.P.A. review courses are offered beginning about August 30 of each year. These courses are designed to prepare candidates for the Uniform Certified Public Accounting Examination. Past candidates who participated in the LCC review courses have earned a passing percentage significantly higher than that earned by all candidates in Michigan.

Each section is taught with the specific intent of providing a background of information needed for the examination. Typical examination questions and problems are covered using current material. The single goal is to assist each applicant in efforts to meet the standards required by the C.P.A. Examination.

ACC 295 Theory of Accounts Review 2(2-0)**ACC 296 Commercial Law Review 2(2-0)****ACC 297 Auditing Review 2(2-0)****ACC 298 Accounting Practice Review 4(4-0)**

**Computer Applications for Business (CAB)
Accounting and Computer Academic Programs
Division of Business**

(Note: former course codes are in parentheses after the descriptions)

CAB 102 Using Personal Computers 3(3-0)

A first course in computers that surveys the concepts and uses of software applications such as word processors, spreadsheets, and database managers through hands-on use. Terminology, problem-solving, and acquisition factors associated with personal computers also discussed.

CAB 111 WordStar (R) 2(2-0)

Prerequisite: BUS 120 or equivalent. Beginner-level training for the popular, screen-oriented word processing program. Provides hands-on experience on how to perform most word processing commands. (CS 108)

CAB 113 Multimate (R) 2(2-0)

Prerequisite: BUS 120 or equivalent. Beginner-level training on use of this Wang(R)-like word processing program. Provides hands-on experience on how to perform most word processing commands. (CS 106)

CAB 114 WordPerfect (R) 2(2-0)

Prerequisite: BUS 120 or equivalent. Beginner-level training on use of one of the most versatile word processing programs. Provides hands-on experience on how to perform most word processing commands. (CS 109)

CAB 115 DisplayWrite (R) 2(2-0)

Prerequisite: BUS 120 or equivalent. Beginner-level training on use of the microcomputer-based DisplayWrite 3 (R). Provides hands-on experience on how to perform most word processing commands.

CAB 121 Lotus 1-2-3 Self Teaching 4(4-0)

An introduction to using the LOTUS 1-2-3 spreadsheet, graphics, and database program. A self-teaching course providing hands-on experience to create and refine spreadsheets, produce graphs and reports, and search and sort databases.

CAB 123 Lotus 1-2-3 (R) 2(2-0)

Create worksheets and data bases, manipulate and generate reports, tables, and graphs. File handling, disk management, MACROS included. Beginner-level training. (CS 105)

CAB 124 Advanced Lotus 1-2-3 2(2-0)

Prerequisite: CAB 123. An extension of CAB 123. Provides reinforcement of Lotus 1-2-3 basic skills, plus expanded discussion and application in topic areas of Macros and data base.

CAB 131 dBase II (R) 2(2-0)

Create data base structure, enter data, display data on screen, sort data on various factors, prepare reports, add to and edit data base. Beginner-level training. (CS 104)

CAB 132 Programming dBase II (R) 2(2-0)

Prerequisite: CAS 131. A continuation of CAS 131. Includes a review of programming principles and explanations of file creation and indexing, screen I/O, file processing, reports, and menus.

CAB 133 dBase III (R) 4(4-0)

Create data base structure, enter data, display data on screen, sort data on various factors, prepare reports, add to and edit data base. Beginner-level training.

CAB 135 R:base 5000 (R): Database Processing on Micros 4(4-0)

This course used R:base 5000 as a tool to develop and implement a data base application program. Students learn both how to use R:base 5000 and practice the process of effective data base design.

CAB 171 Symphony (R) 3(3-0)

An introduction to an all-in-one software system. Hands-on training for its spreadsheet, business graphics, data base manager, and word processor. Communications is discussed. Knowledge of Lotus 1-2-3(R) is not assumed. (CS 171)

CAB 172 Framework (R) 3(3-0)

An introduction to a comprehensive microcomputer program. Hands-on training covers its unique outlining feature, word processor, spreadsheet, data base manager, and automatic graphics. Communications is discussed. (CS 172)

CAB 173 DeskMate 2(2-0)

Beginner's level training using the DeskMate software. Hands-on activity learning and using DeskMate's word processor, spreadsheet, and information manager.

CAB 311 Educational Computer Applications I 3(3-0)

Overview of educational computer potential with an emphasis on K-12 applications. Topics include introduction to BASIC, Logo interaction, software evaluation and review, and exposure to media in computer education. Graded on a P/Z basis only. (CS 311)

CAB 312 Educational Computer Applications II 3(3-0)

Prerequisite: CAB 311. A more indepth study of applications covered in CAB 311. Graded on a P/Z basis only. (CS 312)

CAB 313 Logo (R) 3(3-0)

Logo language and its potential. Topics include basic commands, variables, recursion, list processing, and classroom applications. Graded on a P/Z basis only.

**Computer Applications Systems (CAS)
Accounting and Computer Academic Programs
Division of Business**

(Note—former course codes are in parentheses after the descriptions.)

CAS 100 Introduction to Data Processing 4(4-0)

Concepts of data processing: what a computer is, how it functions, and its influence on all facets of society. (DP 100)

CAS 104 Personal Computing 4(4-0)

Teaches the fundamentals of effective microcomputer use, including computer concepts and equipment, with heaviest emphasis on microcomputer software applications. Hands-on activity.

CAS 105 Software Law 2(2-0)

Overview of laws relevant to selling and protecting computer software. How to market and protect your software. (DP 220)

CAS 111 Forms Design and Control 3(3-0)

Initial phase of recognizing that a form is needed through utilization of the form. Includes layout of items by importance, design of margins and print spacing, grades of paper, reproduction and binding, and forms processing by users. (DP 221)

CAS 121 Data Processing Math and Logic I 5(5-0)

Prerequisite: MTH 012 or equivalent. Designed to be taken concurrently with CAS 151. Introduces basic logical forms. Includes flowcharting, set theory, truth tables, Warnier diagrams, and non-decimal number systems. (DP 115)

CAS 122 Data Processing Math and Logic II	5(5-0)	CAS 187 Micro Assembler	4(4-0)
Prerequisite: CAS 121. Introduces analytical tools. Includes linear equations, graphing, linear programming, properties and applications of matrices, sequences, series, normal distribution, PERT and CPM networks. (DP 116)		Prerequisite: CAS 152. Inter-relationship between BASIC and the 8088 micro assembler. Includes interrupt routines and I/O routines. (DP 187)	
CAS 134 Documentation	4(4-0)	CAS 189 Pascal	4(4-0)
Prerequisite: CAS 121 and CAS 151. Fundamental documentation tools in use on both the systems and programming level. (DP 134)		Prerequisite: CAS 121 and CAS 151. Write structured programs in Pascal, an ALGOL-like language. Covers queues, stacks, linked-lists, disk files, and real-time simulations. (DP 125)	
CAS 137 Introduction to Operations	4(4-0)	CAS 190 C Programming Language	4(4-0)
Prerequisite: CAS 100. Function and responsibilities of the computer operator; includes machine maintenance, console response, and malfunction recovery. (DP 143)		Prerequisite: CAS 189. Students will use professional development tools, including a debugger, to become familiar with the "C" programming language by designing, implementing, and testing programming projects.	
CAS 141 Home Computer BASIC	2(2-0)	CAS 201 EDP Security and Controls I	4(4-0)
A brief programming course for the computer hobbyist or anyone interested in a rudimentary introduction to microcomputers. Write and debug simple programs in the BASIC language. (CS 151)		Prerequisite: CAS 100. Study types of security and controls over computer systems. Includes administrative, operational, and documentation controls, invasion of privacy, and computer fraud. (DP 207)	
CAS 151 Business BASIC I	4(4-0)	CAS 202 EDP Security and Controls II	2(2-0)
Prerequisite: MTH 012 or equivalent. Designed to be taken concurrently with CAS 121. A beginning course in computer programming for CAS majors and others wanting an intensive introduction to problem-solving techniques using the BASIC programming language. (DP 105)		Prerequisite: CAS 201. Study security and control problems of an actual computer center. Based on these studies, recommendations for improvement in the operation's security and control are made. (DP 208)	
CAS 152 Business BASIC II	4(4-0)	CAS 203 EDP Security and Controls III	2(2-0)
Prerequisite: CAS 121 and CAS 151. Intermediate BASIC language. Special considerations for use on microcomputers. Includes tape and disk files, comparison of different machines, and computer graphics. (DP 106)		Prerequisite: CAS 201. Study security and control problems in computer applications. Based on these studies, recommendations for improvement in the application's security and control are made.	
CAS 153 Business BASIC III	4(4-0)	CAS 221 Introduction to Systems Analysis	4(4-0)
Prerequisite: CAS 152. Advanced BASIC language, writing a system of business application programs for a microcomputer. Disk file usage and data structures. (DP 107)		Prerequisite: CAS 152 or CAS 161 or CAS 171. Concepts and methods of systems analysis. Includes the "systems life cycle", project planning, scheduling, estimating, investigation, and analysis. (DP 223)	
CAS 161 Beginning RPGII	4(4-0)	CAS 222 Structured Design Techniques	4(4-0)
Prerequisite: CAS 121 & CAS 151. Understanding RPGII and how to program with it. Includes problem definitions, card procedures, control levels, and multiple-record files. (DP 163)		Prerequisite: CAS 221. Comprehensive review of structured system design techniques and system development management; requirements for developing computerized systems and managing the development process. Emphasis on the data flow systems approach. (DP 224)	
CAS 162 Advanced RPGII	4(4-0)	CAS 225 Artificial Intelligence	4(4-0)
Prerequisite: CAS 161. Reinforce concepts learned in CAS 161 and provide ability to design and implement systems in a team environment. (DP 164)		Prerequisite: CAS 121 and CAS 151. Introduction to problems and techniques of artificial intelligence. Includes problem-solving strategies, knowledge representation, and approaches used by state-of-the-art problem-solving systems. (DP 280)	
CAS 171 COBOL I	4(4-0)	CAS 231 Data Communications	4(4-0)
Prerequisite: CAS 121 and CAS 151. Basic components of the COBOL language applied to write efficient programs. (DP 171)		Prerequisite: CAS 121 and CAS 151. Includes general terminology, hardware and software, basic steps in designing a teleprocessing system. (DP 231)	
CAS 172 COBOL II	4(4-0)	CAS 241 Operating Systems	4(4-0)
Prerequisite: 2.0 GPA in CAS 171. Includes disk file organization and processing. Program business applications such as input editing, merging files, random and sequential file updating, creating and using ISAM files. (DP 172)		Prerequisite: CAS 181. What operating systems are, why they exist, how they work, how they interface with the operators and programmers. (DP 238)	
CAS 173 COBOL III	4(4-0)	CAS 251 Data Base Concepts	4(4-0)
Prerequisite: CAS 172 and CAS 221. A project-oriented class in which the student analyzes and programs a complete business system. Topics include interactive programs, indexed files, file creating and updating, and report generating. (DP 173)		Prerequisite: CAS 181. Objectives of a data base organization and investigating the extent to which these objectives are met by state-of-the-art data base management software. Also, the CODASYL proposal and relational theory. (DP 226)	
CAS 174 COBOL Maintenance	4(4-0)	CAS 271 CCP Review	4(4-0)
Prerequisite: CAS 173. Develops methods of debugging, modifying, and re-writing programs. Includes treatment of development tools such as flow-charts, Warnier diagrams, HIPO charts, structured walk-thrus, and pseudo-code. considers code standardization and machine or language conversion factors. (DP 174)		Prerequisite: CAS 172 and CAS 251. Review to help prepare for the Certified Computer Programmer (CCP) exam. Topics include data base concepts, structured design techniques, data communications, business programming concepts, and language review.	
CAS 181 Assembly I	4(4-0)	CAS 275 Microcomputer Project	4(4-0)
Prerequisite: CAS 121 and CAS 151. Introduces machine language concepts and the basic assembly language instructions for the IBM System/370. (DP 182)		Prerequisite: Program Area approval. Design, document, code, debug and implement microcomputer software system project. Must have successfully completed CAS 152 or CAS 221. (DP 291)	
CAS 182 Assembly II	4(4-0)	CAS 276 Microcomputer Project Extension	4(4-0)
Prerequisite: CAS 181. Includes scanning records for data, extracting variable length data from records, validation of data, extended addressability, multiple base registers, subprogram communication conventions, linked lists, and macro writing. (DP 183)		Prerequisite: Program Area approval. Extension of CAS 275 when the micro-computer project is more ambitious. (DP 292)	

CAS 281 Operations Internship I 3(3-0)

Prerequisite: Program Area approval. The first of a two-term internship designed exclusively for the Computer Operator Certificate of Achievement (curriculum 453). One hundred hours of on-the-job experience in a data processing installation. (DP 244)

CAS 282 Operations Internship II 3(3-0)

Prerequisite: Program Area approval. Additional experience through 100 more hours of on-the-job experience at a different data processing site. (DP 245)

CAS 291 Programming Internship 5(5-0)

Prerequisite: Program Area approval. For students who have completed all of the programming language requirements of the applications programmer degree. Two hundred hours of on-the-job programming experience. (DP 247)

CAS 850 CDP—Review .5(5-0)

Overview of five topics covered in CDP (Certified Data Processor) exam: software, hardware, systems, management, and quantitative methods. (DP 850)

CAS 851 CDP—Software .5(5-0)

Review session for CDP (Certified Data Processor) exam. Includes principles of programming, meta programming systems, and programming languages. (DP 851)

CAS 852 CDP—Hardware .5(5-0)

Review session for CDP (Certified Data Processor) exam. Includes evolution of computers, computer components and functions, internal processing, and peripherals. (DP 852)

CAS 853 CDP—Systems .5(5-0)

Review session for CDP (Certified Data Processor) exam. Includes project responsibility, data processing systems analysis, data processing systems design and implementation, and planning and controls. (DP 853)

CAS 854 CDP—Management .5(5-0)

Review session for CDP (Certified Data Processor) exam. Includes principles of management and principles of data processing management. (DP 854)

CAS 855 CDP—Quantitative Methods .5(5-0)

Review session for CDP (Certified Data Processor) exam. Includes study of the basic accounting process, cost accounting, computer auditing and control, mathematics and statistics. (DP 855)

**Certified Financial Planner (CFP)
Accounting and Computer Academic Programs
Division of Business**

CFP 201 Introduction to Financial Planning 3 (3-0)

Designed to give an overview of the financial planning process and outline the six stages of the process: gathering data, analyzing information, formulating a comprehensive plan, monitoring and implementing the plan. As a further foundation for the financial planning process, includes a study of communications skills, the economic environment, and time value of money concepts. In addition, a basic preview of the subjects covered in the subsequent parts of the program.

CFP 202 Risk Management 3 (3-0)

Prerequisite: CFP 201. Covers the principles of risk management, how to identify a client's risk exposures, and how to select appropriate risk management techniques for clients. Includes the various forms of insurance, the characteristics of insurance programs and policies, and the public and private sector insurance benefits.

CFP 203 Investments 3 (3-0)

Prerequisite: CFP 202. Acquaints the student with a wide variety of investment vehicles, the environmental influences affecting investment vehicles, and the fundamentals of investing, including financial markets, sources of investment risks, tax considerations, and securities regulation.

CFP 204 Tax Planning and Management 3 (3-0)

Prerequisite: CFP 203. Provides the student with an understanding of the fundamental methods of individual income tax management. The student will learn about the potential income tax implications resulting from the selection of a particular form of business, intrafamily transfer method, and tax-advantage investment. Students will also be introduced to various types of charitable contributions and the effect they have on a client's income taxes, tax planning alternatives, and tax traps.

CFP 205 Employee Benefits and Retirement Planning 3(3-0)

Prerequisite: CFP 204. Designed to familiarize students with various person and employer-sponsored retirement plans, examines IRA's, tax-sheltered arrangement (TSA's), and qualified retirement plans including group life and medical insurance, medical reimbursement plans, and self-insured health and welfare plans.

CFP 206 Estate Planning 3(3-0)

Prerequisite: CFP 205. Acquaints students with the various components of the estate planning process. It will teach students about the fundamentals of federal estate and federal gift taxation, various estate planning techniques including exclusion and valuation techniques, deeds, forms of ownership, charitable transfers, and postmortem planning techniques.

**Insurance (INS)
Accounting and Computer Academic Programs
Division of Business**

INS 265 Principles of Risk and Insurance (4-0)

This course presents the fundamental principles involved within the business environment for handling risk, with emphasis on those indicating insurance solutions. It covers property, casualty, life, accident and health insurance.

CRIMINAL JUSTICE AND LAW SYSTEMS

Program Director: Jane P. White
C. F. Pegg Center for Criminal Justice
227 Old Central Building

(In recognition of his substantial contribution in founding the Law Enforcement program and establishing the Mid-Michigan Police Academy at Lansing Community College, the Center was named in 1981 for Charles F. Pegg, Chief of Police, educator and leader in professionalism of law enforcement throughout Michigan.)

Criminal justice education can be defined as an interdisciplinary study of the structure, functions, decision processes, and problems of various agencies that encompass the legal system. Agencies include the police, courts, and correctional organizations, security operations, or civil law system.

The Criminal Justice and Law Systems programs are designed to prepare men and women for entering a variety of occupations such as law enforcement, corrections, juvenile work, parole and probation areas, security operations, legal assistant, management, and administration. The programs are designed to provide the student with a general background concerning criminal justice or law prior to their entering the specialized and pragmatic aspects of a particular occupation.

Continuing education is offered for the practitioner in a variety of areas. The Criminal Justice and Law Center presents in-service training on an ongoing basis and is available to criminal justice agencies to conduct and organize seminars as needs are expressed.

Curricular guides for each curriculum offered by Criminal Justice and Law Systems are available in the Counseling offices and the Program Director's office; however, these guides may be modified to accommodate an individual student's background, goals, and abilities. The student is encouraged to discuss unique situations with an academic advisor in the Criminal Justice and Law Center.

Corrections Administration Program

An Associate Degree in the area of Corrections Administration. A broad base of knowledge is afforded to corrections personnel as well as those anticipating entering this occupation. Many career paths are available including those of parole and probation officer, institutional corrections officer, half-way house supervisor/administrator, and various positions in juvenile correctional institutions. This is one of the fastest growing occupational fields in Michigan. (Curriculum Code 465)

Corrections Officer Certificate

The Corrections Officers Training Act of 1982 mandates that 23 credits must be obtained for entry level into State and Local correctional officer positions. (Curriculum Code 464)

Criminal Justice Program

Two different options are available for the student: Associate Degree or the Associate Degree for transfer to a four year institution. These career degrees allow the student to focus on criminal justice with potential employment in a police agency. (Curriculum Code 460 and 461)

Criminal Justice—Natural Resources Officer Option

An Associate Degree for those students seeking employment in Department of Natural Resources. State of Michigan option to transfer to a four-year institution. (Curriculum Code 463)

Legal Assistant Program

An Associate Degree program designed for those who choose a paraprofessional career assisting attorneys ranging from office management to preparing case materials. The majority of the graduates will seek employment with law firms. Opportunities also exist in banks, real estate offices, welfare offices, credit and collection agencies, insurance companies, title insurance companies, abstract offices, and government agencies. The program provides background in legal processes and procedures. Ample elective choices to attain individual goals are available. (Curriculum Code 442)

Mid-Michigan Police Academy Program

An Associate Degree program which allows a student to apply to the Police Academy at Lansing Community College towards the end of this two year program. Michigan Law Enforcement Training Council mandates that a pre-service applicant must be eligible for a two-year Associate's degree upon completion of the Academy. A Spring and Fall Police Academy, 13 weeks long and in excess of 40 hours per week, occurs each year. Physical and general education pre-testing as well as other selection criteria are utilized for selection as mandated by law in Michigan. Staff is comprised of training officers from Lansing and East Lansing Police Departments, Michigan State University Department of Public Safety, and the Ingham and Eaton County Sheriff's Department. (Curriculum Code 460)

Security Administration Program

An Associate Degree is designed to provide graduates for entry into many different occupations or to transfer to a four year institution. Employment opportunities include business firms, bank/financial industry, wholesale/retail industry, hospital/medical facilities, institutional facilities and manufacturing companies. The concepts of prevention and service by trained security personnel to their employer is emphasized. The private security industry has developed into a multi-billion dollar a year business and has grown in employment by 15 percent each year over the last decade. (Curriculum Code 469)

COURSE DESCRIPTIONS

Criminal Justice (CJ)
Criminal Justice and Law Systems
Division of Business

(Note—former course codes are in parentheses after the descriptions)

- CJ 101 Introduction to Criminal Justice** 4(4-0)
 Study of the process of criminal justice with emphasis on historical, constitutional and organizational systems. (LE 101)
- CJ 102 Crime: Causes and Conditions** 3(3-0)
 Analysis of causes and control of crime, sociological and psychological theories; measurement of crime; perspectives on punishment. (LE 102)
- CJ 103 Criminal Law** 4(4-0)
 Prerequisite: CJ 101. Study of criminal law, classification of crimes, the elements of crime and defenses against criminality. Also the application of concepts to specific offenses and how to research the law. (LE 103)
- CJ 104 Basic Elements of Criminal Investigation** 4(4-0)
 Prerequisite: Program Area approval or CJ 103. Fundamentals of crime scene investigation and collection and preservation of physical evidence. (LE 104)
- CJ 105 Criminal Offense Investigation: Techniques and Procedures** 4(4-0)
 Prerequisite: Program Area approval or CJ 104. Advanced criminal investigation dealing with specific crimes, including preparing cases for prosecution and courtroom testimony. (LE 105)
- CJ 106 Juvenile Problems: Control and Prevention** 4(4-0)
 Legal basis for the criminal justice practitioner in dealing with the juvenile offender and juvenile victim as defined by Michigan law. (LE 106)
- CJ 107 Juvenile Problems: Control and Prevention Part II** 4(4-0)
 Prerequisite: Program Area approval or CJ 106. Legal and procedural methods of the juvenile justice systems and agencies; specific behavioral patterns of juveniles identified. (LE 107)

- CJ 113 Women and Men in Criminal Justice** 3(3-0)
 Explores the issue of men and women working together in the criminal justice work force; survey of self-awareness, career awareness, decision making processes. (LE 113)
- CJ 130 Introduction to Corrections** 4(4-0)
 Introduction and analysis of agencies and processes within the correctional system. An examination of correctional officer behavior and correctional legislation, the courts, rehabilitation, and correctional institutions and their operation and administration. Includes overview of history, sentencing, probation and parole and community corrections. (COR 111)
- CJ 131 Legal Issues in Corrections** 4(4-0)
 Prerequisite: CJ 130 or Program Area approval. Study of current constitutional, Federal and State law as it pertains to penal institutions, inmates and correctional employees. Will acquaint the student with basic correctional law and inmate rights. The course will provide students with insight into policy considerations behind State and Federal law, legal process and court decisions. (COR 113)
- CJ 132 Probation and Parole** 4(4-0)
 An introductory level course in probation and parole with strong emphasis on counseling and interviewing skills, the proper use of supervision techniques and the writing of reports such as pre-sentence reports, initial interview reports, quarterly follow-up reports, probation and parole violation reports, etc. The history and theory of probation and parole. (COR 115)
- CJ 133 Juveniles in Corrections** 3(3-0)
 Prerequisite: Program Area approval or CJ 130. Legal aspects of the juvenile court process, detention case supervision and juvenile institutions after care will be examined. Both public and private agencies will be discussed in the treatment of the juvenile offender. (COR 133)
- CJ 150 Introduction to Private Security** 4(4-0)
 An overview of the rapidly growing field of private security. Topics covered include development, philosophy, responsibility and functions. In addition, a perspective of the present state of private security, principles, legal authority and effect on society in general is presented. (SEC 111)
- CJ 151 Legal Aspects of Private Security** 4(4-0)
 Presents the legal rights available to security officers, corporations, partnerships and individually owned businesses for the protection of assets from loss. Topics covered include powers of arrest, search and seizure, interrogation and interview and other laws applicable to private security officers and administrators. (SEC 113)
- CJ 152 Loss Prevention: Controls and Concepts** 4(4-0)
 Prerequisite: CJ 150. Addresses the "whip" of security as well as the problems of loss. The course adopts the concept of conceding loss control prevention is the primary effort needed. The course work will present a new perspective in looking at a persistent problem, loss of assets. (SEC 115)
- CJ 201 Criminal Justice Organization and Administration** 4(4-0)
 Prerequisite: CJ 101. Principles of organization including setting policy and procedure, planning, budgeting and goal setting for criminal justice agencies. (LE 201)
- CJ 202 Criminal Justice Management and Supervision** 3(3-0)
 Managerial functions including roles and responsibilities of supervisory employees in criminal justice agencies and implementing policy and procedures. (LE 202)
- CJ 203 Criminal Procedure** 4(4-0)
 Prerequisite: CJ 101. Pre-trial procedures with emphasis on U.S. and Michigan Constitutions. Includes law of arrest, search and seizure, interrogation and confessions and rules of evidence. (LE 203)
- CJ 204 Highway Traffic Administration** 4(4-0)
 Prerequisite: CJ 101. Study of Michigan Vehicle Code; effective traffic control procedures; elements of "selective" enforcement, parking and intersection control; procedures and policies for vehicle accident investigation; review of fatalities, causes, prevention and scope of accident investigation. (LE 204)
- CJ 206 Interviewing and Interrogation** 3(3-0)
 Prerequisite: Program Area approval. Techniques and procedures utilized in successfully interviewing or interrogating; behavioral guidelines; constitutional and court decisions regulating appropriate guidelines. (LE 206)

CJ 208 Organized Criminal Activity	3(3-0)	CJ 258 Aikido in Corrections	3(3-0)
Prerequisite: Program Area approval. Development and history of organized crime throughout the world. Shows evolution of crime as a economic entity in legitimate, as well as illegitimate, sources of the business world. (LE 208)		A hands-on correctional defensive tactics course that is designed to assist the students in developing skills and techniques necessary for subduing and controlling subjects in a correctional environment.	
CJ 209 Patrol Procedures	3(3-0)	CJ 260 Firearms/Corrections	3(3-0)
Study of basic patrol operation vital to police and security as a primary function; purposes, methods, types and means as well as deployment methods. (LE 209)		Prerequisite: Program approval and corrections major. This course is designed to assist the students in developing proficiency in the use of rifles and shotguns in order that they may function effectively (with these weapons) in both Corrections Academy and the correctional work environment.	
CJ 210 Substance Abuse in the Workplace	3(3-0)	CJ 270 Computers in Security	(4-0)
An in-depth discussion of the substance abuse problem in the workplace. This course is designed to inform the students of the different drugs, their abuse and and their effects. Also covered are topics of drug involvement and how it relates to labor relations, management/employee relations, investigative techniques and arbitration.		Prerequisite: CJ 152. A practical skills development course building on the concepts presented in CJ 152. Course work will concentrate on loss control security surveys, development, implementation and application in the field through visitation to on-site locations.	
CJ 215 The Criminal Mind	3(3-0)	CJ 271 Computer Fraud	4(4-0)
An introduction to the working of the criminal mind. Basic concepts of mental functioning will be addressed with emphasis on behavioral motivation in criminal conduct.		Prerequisite: Program area approval. Legal, technical and investigative concepts to aid the investigator to identify and pursue case development and prosecution regarding computer crimes. (SEC 220)	
CJ 221 Fire Prevention: Controls and Prevention	4(4-0)	CJ 281 Directed Independent Study	1(1-0)
Overview of prevention, arson, investigation, and role of security.		Prerequisite: Program area approval. 10 hours of course work is assigned per credit. (LE 231)	
CJ 235 Basic Firearms	4(4-0)	CJ 282 Directed Independent Study	2(2-0)
Prerequisite: Program Area approval and sophomore status. Provides basic marksmanship, safety rules and regulations, range procedures, nomenclature and function of the various types of weapons. (LE 235)		Prerequisite: Program area approval. 10 hours of course work is assigned per credit. (LE 232)	
CJ 236 Basic Combat Firearms	4(4-0)	CJ 283 Directed Independent Study	3(3-0)
Prerequisite: Program Area approval and CJ 235. Intermediate instruction as a transition from bull's eye to field and combat shooting. (LE 236)		Prerequisite: Program area approval. 10 hours of course work is assigned per credit. (LE 233)	
CJ 242 Unarmed Defense	4(4-0)	CJ 284 Directed Independent Study	4(4-0)
Correct and effective methods of disarming and applying techniques to subdue subjects; search techniques and legal aspects of physical control. (LE 242)		Prerequisite: Program area approval. 10 hours of course work is assigned per credit. (LE 234)	
CJ 243 Unarmed Defense II	4(4-0)	CJ 285 Law Enforcement Internship	3(0-3)
This course is designed to provide the student who already has a working knowledge of the basic concepts of police defensive tactics, with advanced training involving handcuffing, pressure points and transition techniques.		Prerequisite: Program Area approval and sophomore status. Twelve eight-hour shifts are scheduled with an approved police department. Required reports. (LE 247)	
CJ 245 Report Writing/Criminal Justice	2(2-0)	CJ 286 Criminal Justice Agency Internship	8(0-8)
Prerequisite: CJ 101 or CJ 130 or CJ 150. Methods of precise writing techniques; proper documentation of work effort; application of skills in writing exercises.		Prerequisite: Program Area approval and sophomore status. Working in conjunction with a public or private human service agency, the student is assigned for 20 hours per week. Required reports. (LE 249)	
CJ 248 Physical Fitness for Criminal Justice	3(3-0)	CJ 287 DNR Officer Internship	15(0-15)
This course is designed to assist the students in developing and enhancing their level of physical fitness in order that they may successfully complete certification and re-certification physical fitness criteria established in law enforcement and corrections. The course includes aerobic, strength building and stretching exercises along with nutrition information.		Prerequisite: Program Area approval and sophomore status. Working in conjunction with State of Michigan, Department of Natural Resources, the student is assigned the entire term to a supervising senior conservation officer. (LE 248)	
CJ 250 Correctional Institutions	4(4-0)	CJ 288 Corrections Internship	4(0-4)
Examines the historical development of correctional institutions in the United States; organizational structure, purpose, programs, custody and security aspects and prisoner due process rights as well as the future projections of correctional institutions. (COR 210)		Prerequisite: Program Area approval. Working with a corrections facility, the student is responsible for fifteen eight-hour shifts along with report writing requirements. (COR 231)	
CJ 251 Correctional Clients	4(4-0)	CJ 289 Corrections Internship	15(0-15)
Emphasis of this course is placed on the needs and identities and development of the recipient of correctional services. The purpose of the course is to assist the student in gaining insights into the development of sensitivity to the behavior and motivations of corrections clients. Specific problems of prisoners and intervention strategies are reviewed. (COR 212)		Prerequisite: Program Area approval. Working with a corrections facility, the student is responsible for an eight week, forty hours per week, assignment. The student is also required to submit written reports. (COR 230)	
CJ 252 Community Based Corrections	4(4-0)		
Designed to familiarize the student with the various agencies in the community that are utilized in a corrections' program which keep the offender in the community and help to maintain the community ties. (COR 225)			
CJ 255 Human Relations in Corrections	4(4-0)		
Prerequisite: CJ 130 or Program Area approval. This course will emphasize the meaning and functions of culture and discrimination. Minorities in Michigan, affirmative action and how attitudes are formed will be reviewed. Ethics, values and professional responsiveness will be discussed. (COR 227)			
		Law (LAW)	
		Criminal Justice and Law Systems	
		Division of Business	
		LAW 100 Legal Rights	3(3-0)
		An analysis of landlord-tenant law, debtor-creditor laws, contract relationships, consumer credit, consumer rights, and other legal regulations affecting private citizens.	

- LAW 105 Law and Social Issues** 2(2-0)
A survey course designed to inform the public of its rights and responsibilities in relation to others. Provides an overview of court decisions on contemporary social issues and discussions regarding the foundations for these decisions. Insight on the judicial system and the problems of insuring justice in an ever changing social system. Topics covered include abortion and family planning, drugs and alcoholism, conscientious objectors, discrimination, consumers' and debtors' rights.
- LAW 115 Legal Processes** 3(3-0)
A survey of the nature and sources of law, including the relationship between the law-making functions of federal and state governments. Includes an exploration of the operation of the court system and the fundamentals of legal reasoning.
- LAW 120 Legal Research I** 4(4-0)
Prerequisite: LAW 115. Includes research procedures and methods, including problem analysis. It provides in-depth treatment of Federal/or Michigan research publications: practice manuals, encyclopedias, digests, reporters, statutes, periodicals, citators, treatises, court rules, administrative publications, and others. Research assignments are given using the above-mentioned publications together with constructing citations using the Michigan Uniform Systems of Citations.
- LAW 121 Legal Writing** 4(4-0)
Prerequisite: LAW 115. Lecture, class discussion, and writing assignments are used in this course covering identification of issues, statement of facts, and arguments of law as they apply to writing briefs, pleadings, opinions, client letters, and drafting instruments.
- LAW 130 Introduction to the Michigan Judicial System** 2(2-0)
Survey course designed to provide an understanding of Michigan's overall judicial system.
NOTE: LAW courses 210, 211, 212, 221, 222, 223, 224, and 225 are designed to view the technical problems of the respective legal areas from the standpoint of the legal assistant.
- LAW 210 Pre-Trial Procedures** 4(4-0)
Prerequisite: LAW 115. Covers an in-depth study of pre-trial considerations necessary for litigation, including jurisdiction, venue, statutes of limitation, parties, service of process, third-party practice, pleadings, discovery, and pre-trials. Practical application is used through drafting of Complaints, Answers, Motions for Accelerated Judgment, Motions for Summary Judgment, Interrogatories, Request for Admissions, Pre-Trial Statements, and others. Emphasis is made on the role of the Legal Assistant in preparing a case for trial. It also includes witness preparation, discovery, and exhibit preparation.
- LAW 211 Trial and Appellate Procedures** 4(4-0)
Prerequisite: LAW 210. An in-depth study of trial considerations and procedures, including investigation, client and witness interviews, client preparation; evidence, including hearsay, materiality and relevancy, competency of evidence, best evidence, parole evidence, etc.; right of trial by jury, selection of jury, challenges to array, voir dire examination, opening statements, presentation of evidence, arguments to jury, instructions to jury, requests to charge, dismissals, verdicts, post-trial procedures, appeals to Court of Appeals and Supreme Court. An emphasis on the role of the legal assistant in preparing for trial and appeals is made.
- LAW 212 Legal Field Specialties** 4(4-0)
Prerequisite: LAW 115. An overview of specialty areas of law, including drafting of pleadings and related legal instruments. It includes criminal law, bankruptcy, probate, personal injury, Michigan's no-fault automobile insurance laws, Worker's Disability Compensation, applicable statutes, case law, and court rules.
- LAW 215 Business Law I** 4(4-0)
Covers fundamental principles of our law for business and non-business students, to develop understanding of our legal system (federal, state and local), its purposes and importance in society. Course content includes study of the nature and sources of law, courts and court procedure, torts, crimes, contracts, no-fault auto insurance, landlord-tenant relations, personal property and bailments.
- LAW 216 Business Law II** 4(4-0)
Prerequisite: LAW 215. The nature of law of sales, commercial paper, security devices, debtor-creditor rights, and insurance. Portions of the Uniform Commercial Code are explored in depth. The UCC topics of sales, bulk sales, commercial paper, banking and secured transactions are included.
- LAW 217 Business Law III** 4(4-0)
Prerequisite: LAW 215 and LAW 216. Commences with agency law, the basic building block of complex business organizations. The legal aspects of sole proprietorships, partnerships and corporations are examined. Government regulation of business, real property, will, trusts and estates are also covered.
- LAW 221 Real Estate Transactions** 4(4-0)
Prerequisite: LAW 115. An in-depth treatment of real property and common types of real estate transactions and conveyances. Included are proration, closing statements, closings, examination of title insurance, abstracts and title opinions, legal descriptions, title searches, recording systems, landlord/tenant problems, summary proceedings, and drafting legal documents.
- LAW 222 Probate** 4(4-0)
Prerequisite: LAW 115. Reviews practical problems in probating estates, including all procedures involved in the commencement of probate through closing of the estate. It includes independent probate, supervised administration, and small estates.
- LAW 223 Domestic Relations** 4(4-0)
Prerequisite: LAW 115. Covers the topics of divorce, separate maintenance, annulments, and paternity proceedings. Included also are custody, support, alimony, property, visitation, injunctions, modifications, enforcement, judgments, mediation, tax, and role of the Friend of the Court; applicable statutes, case law, and Court rules. Stresses the role of the legal assistant in domestic relations matters.
- LAW 224 Administrative Law** 4(4-0)
Prerequisite: LAW 115. A study of government agencies and their relationships with private activities and citizens affected thereby. Covers rulemaking, adjudication, licensing, and informal action.
- LAW 225 Legal Research and Writing II** 4(4-0)
Prerequisite: LAW 120 and LAW 121. Reviews principles of legal research and writing; analysis of facts, problems, and legal issues; citations; extensive research assignments in Federal and Michigan publications; drafting legal memoranda, opinion letters, and Appellate Brief. Some classes will be held at off-campus libraries.
- LAW 266 Independent Study/Law** 1(1-0)
This special course is available only with program area approval for special projects in law which are not available through regular courses. Requires 20 to 30 hours of independent study. Writing required.
- LAW 267 Independent Study/Law** 2(2-0)
This special course is available only with program area approval for special projects in law which are not available through regular courses. Requires 40 to 50 hours of independent study. Writing required.
- LAW 268 Independent Study/Law** 3(3-0)
This special course is available only with program area approval for special projects in law which are not available through regular courses. Requires 60 or more hours of independent study. Writing required.

HOSPITALITY SYSTEMS

Program Director: Lawrence R. Mackey
102 Old Central Building

The public hospitality industry ranks first among the service industries in its number of employment opportunities. Opportunities for qualified persons are available worldwide. Specially trained supervisory personnel for positions in hotels, motels, and food service establishments are in demand and employers in the industry are showing a preference for college-trained personnel. Business authorities are predicting an accelerated growth in the hospitality industry in the latter 1980's and the 1990's.

The programs of the Hospitality Systems are designed to prepare the student for a career in hotel-motel management, food service management, tourism and travel agency operations, and culinary arts. The student receives a balanced program of academic studies and laboratory experience while being trained for one of these careers.

The hotel-motel management and food service students have access to hotels, motels, food service operations, retirement homes, hospitals, clubs, and airline feeding companies where they will receive training in the following career-related positions:

Hotel-motel manager
 Assistant manager trainee
 Front office manager
 Catering manager
 Assistant auditor
 Sales representative
 Reservation manager
 Entertainment director
 Food service management
 Assistant manager/trainee

Food production manager
 Assistant steward
 Dining room supervisor
 Assistant manager-institutional
 Food service hostess
 Director of school lunch programs
 Bartending
 Chef
 Club manager

HMF 132 Food Production II 5 (5-0)
 Prerequisite: HMF 131. Applied to quantity operation; managerial methods and concepts utilized in the administration of food functions. Includes preparation and service of food.

HMF 133 Food Production III 5(5-0)
 Prerequisite: HMF 132. Quantity production methods. Includes basic terminology with overview of the entire food production and service area.

HMF 134 Nutrition 3(3-0)
 Discuss basic nutrition, RDA's, energy balance, weight control, variety of diets and dietary guidelines, food processing, natural and organic foods, fad and fast foods.

HMF 135 Quantity Food Purchasing 5(5-0)
 Standards of quality and quantity as applied to food, beverages, china, glass, silver, linen, furnishings, and supplies. Writing specifications. Procurement policies.

HMF 137 Food Service Catering 3(3-0)
 Designed to acquaint the student with social catering. Learn how to buy, prepare menus, costing and pricing, equipment requirements, equipment maintenance, on/off premise functions, sanitation and contractual agreements. A field project is required.

HMF 142 Meat Cutting I 5(5-0)
 Preparing, processing, cutting, and merchandising beef and pork utilizing the basic equipment needed in retail meat cutting.

HMF 143 Meat Cutting II 5(5-0)
 Identifying and cutting wholesale and institutional cuts of pork, beef, lamb, poultry, and fish; preparation and merchandising techniques; cutting tests; yield and loss percentages; differences between retail and wholesale cuts.

HMF 144 Meat Cutting III 5(5-0)
 Wholesale meat cutting, processing, and freezing; best methods to use in cutting and freezing; storage times; best cuts and grades of beef for home, retail, and restaurant use. Preparation of various types of sausage; cleaning, filleting, and preparing fresh fish for cooking and storage.

HMF 170 Menu Design and Layout 3(3-0)
 Selection of menu items, design and layout, projections of acceptability, and study of market areas. Field project.

HMF 190 Internship and Seminar 4(4-0)
 Placement in an approved training environment; credits for satisfactory work performance; wages for hours worked.

HMF 191 Independent Study-HMF 1(1-0)

HMF 192 Independent Study-HMF 2(2-0)

HMF 193 Independent Study-HMF 3(3-0)

HMF 194 Independent Study-HMF 4(4-0)

Prerequisite: Program Area approval. Explore a topic or problem of interest through readings, research, etc.; at least ten hours work per credit.

HMF 195 Culinary Art Practicum 1(1-0)

HMF 196 Culinary Art Practicum 1(1-0)

HMF 197 Culinary Art Practicum 1(1-0)

HMF 198 Culinary Art Practicum 2(2-0)

HMF 199 Culinary Art Practicum 2(2-0)

Prerequisite: Curriculum 457 required. On-the-job apprenticeship training under the supervision of a qualified chef. Practicum conducted by a staff member of Lansing Community College; supervised by an appointed member of the Capitol Professional Chefs' Association of Greater Lansing.

HMF 201 Hotel-Restaurant Merchandising 4(4-0)

Sales promotion and methods. Why the sales effort fits into the total profit picture. How to measure and gauge accurately the worth of every type of business.

The Hospitality Systems offers a two-year (90 credits) associate degree program with a choice of three curriculums in hotel-motel and food service management. It also offers an associate degree (90 credits) in a registered chef apprenticeship program sponsored by the U.S. Department of Labor and the American Culinary Federation. Certified Hotel Administrator (CHA) courses are also available, sponsored by the American Hotel-Motel Association. In addition, the Hospitality Systems area offers an associate degree (90 credits) in travel and tourism.

Hospitality Systems offers one-year (45 credits) achievement certificate programs with a choice of two curriculums in hotel-motel and food service management.

Guides for each curriculum offered by Hospitality Systems are available in the counseling offices and the office of the program director; however, these guides may be modified to accommodate an individual students' background, goals, and abilities. Students are advised to discuss unique or unusual situations with an academic advisor within the Hospitality Systems area.

Hotel-Motel and Food Service Management Programs

These programs are designed to prepare the student for mid-management level positions as supervisory personnel in hotels, motels, restaurants, and other hospitality institutions. (Curriculum Codes 455 through 459)

Tourism and Travel Agency Operations Program

This Associate Degree program is designed to prepare students for careers in the travel and tourism industry. Abundant employment opportunities are available within the travel industry, both domestic and overseas, serving both pleasure and business purposes. Training includes an integration of all types of human travel, functions of travel agents, types of transportation accommodations, and familiarization with all materials used in a travel agency. Destinations, weather, climate, physical characteristics, and major tourist attractions, as well as compiling of charters and tours with the appropriate and successful technologies are discussed. (Curriculum Code 484)

Community Service Programs

Whatever the need, the Hospitality Systems are prepared to offer special classes, seminars, and in-service training programs designed to prepare the student for employment, for upgrading, or to update employed persons. These special classes may be held at the College or off-campus according to the needs of the client. Instructors and coordinators of special classes include College staff, business people, and employers with expert qualifications and experience. Special programs may include: apartment management and leasing, hostess and waitress training, a learn-to-cook program, innkeeping law, the internship program, preparation of party foods, executive housekeeping, ice carving and baking.

COURSE DESCRIPTIONS

**Hotel-Motel and Food Service (HMF)
 Hospitality Systems
 Division of Business**

HMF 101 Introduction to Hospitality and Food Service Operations 4(4-0)

Introduction to the hotel-motel-food service industry, its history, management departments, the industry's responsibilities, and opportunities for employment.

HMF 102 Communications 4(4-0)

Principles of oral and written communication and how to get your message accepted.

HMF 103 Training and Coaching Techniques 4(4-0)

How to develop supervisory skills needed to train employees; devise economical and efficient work methods; improve job performance; and assist in setting realistic job performance standards.

HMF 131 Food Production I 5(5-0)

Basic concepts in menu planning, food purchasing, nutrition, sanitation, service, and food storage.

HMF 203 Hotel-Restaurant Law	4(4-0)	HMF 232 Food and Labor Cost Control	3(3-0)
Creates an awareness of the responsibilities and rights which the law imposes upon and grants to the innkeeper, and illustrates the consequences caused by failure in those responsibilities. The attitude of the courts toward an innkeeper involved in litigation is discussed.		Principles and procedures of effective food, beverage, and labor cost control and their adaptations to food and beverage operations.	
HMF 204 Human Relations/Supervisory Development	4(4-0)	HMF 233 Food Service Sanitation	3(3-0)
Ways to channel human behavior; areas of supervisory concepts and practices; mutual expectations of workers and management; hiring, training, coaching, counseling; leadership and guidance of workers.		Training in sanitation, hygiene, and food handling, with emphasis on service of food and beverages.	
HMF 205 Hotel-Restaurant Management	4(4-0)	HMF 251 Wine Appreciation	2(2-0)
Subjects and problems of hospitality management: general concepts, personnel, guests, and technical problems of operations. For management in the hospitality industry or second year HMF students.		Introduces the five basic types of wine: red, white, rose, sparkling, and fortified. History of wines and their making; presentation and serving; judging by appearance, bouquet, and taste; selecting and storing for restaurant or retail use; and relationship between wines and foods.	
HMF 206 Front Office Procedures	4(4-0)	HMF 252 Wines of America	2(2-0)
Organization, control, and operation of the front office in the reservation and sale of rooms, service. Keeping of accurate accounts, presenting bills and receipts of payment.		A survey of the wine growing areas of the United States with emphasis on the varietal selections of California, New York, Michigan and Ohio. A study of wine making, comparative tastings and field trips are used to acquaint the student with the wine industry in America.	
HMF 207 Financial Control and Management I	4(4-0)	HMF 253 Wines of France	2(2-0)
Principles, problems, and practices related to finance and their relative importance in the hospitality industry. Includes financial statements, interpretation of accounts, and statements unique to the hospitality industry.		In depth survey of the major wine growing regions of France. Emphasis will be given to the geographical and viticultural tradition which produce the distinctive wines that have given France its world famous reputation for fine table and sparkling wines.	
HMF 208 Financial Control and Management II	4(4-0)	HMF 254 Mixology	5(5-0)
Prerequisite: HMF 207. Accounting practices and procedures for the restaurant and hotel manager.		Opportunity to become a skilled bartender. Master over 100 mixed beverages and the proper serving of wines and beer. Combines the arts of mixology and hospitality with control systems involving alcoholic beverages. Emphasis on alcohol management.	
HMF 211 Business Franchising	4(4-0)	HMF 260 Food Preparation: Basic Cookery	3(3-0)
Nature, scope, history, advantages, and disadvantages to franchiser and franchisee: starting and developing a franchise; recruiting franchise finances; training; real estate selection; franchisee-franchiser relations.		Techniques in pre-planning, preparation, service, and cleanup involved in a meal. Includes buying lists, menus, recipes, costs, measuring units, and basic nutritional information.	
HMF 212 Liability and Loss Prevention	3(3-0)	HMF 262 Food Preparation: Gourmet/Foreign	3(3-0)
Organization for a security program, protection of the physical facilities, guest protection, emergencies, and internal and departmental security measures.		Numerous foreign foods prepared and tasted. Includes uses of wines and cheeses.	
HMF 213 Energy Management and Control	4(4-0)	HMF 263 Food Preparation: Gourmet/American	3(3-0)
Although some course material is geared towards types of energy sources and technical terms, it is presented as a management oriented class.		Regional American cuisine; preparing and serving gourmet meals. Menus include garnishes, soups, sauces, entrees, vegetables, and desserts.	
HMF 214 Supervisory Housekeeping	4(4-0)	HMF 264 Food Preparation: Gourmet/Barbecue	3(3-0)
Provides an overview of the fundamentals of housekeeping management. This course describes the management functions, tools, and practices required in today's lodging and institutional housekeeping departments.		Meats, vegetables, hors d'oeuvres, salads, and desserts are prepared out-of-doors.	
HMF 215 Hotel-Restaurant Marketing	4(4-0)	HMF 266 Food Preparation: Chinese Cookery	3(3-0)
Applies marketing techniques and concepts to the food and lodging industries to include human factors, consumer demand, planning, and professional considerations.		Chinese dishes such as sweet and sour pork, chicken almondine, and egg rolls; sauteing and red cooking.	
HMF 216 Maintenance and Engineering	4(4-0)	HMF 267 Food Preparation: Advanced Chinese Cookery	3(3-0)
An introduction to the maintenance and engineering principles required in today's lodging and food service operations, including technical information necessary to establish preventive maintenance programs.		More elegant and complex Chinese dishes, and use of traditional Chinese spices and ingredients.	
HMF 223 Club Management and Service	4(4-0)	HMF 268 Food Preparation: Vegetarian Cookery	3(3-0)
Application of decision making techniques using concepts of finance, marketing, labor relations, management, and law in management of public and private clubs.		Preparation of nutritious foods using ingredients other than meat: main meals, nutritious snacks, sweets, frostings, beans, seed sprouts, and quick mixes.	
HMF 229 Convention Management and Services	4(4-0)	HMF 270 Food Preparation: Microwave Cookery	3(3-0)
Scope and segments of the convention market are explored; what is required to meet customers needs, and methods and techniques that lead to better service.		Production of various types of food with the microwave oven. Microwave oven capabilities explored.	
HMF 230 Math for Food Service Management	4(4-0)	HMF 271 Food Preparation: Advanced Microwave Cookery	3(3-0)
Introductory course in the use of math concepts pertaining to the food service industry. Recipe and measurement conversions, addition, subtraction, multiplication, division, fractions, and percents will be covered.		Prerequisite: HMF 270 or equivalent. Recipes from microwave cookbook and student recipes; covers technical and theoretical principles of microwave cookery.	
HMF 231 Resort Management	4(4-0)	HMF 272 Canning and Preserving	3(3-0)
This course offers various approaches to the operation of resort properties. Also it examines the future and the impact of the condominium concept, time sharing, technological changes and the increased cost of energy and transportation.		The student will gain an understanding of the basic preservation methods used throughout the ages and will experience these techniques through hands on lab work. You will learn the fundamentals of canning equipment and gain the necessary confidence to properly and safely implement these fundamentals in home canning.	

HMF 275 Bakery Products	3(3-0)	TA 131 Foreign Country Travel IV	4(4-0)
Prepare types of baked products, with some cake and pastry decoration.		A study of history and development of Africa, Asia and the Pacific with specific location and identification projects. Major points of tourist interest will be discussed along with climate, distance and time zones. Passports, visas and other entry requirements will be covered.	
HMF 276 Advanced Pastry and Decorating Techniques	3(3-0)	TA 135 Airline Operations	4(4-0)
Decoration and presentation of cake and pastry items. Introduces colors, border design, decorating equipment, simple flowers, icing and sugar molding, cake masking, small cake, and pastry presentations.		An introduction to airlines and airline operations centering on the many varied tasks performed by airline personnel at the airport. Topics to be discussed include ticket counter operation, the gate area, aviation weather, how airplanes fly, flight planning, aircraft weight and balance, aircraft servicing, and cargo handling and loading. An airport visit will be included to observe the actual servicing of a flight.	
HMF 280 Food Specialities I	4(4-0)	TA 137 Tour Escorting and Wholesaling	4(4-0)
Advanced Garde-Manger techniques, such as aspic-pates, chaud-froid, terrines, gelatines, and sauces; manipulation of tools; buffet table arrangement and organization.		An introduction to tour escorting and wholesaling, the policies and procedures normally required by most tour companies. Other topics to be discussed include the psychology of tour traveler, their needs and desires.	
HMF 281 Food Specialities III	3(3-0)	TA 140 Introduction to Ground Transportation	4(4-0)
Preparation of soups and sauces from scratch, as well as utilization of convenience foods.		Introduction to career opportunities in ground transportation. Discusses destinations, weather, climate, physical characteristics, major tourist attractions, and marketing techniques. Learn how to compile charters and tours. Introduction to Russell's Official National Motorcoach Guide for the United States and Canada.	
HMF 282 Food Specialities IV	3(3-0)	TA 145 Introduction to Cruise Sales and Operations	4(4-0)
Preparation of vegetables and fruits from scratch, as well as utilization of convenience foods.		An analysis of cruise sales and operations including how to sell a cruise, costs, selecting the right cruise, ports of call, ship profiles, ship listings, reference materials and cruise destinations of popular passenger and freighter ships.	
HMF 285 Food Specialities II	4(4-0)	TA 150 Tourism for the Travel Industry	4(4-0)
Special Garde-Manger techniques such as ice and tallow sculpturing; manipulation of tools; buffet showpieces such as watermelon baskets, table arrangement of fresh fruits and vegetables, and similar accent decorative showpieces; pulled sugar.		An introduction to the principles of tourism, practices and philosophies and offers a practical and realistic education in the business of travel and tourism.	
HMF 289 Mexican Cookery	3(3-0)	TA 190 Internship and Seminar	4(4-0)
Introduction to basic and exotic Mexican and Spanish cookery, including proper pronunciation of Mexican dishes and corresponding symbols.		Prerequisite: second year Tourism and Travel Agency students. Available to students who have completed or are approaching 200 hours of work experience in tourism or travel agency operations. A term project is required.	
HMF 290 Lean Gourmet	3(3-0)	TA 200 Profitable Travel Marketing and Counseling	4(4-0)
Basic cookery, using less fat and salt, using fresh herbs and spices and chicken broth instead of cream.		Prerequisite: second year Tourism and Travel Agency students. An introduction to methods and techniques used in the modern travel agency covering the marketing environment, identifying consumer needs, examining the product, price and promotion.	
HMF 291 Italian Cooking	3(3-0)	TA 210 Group Travel Operations	4(4-0)
Basic cookery techniques touching regional areas of the country of Italy. Local talent and community Italian experts contribute to culinary bill of fare. Student preparation.		An overview of group tour business, where to find groups, how to organize group travel, and how to expand or start a group travel business. Includes how to assemble the group tour package.	
Tourism and Travel Agency Operations (TA)			
Hospitality Systems			
Division of Business			
TA 100 Introduction to Travel Agency Operations	4(4-0)	TA 215 Tour Management	4(4-0)
An introduction to career opportunities in the travel industry, the travel product, the selling of travel, the agencies policies and procedures and how agencies function.		The fundamentals and new ideas of being a professional tour manager, the student will learn how to conduct a tour from timing and planning to organizing a reunion.	
TA 110 Travel Agent Ticketing/Domestic	4(4-0)	TA 220 International Relations	4(4-0)
Prerequisite: TA 100 recommended. The fundamentals of air scheduling, reading and correctly using domestic air tariffs and calculating the correct fares for air itineraries. Learning correct procedures for issuing accountable and non-accountable tickets.		Discusses political, social, and economic relationships between countries and how it effects the travel and tourism industry. Defining and discussing cultural differences and introducing the foreign monetary system.	
TA 115 International Ticketing	4(4-0)	TA 230 Travel and Tourism Law	4(4-0)
Prerequisite: TA 110. An overview of international airline ticketing, routing and scheduling. Correctly issuing an accountable airline ticket.		Creates an awareness of the responsibilities and rights which the law imposes upon and grants to the travel agent, and illustrates the consequences caused by failure in those responsibilities.	
TA 120 North American Travel I	4(4-0)	TA 240 Computerized Reservation Training	4(4-0)
A study of the history and development of the United States, Canada, and Mexico, followed by specific location and identification projects. These would include countries, states, providences, capitals, principal cities, rivers, lakes, national parks and monuments, etc. Next the major points of tourist interest will be discussed along with climate, ethnic influences, distances and time zones.		Prerequisite: TA 100. An introduction to and hands on experience with a current travel agency computer system, a multi-access airline reservation system. Developing a basic passenger name record, modifying, pricing, finding air fares and rules.	
TA 125 Foreign Country Travel II	4(4-0)	TA 250 Advanced Computerized Ticketing	4(4-0)
A study of history and development of the Caribbean, Central America, and South America with specific location and identification projects. Major points of tourist interest will be discussed along with climate, distance and time zones. Passports, visas and other entry requirements will be covered.		Prerequisite: TA 110 and TA 240. This is the second term of a two term course covering ticketing, fare computation (international and domestic) and maximum utilization of the computer with hotel, car rental, and train travel descriptions and bookings.	
TA 130 Foreign Country Travel III	4(4-0)	TA 260 Travel Agency Accounting	4(4-0)
A study of history and development of the Middle East and Europe with specific location and identification projects. Major points of tourist interest will be discussed along with climate, distances and the time zones. Passports, visas and other entry requirements will be covered.		Basic travel agency accounting concepts: how financial statements are compiled and interpreted and accounting systems for the travel agency business.	

MANAGEMENT SYSTEMS

Program Director: William P. Holda
Office Unit B

The Management Systems area is broad and diversified in its course offerings. Courses leading to certificates and/or associate degrees are offered in the following areas: Management, Advanced Management, Economics, Personnel/Labor Relations, Marketing, Sales, Banking Management, Real Estate, Assessment Administration, and Transportation and Traffic Management.

The courses are designed to impart knowledge and develop skills and abilities that will prove practical, useful, and marketable. The Management Systems area continually strives to maintain relevance and a high level of quality throughout the course offerings. Its instructors are experienced in the topic area(s) they teach. With their strong vocational backgrounds, they are able to blend theory and practice in a unique, meaningful way.

Advisory committees have been established for each of the programs offered. These committees, composed of successful practitioners in the various curriculum areas, assist in reviewing course offerings and keeping in touch with the business community and emerging trends in business and society.

Curricular guides for certificates and associate degrees are available in the Counseling offices or the Program Director's office area. Faculty advisors are available to assist in planning.

Banking Management Programs

Certificate and Associate Degree programs in banking management are under the sponsorship of the College in affiliation with the American Institute of Banking (AIB). AIB members also may earn various diplomas through National AIB. The local chapter of the AIB elects members to serve on the advisory committee for the program to assure continued relevancy for each course. (Curriculum Codes 492 and 493)

Certificate in Advanced Management

The completion of this curriculum results in the issuance of a Certificate in Advanced Management. It is designed especially for those who have at least an Associate Degree and/or extensive employment background. The courses in this curriculum are excellent for those who are seeking a program with up-to-date management courses of high level quality and content. Management advisors are available to tailor an individual program according to relevant background and future goals of the student. The Certificate in Advanced Management can lead to a Bachelor's Degree in Business Administration at Northwood Institute, Midland. Most course work for this Bachelor's degree is taken at Lansing Community College. There are six majors available for the B.A. degree program. (Curriculum Code 472)

Cosmetology Management Program

An Associate Degree program is offered to students who have completed cosmetology certification requirements. Transfer credits into the program are available to those who are certified. Students must complete all core requirements on 470 curriculum. (Curriculum Code 470)

Labor Relations Program

Effective labor relations has become an essential ingredient in successful management activity. The impact of collective bargaining has created a demand for skilled persons to negotiate and administer contractual agreements.

Complex legislation has created additional demands upon administrators who must be capable of achieving and maintaining a healthy balance between the pressures of unionized employees and management decisions and procedures that will ensure the future of their organization and protect the public welfare. As a result of such demands the need for highly trained men and women in labor relations continues.

A program area certificate in Labor Relations will be awarded to all students who successfully complete the following Labor Relations courses: LR 200, LR 201, LR 202 and LR 203.

Management Associate Degree Program

This Associate Degree program provides training for management in various fields as determined by the needs of students and the community. Classic management duties of planning, directing, organizing and controlling are presented to meet needs in specific situations. Each course stresses the premise that every manager is a professional worker in a field with a history, a heritage and a future.

Lansing Community College facilities and personnel are available for organizing, conducting and coordinating management programs to meet needs of interested businesses on an individual or group basis. (Curriculum Code 470)

Management Certificate Program

This, a one-year (45 credit) curriculum in management, is designed primarily for students desiring positions at the first or supervisory level of management.

Businesses are encouraged to make use of these management courses in the implementation of their employee upgrading or promotion programs. Counseling with a staff member in the Management Systems area is recommended to a student when choosing electives toward his or her desired goals. A Certificate of Achievement is granted to those students successfully completing the curriculum. (Curriculum Code 471)

Marketing Associate Degree Program

This program offers organized training in retail distribution, wholesaling, market research, management and other activities related to the marketing of goods and services. The courses offered in this area provide education and training to improve the skills, business knowledge, and judgment of those preparing for, or now engaged in, the growing areas of distribution marketing. The primary objective is to train individuals to participate efficiently in business activities. (Curriculum Code 475)

Marketing Certificate Program

This is a condensed one-year (45 credit) curriculum in marketing for qualified students. The courses are designed to meet the needs of both students and employers. The curriculum has special value to those already employed who desire upgrading or promotion. A Certificate of Achievement in Marketing is granted to those students who successfully complete this curriculum.

Electives may be chosen from the courses listed on the curricular guide. Faculty advisors in Management Systems will recommend electives to students in accordance with the students' needs and goals. (Curriculum Code 476)

Pre-Business Administration Program

The Pre-Business Administration curriculum is designed for students preparing for transfer to a four-year institution to complete work in professional areas such as accounting, finance, management, marketing, business education, and other related business professions. Each college or university has its own curricular guide for students to follow to allow a smooth, efficient transfer. (Curriculum Code 480)

Property Valuation and Assessment Administration Programs

These programs are sponsored in cooperation with the Michigan Association of Equalization Directors and the staff of the Michigan State Tax Commission. Designed for the student who is relatively new to the field of property appraisal, the technical and procedural material presented during the courses is planned to serve as an effective base for intensive on-the-job training. The program encompasses legal as well as procedural aspects of property appraisal for governmental jurisdictions. Successful completion of the program results in either the issuance of a Certificate of Achievement or an Associate Degree in Property Valuation Assessment Administration, depending upon the curriculum completed. (Curriculum Codes 490 and 491)

The curriculum is designed to provide preparation for employment, either in an Assessor's Office or an Equalization Department, and to help toward improving the competence of those already in the field. Program objectives are:

1. to increase the knowledge and ability of the student relative to property appraisal procedures,
2. to provide for a more cooperative working relationship between appraisers in adjacent areas,
3. to acquaint the student with the various sources of information available to appraisal personnel,
4. to provide an effective and organized training vehicle for professional advancement of personnel in property valuation and assessment administration,
5. to serve as a basis for certification of personnel in the appraisal field,
6. to promote standardization of procedures, forms, reports, etc.

Real Estate Program

The real estate program can provide the background for persons of all ages to engage in the many activities within the real estate industry.

Through a series of courses leading to a Certificate or Associate Degree, it is possible to specialize in a number of vocations involving real estate that need experienced and knowledgeable personnel. (Curriculum Codes 473 and 474)

Some of the specialties dealing with real estate include selling residential, commercial and industrial properties; appraising all types of property; real estate investment counseling; property management; urban planning; industrial planning; a housing specialist, mortgage specialist, or advertising specialist; or serving as a closing officer in a real estate brokerage office.

Since the real estate community is involved with this program, the student can benefit from close association with those already in the field who are knowledgeable and willing to give their time in sharing their knowledge.

Real estate is a very competitive business, and only those with the willingness to learn, the ability to work long and varied hours, and a strong desire for success, can expect the rewards the field can offer.

Sales Associate Degree Program

This program offers educational training to develop behavioral science and selling skills necessary for students entering the dynamic field of sales. The program provides students with the fundamentals of sales needed to deal with the consumers' buying habits. The curriculum is divided into a general program for those students who are undecided on an area of concentration and a specialized program for those students who have already identified a particular area of interest. The College offers a number of courses which may be taken singly or as part of a planned curriculum. Courses offered in this area provide education and training to improve the skills, business knowledge and judgment of those preparing for, or now engaged in, the field of Sales. The object of this two-year program is to train individuals to participate efficiently in business activities. (Curriculum Code 479)

Sales Certificate Program

Courses in this condensed one-year curriculum in Sales are designed to meet the needs of students and local business. The curriculum is of special value to those already employed who desire upgrading or promotion. A certificate is granted upon successful completion of the curriculum, and the credits earned are transferable toward the requirements of the two-year Associate Degree program in sales. (Curriculum Code 478)

Transportation and Traffic Management Programs

A two-year, six-term program Associate Degree in Transportation and Traffic Management is offered in cooperation with the Transportation Club of Lansing. (Curriculum Code 495)

A Transportation and Traffic Management Certificate Program, in cooperation with the Transportation Club of Lansing, deals with the theoretical, historical, and academic aspects of Traffic Management; analyzes practical problems and specific cases, and provides excellent technical training. This course, in six terms, imparts information which might take years to obtain in the normal course of work in an individual traffic department or carrier's general office. This program is also transferable to other programs leading to degrees in the Management Systems area. Additional management and general education courses allow a student to earn an Associate Degree in this area. (Curriculum Code 496)

The Certificate program in Transportation Law is of special value for preparing candidates for the Interstate Commerce Commission Practitioner's Examination. This three-course sequence includes a study of the Interstate Commerce Act; amendatory legislation; leading decisions of the Interstate Commerce Commission and courts, and the Interstate Commerce Commission complaint; Canons of Ethics applicable in Interstate Commerce Commission; practice, and remedial provisions of the Interstate Commerce Commission Act. (Curriculum Code 497)

COURSE DESCRIPTIONS**American Institute of Banking (AIB)
Management Systems
Division of Business**

AIB 101 Principles of Banking 3(3-0)
Fundamentals of bank functions from a descriptive (and operational) perspective.

AIB 102 Effective English 3(3-0)
Covers fundamental principles for using the English language and points out the ways in which communication may be improved.

AIB 103 Written and Oral Communications 3(3-0)
This course is designed to be a skill building course. As such, the primary purpose of the course is to assist participants in developing techniques of writing and speaking which will help them communicate more quickly, accurately, and forcibly. A major theme of the course is that a writer or speaker who wants to impact an audience must be flexible and adjust his communication style according to (1) his purpose of communicating (2) the needs of the receiver, and (3) the appropriate level of language for that receiver.

AIB 104 Inside Commercial Banking 3(3-0)
The latest competitive, regulatory, technological, and market-related developments affecting commercial banking in the United States today. The loss of market share to non-bank competitors will be studied as well as the limits of government regulations.

AIB 106 Math for Bankers 3(3-0)
Fundamental arithmetic tools, fractions, decimals, business documents, pay-rolls, statistical data and graphs, depreciation, and simple interest.

AIB 131 Fundamentals of Bank Data Processing 3(3-0)
Introduces the principles and purposes, language, and the application of data processing in a bank environment.

AIB 203 Trust Service 3(3-0)
Services rendered by institutions engaged in trust business. Primarily for the personnel of trust departments of commercial banks and trust companies.

AIB 204 Credit Administration 3(3-0)
Discussion of factors influencing and determining loan policy, methods of credit investigation and analysis, credit techniques, specific credit problems, and regular as well as unusual types of loans.

AIB 205 Real Estate Financing 3(3-0)
Covers mortgage markets, financing residential and special purpose property, administrative tasks, analysis of mortgage credit, policies related to collection, administration of a bank's mortgage portfolio, and analysis of real estate investment yields.

AIB 206 Money and Banking 3(3-0)
Prerequisite: AIB 101. Practical aspects of money and banking, basic monetary theory, economic stabilization, types of spending, the role of gold, limitations of central bank control, government fiscal policy, balance of payments, and foreign exchange, showing their repercussions on the banking industry affecting yield curves and the structuring of portfolios.

AIB 207 Installment Lending 3(3-0)
Techniques of installment lending, establishing credit, obtaining and checking information, servicing the loan and collecting, inventory financing, special loan programs, business development, advertising, and public relations.

AIB 208 Commercial Lending 3(3-0)
Prerequisite: Acc 210 or Program Area approval. Commercial loan processing, procedures and servicing, small business loans, real estate loans, dealership loans and related areas that qualify for commercial loan status.

AIB 209 Bank Cards 3(3-0)
Overview of the bank card industry, its role in the economy, and basic operational policies and procedures.

AIB 212 Analysis of Financial Statements 3(3-0)
Prerequisite: ACC 210 or equivalent. Characteristics of financial statements and financial statement analysis; some accounting necessary for profitable study of financial statement analysis.

AIB 213 Federal Regulation of Banking 3(3-0)
The "why" and "what" of federal bank supervision: agencies regulating banks, bank charters, bank reports and examinations, federal limitations, and regulation of bank expansion.

AIB 214 Law and Banking 3(3-0)
Legal principles and a general review of legal problems pertaining to business and banking. Includes contracts, consideration, statute of frauds, commercial paper, bank deposits, bank collections, sales, titles, agencies, and extracts from the Uniform Commercial Code.

AIB 215 Negotiable Instruments 3(3-0)
Legal aspects of negotiable instruments used in bank deposit and collection operations, and the payment mechanism; legal implications of normal activities and transactions in banking operations; impact of the law and applicable bank regulations.

AIB 221 Retail Management 3(3-0)
Overall view of branch management, latest developments in banking, and techniques of management.

AIB 222 Bank Management 3(3-0)
New trends in the philosophy and practice of bank management from the perspective to top management.

AIB 230 Marketing for Bankers 3(3-0)
Concepts and philosophies of marketing; marketing information, research, and targets; marketing mix (product strategy, distribution strategy, advertising and sales promotion, personal selling, and pricing strategy); and the methods of market planning.

AIB 240 Management of Commercial Bank Funds 3(3-0)
Principles and philosophy of funds management. Covers a broad range of bank situations and the overall banking environment, facets of bank operations and their relationships with the funds management function.

AIB 241 Bank Investments	3(3-0)	BUS 250 Personal Finance	3(3-0)
Principles of bank investments, the relationship of investment management to other functional areas of the bank, and the factors that affect investment strategies and decisions. Also, the nature of risk, liquidity, and yield, how each is measured, and how they are related.		Specific topics covered include: choosing your job, budgeting, smart shopping, avoiding swindles, buying a car, renting or buying your home, selling your home, credit and borrowing, investing, insurance, retirement and estate planning, income taxes, etc. There is a great deal of material covered in a relatively short period of time.	
Business (BUS) Management Systems Division of Business		This class is not for individual financial advice. The student would need to analyze his/her own situation and come to a decision based on fundamental knowledge acquired in the course, from experience, other readings and experts in the various fields.	
BUS 118 Introduction to Business	4(4-0)	BUS 251 Stock Market Essentials	3(3-0)
Principles, problems and practices related to our economic framework. Includes organization, production, marketing, personnel administration, finance, and economics.		Study of securities market to give framework with which to set investment goals and achieve desired results. Introduced to some of the more prevalent theories, concepts and skills to aid in developing strategies and making sound investment decisions related to the stock market.	
BUS 191 Independent Study-Management	1(1-0)	BUS 254 Introduction to Investments	3(3-0)
BUS 192 Independent Study-Management—2	2(2-0)	Fundamental principles of investing, developing terminology, types of alternate investments available, and personal financial planning.	
BUS 193 Independent Study-Management—3	3(3-0)	BUS 260-265 Transportation and Traffic Management	each 3(3-0)
BUS 194 Independent Study-Management—4	4(4-0)	Two-year, six-term program resulting in a Certificate issued by the College. Theoretical, historical, and academic aspects of traffic management are presented with analysis of practical problems and specific cases.	
Prerequisite: Program Area approval. Special research projects and individual readings to apply past or present aspects of personal and professional experience to academic area of interest. Minimum of ten hours work per credit required.		BUS 269-271 Transportation Law I-III	each 3(3-0)
BUS 201 International Business	4(4-0)	Three term sequence of Transportation Law. Study the Interstate Commerce Act, amendatory legislation, decisions of the Interstate Commerce Commission (I.C.C.) and courts, I.C.C. rules of practice, drafting complaints, remedial provisions. Preparation for the I.C.C. Practitioner's License.	
Prerequisite: BUS 118 or equivalent. Overview of international business: organizational, social, cultural, and economic variables that create change in the international market place. Includes exchange rates, resource allocation, import quotas and export controls, balance of payments, and free trade versus protectionism.		BUS 280 Property Valuation and Assessment Administration I	3(3-0)
BUS 213 Teller Training	4(4-0)	Introduction to property tax, public relations, property description, tax mapping and aerial photograph interpretation.	
Reviews activities of a bank teller covering identifications, check cashing, money handling, the teller machine, coin dispenser, and use of the adding machine.		BUS 281 Property Valuation and Assessment Administration II	3(3-0)
BUS 214 Advanced Teller Training	3(3-0)	Property tax law; cost, market, and income approach to value; and land economics.	
Prerequisite: BUS 213 experience. Reviews check cashing techniques, endorsements, collection of checks through the Federal Reserve System, identifications, money handling, teller differences, counterfeiting, bank services, effective communications, and customer relations.		BUS 282 Property Valuation and Assessment Administration III	3(3-0)
BUS 223 Management and Supervisory Development	3(3-0)	Residential and agricultural appraisals and soil survey.	
Management principles for first-line supervisors, managerial functions of planning, organizing, staffing, directing, and controlling, working through policies and procedures, decision making, and the responsibilities of supervisors for overall work performance and employee development and evaluation.		BUS 283 Property Valuation and Assessment Administration IV	3(3-0)
BUS 224 Human Resource Management	3(3-0)	Prerequisite: BUS 282 or equivalent. Appraisal of commercial and industrial properties.	
Principles, problems, and practices of modern business, government, and other organizations involved in the handling of employees from recruiting through post-retirement.		BUS 284 Property Valuation and Assessment Administration V	3(3-0)
BUS 225 Principles of Management	3(3-0)	Prerequisite: BUS 283 or equivalent. Local government financing, preparation of tax roll, eminent domain, assessment, equalization and allocation.	
Management principles for middle and upper level managers: management relationships, communications, morale, motivation, history of management, theoretical framework, practical applications, qualifications of executives, business ethics, and managerial functions.		BUS 285 Property Valuation and Assessment Administration VI	3(3-0)
BUS 228 Organizational Behavior	4(4-0)	Prerequisite: BUS 284 or equivalent. Valuation and auditing of personal property, classification and equalization of appeal procedures, allocation, truth in assessment, taxation, and Headlee rollback computations.	
Application of psychological principles and methods to selection, placement, training, supervision, evaluation and motivation of workers' and managers' efficiency. Also, accident prevention, problems of human relations, and psychological illnesses in business and industry.		BUS 290-293 Management Internship	each 3(3-0)
BUS 229 Public Relations	3(3-0)	Prerequisite: Coordinator approval. Weekly, on-campus, independent seminars with the coordinator and the student intern. Actual job training and experience by working with owners, proprietors, and managers in organizing and/or operating a business.	
Techniques for those in managerial positions, principles of creating and maintaining good public relations, including employee-employer relations, customer-employee relations, and the total public relations effort.		BUS 295 Small Business Management	3(3-0)
BUS 236 Communication Techniques in Business	3(3-0)	Small business operations, including business and managerial functions, principles of management, environment of small business, financial, marketing, and production management of the "going concern", and legal and governmental relationships. Development of a small business plan is required.	
Oral techniques of public speaking, examining the business speaker, the audience and the text from a business viewpoint. Also studying some issues and potential problems pertaining to listening, persuasion, interpersonal and nonverbal communication.		Economics (EC) Management Systems Division of Business	
		EC 101 Applied Economics	3(3-0)
		This course is an introductory survey of business economics. The course work focuses attention on the major economic problems and issues within the American economy. It provides an overview and some tools of economic analysis to aid in logical interpretation. Major subject areas included relate to an overall	

look at the economic system; government policy; prices and their application; money; income; and national income accounts of the United States.

EC 201 Principles of Economics I 4(4-0)

This course is designed to develop objective consideration of economic issues and provide information and understanding of how resources are allocated by prices. Topics for study include price theory; consumer demand; cost and market structure, the role of government in the market; factor pricing, and income distribution.

EC 202 Principles of Economics II 4(4-0)

Prerequisite: Program Area approval or EC 201. This course deals with the theory of national income, employment, prices, and with government fiscal and monetary policies designed to influence aggregate economic activity. It also includes the relationship of the domestic economy to international economic activity.

EC 203 Economic/Business History 4(4-0)

This course provides a survey of American economic and business history, change, and growth since the civil war. Topics include an overview of business organization, the role of government, technological change, American industrial development, labor unions, and capitalization patterns.

EC 218 Money and Banking 4(4-0)

Prerequisite: EC 202. This course covers the nature of money and the role of the Federal Reserve, the commercial banks, and other financial institutions in determining the money supply. Also, the course includes information about the money market, capital markets, determination of interest rates and the relationship between monetary policy and economic activity.

EC 224 Intermediate Micro-Economic Theory 4(4-0)

Prerequisite: EC 201. This course covers the theory of consumer behavior, the production and cost relationships of individual firms, the actions of those firms in different market structures, the theory of resource firms, and general equilibrium theory. The discussion of each of these areas will begin with a review of the principles of economics as covered in EC 201.

EC 266 Independent Study/Economics 1(1-0)

Prerequisite: Program Area approval. This course includes 20 to 30 hours of study in special economics projects.

EC 267 Independent Study/Economics 2(2-0)

Prerequisite: Program Area approval. Two credits requiring 40 to 50 hours of study in special economics projects.

EC 268 Independent Study/Economics 3(3-0)

Prerequisite: Program Area approval. Three credits requiring 60 to 70 hours of study in special economics projects.

**Labor Relations (LR)
Management Systems
Division of Business**

LR 200 Introduction to Labor Relations 4(4-0)

Survey historical and legal frameworks of labor movement. Major labor laws, causes and purposes of the labor movement and union structure and behavior. Labor-management approaches to solving employment disputes.

LR 201 Labor Relations/Collective Bargaining 4(4-0)

Prerequisite: Program Area approval or LR 200. Study of the collective bargaining process, the administration of a collective bargaining agreement, and wage-benefit issues of employment.

LR 202 Labor Relations/Grievances and Arbitration 4(4-0)

Prerequisite: Program Area approval or LR 200. Grievance procedure, including employee discharge and discipline, is examined in-depth, with a review of pertinent legislation. A "how to" course. Basic knowledge and skill necessary for grievance handling. Fundamentals of contract language.

LR 203 Labor Law 4(4-0)

Prerequisite: Program Area approval or LR 200. In-depth study of major laws, U.S. Supreme Court cases, and National Labor Relations Board decisions. Functional picture of the National Labor Relations Board.

LR 205 Employee Compensation Administration 4(4-0)

The course views compensation from the perspective of the employer and is intended to give the student an understanding of the characteristics, structure and objectives of a modern wage and salary program. The course will explain

the development of a typical wage and salary program from its inception to the final product. Discussed total compensation, wages and benefits.

LR 208 Labor Relations in Government 4(4-0)

Structure and practice of labor relations in the public sector. Recommended for government employees.

**Management (MGT)
Management Systems
Division of Business**

MGT 300 Introduction to Management 4(4-0)

An analysis of the basic managerial functions, theories, and techniques in the areas of planning, social-environmental influences, organizational structure, authority and delegation, conflict, change, and leadership.

MGT 301 Strategic Management and Policy 4(4-0)

Prerequisite: MGT 300 or BUS 225. The course pulls together learning from the areas of management and marketing to consider an overall organizational perspective. The strategic formulation and implementation for the organization as a whole. The process involves the pursuit of organizational mission while managing the relationship of the organization to its environment. Case method is used.

MGT 304 Organizational Development 4(4-0)

A pragmatic approach to understanding and effectively dealing with the multitude of people and performance problems faced within an organization. Examines the skills needed to determine the real problem and select an appropriate plan of action.

MGT 305 Introduction to Purchasing Management 4(4-0)

Survey purchasing activities related to the manufacturing and service industries. Includes purchasing organization, principles and practices, and relationship of purchasing department with other departments.

MGT 323 CAM Internship 4(4-0)

Prerequisite: Program Area approval. Advanced internship project representing 60 hours of work, may be selected as part of Certificate in Advanced Management. Project must be outside and beyond the student's regular area of work responsibility and have employer and CAM coordinator approval.

MGT 324 CAM Independent Study 4(4-0)

Prerequisite: Program Area approval. A detailed quality report in the student's area of interest which represents 60 hours of research and writing, applicable toward Certificate in Advanced Management and approved by the CAM coordinator.

MGT 329 Advanced Business Communication Skills 4(4-0)

Designed to help students develop verbal communication skills used when making oral presentations, conducting meetings and interviewing employees. Business report writing skills are developed and practiced.

MGT 332 Managerial Ethics 4(4-0)

Designed to sensitize participants to the impact of ethics on decision making, both personal and organizational. Participants will examine the bases for the behavior of managers, their own behavior, various means of controlling organizational behavior, and the bases for ethical standards.

MGT 334 Management Career Strategies 3(3-0)

Prerequisite: MGT 300 or equivalent. Explore career strategies for middle and upper executive management. Review present "climate" in which managers work and compete. Job search, career advancement, mobility, mid-career change, personal trade-offs, executive stress, and gamesmanship.

MGT 335 Managerial Statistics 4(4-0)

Prerequisite: MTH 012 or equivalent. Application of statistical tools and techniques to improve decision making process and reduce managerial decision difficulty from less than perfect data. Includes sampling, description of sample data, methods of averaging, standard deviation, probability theory, estimation and hypothesis testing.

MGT 337 Human Resource Management Skills 4(4-0)

Prerequisite: BUS 224 or equivalent. Skill areas involved in the management of our human resources are developed. Setting objectives with employees, conducting performance appraisals, working with employee problems are practiced. Students plan techniques for managing teams and for leading and motivating employees.

MGT 338 Current Topics in Management 4(4-0)

Study of specific topics and issues in today's society which affect managerial decisions. Real life experiences or from current publications. Each student will explore one issue in-depth with the class. Explore the internal and external constraints on actions. External factors considered will be legal, social, educational, and political. Internal factors considered will be the shareholders, the employees, and the customer.

MGT 339 Management Styles and Corporation Strategies (Japan and the United States) 4(4-0)

Numerous current materials relating to the management styles and corporation strategies in Japan will acquaint the student with management as practiced in Japan. The Japanese management practices are presented as an alternative managerial style for the United States to explore how Japanese techniques can produce greater productivity, higher employee morale and a successful quality of work life.

MGT 345 Leadership: Attitudes and Motivation 4(4-0)

Total personal involvement in group interaction projects. "Whole person" approach to self-discovery, growth, and self-realization. Find new dimensions in assessing personal leadership aptitudes.

MGT 346 Managerial Finance 4(4-0)

Prerequisite: ACC 101 or ACC 210. Practical skills to deal with financial matters and communicate with people in finance.

MGT 349 Time and Stress Management 4(4-0)

Explores relationship between time and stress management. Stress is the causal factor for many of our physical and psychological problems. Suggests methods for harnessing its energy positively. Techniques and strategies for wise utilization of time and energy. Emphasis on creating action plan and initiating corrective actions.

**Marketing (MKT)
Management Systems
Division of Business**

MKT 119 Marketing and Managing Your Professional Image 3(3-0)

Marketing and managing your professional image can assist every level of business in learning how to effectively market and manage their image and their business affairs. This course is a complete guide for everything people and their companies need to know to do the right thing at the right time in every business situation.

MKT 120 Sales 3(3-0)

Fundamentals and role in the marketing mix. Develop basic skills in behavioral sciences and skills needed to enter the field. Customer buying habits, sales process, product demonstration techniques, and analysis of human relations aspects.

MKT 121 Advanced Sales 3(3-0)

Prerequisite: MKT 120 or Coordinator approval. An analysis of the sales interview. Video taping sessions where each facet of the sale is examined and analyzed individually.

MKT 122 Field Sales 3(3-0)

Prerequisite: Program Area approval. Practical field sales experience in consumer and industrial sales. Advanced techniques of selling and refining selling skills.

MKT 123 Computer Field Sales 3(3-0)

Prerequisite: Program Area approval. Practical computer field sales experience in consumer and industrial sales. Advanced techniques of selling and refining selling skills.

MKT 130 Retailing 3(3-0)

Gain understanding of activities used by retailers in selling goods to ultimate consumers. Develop awareness of problems facing retailers and develop feasible solutions. Examine career opportunities.

MKT 131 Fashion Merchandising 3(3-0)

Functions, policies; what, when, where, how much, how to, and from whom to buy. Introduction to fashion history, textile construction, design, color, figure types, and fashion trends. Career opportunities.

MKT 140 Introduction to Advertising 3(3-0)

Methods and techniques used in modern advertising. Information on the entire advertising function. Preparation of an advertising campaign will be required

to facilitate hands-on understanding of the component parts which include marketing review, marketing plan, creative strategy and media selection.

MKT 171 Automotive Parts Marketing 4(4-0)

To develop skills in automotive parts counter sales, store operations, customer relations, sales techniques and employer/employee relations.

MKT 200 Introduction to Marketing 4(4-0)

Designed to define marketing, develop an understanding of the marketing concept and functions, and generally investigate the field of marketing. Will cover the marketing environment, identifying consumer needs, examining product, price, promotion, and distribution strategies within our society. Provides a basic marketing understanding with practical applications.

MKT 202 Managerial Marketing 4(4-0)

Prerequisite: MKT 200. Study of the total enterprise regarding problems, analytical tools, and approaches to decisions. Examines allocation of funds to various means of market cultivation, development of promotional strategy, price policy, and management of field selling effort.

MKT 204 Marketing Research 4(4-0)

Prerequisite: MKT 200. Types of data, sampling, data collection, analysis, interpretation, and applications of marketing research. A practical managerial approach—NOT a statistical or mathematical orientation.

MKT 213 Visual Merchandising 3(3-0)

Prerequisite: MKT 131 or equivalent. Provide knowledge, skills, and understanding to arrange a functionally effective display area.

MKT 214 Merchandise Management 4(4-0)

Prerequisite: MKT 130 or MKT 131. Understand the purchasing process. Build a retail vocabulary. Understand the process of achieving a balanced and well planned inventory. Control the flow of inventory. Control the profit of retail business.

MKT 220 Sales Management 3(3-0)

Prerequisite: MKT 120 or equivalent. Explores strategies dealing with managing salespeople. Training, recruiting, motivation, evaluation, planning and organizing are all stressed. The case method of learning is utilized, along with role playing.

MKT 221 Consumer Behavior 3(3-0)

Basic perspectives involved in consumer motivation and behavior. Relevant variables that help shape consumer action. Concepts that integrate the study of consumer behavior with the practice of marketing.

MKT 225 Written Communications for Business 3(3-0)

How to write clearly, accurately, and quickly. Organize writing for the busy reader's needs. Letters, reports, memos, and procedures—technical or non-technical.

MKT 230-233 Independent Study-Marketing each 3(3-0)

Prerequisite: Coordinator approval. Advanced marketing students design, implement, and draw conclusions about an area of interest for application in the marketing field. A minimum of 10 hours work per credit is required.

MKT 235-238 Marketing Internship each 3(3-0)

Prerequisite: Coordinator approval. An approved training station, earn credits for satisfactory work performance related to marketing.

**Real Estate (RE)
Management Systems
Division of Business**

RE 271 Introduction to Real Estate 3(3-0)

Overview of the real estate business. Emphasis on points of law and real estate principles useful to the beginning salesperson and/or potential buyer, seller, or investor.

RE 273 Real Estate Investment and Taxation 3(3-0)

Prerequisite: RE 271, RE 274 or Program Area approval. Emphasis on investment analysis, financing, depreciation, capital gains, exchanging and federal tax implications of real estate acquisitions, ownership and disposal.

RE 274 Real Estate License Examination 4(4-0)

Intense study in the fundamentals of real estate. Preparation for the State of Michigan license examination. (Administered by ETS—Educational Testing Service.) This class meets statutory requirements including four hours in fair housing.

RE 275 Real Estate Financing 3(3-0)

Significance and nature of mortgage lending, mortgage money markets, sources, types of mortgages, instruments, qualifying, the land contract and its use, administration of a mortgage loan and a loan portfolio, and methods of foreclosure.

RE 276 Real Estate Finance II 3(3-0)

Prerequisite: RE 275 recommended. Covers nonconventional financing techniques used in real estate. Specific topics covered include: blended rate loans, wrap arounds, equity participation, discounted land contracts and mortgages, refinancing, balloons, buy downs, distress property financing, etc.

RE 277 Property Management 3(3-0)

Covers management and the market, marketing residential and commercial rental space, creating an organized management plan, tenant and landlord laws, rent collection, leases, tenant screening, fair housing requirements, tenant-owner relations, accounting for investment properties, real estate as an investment, managing apartments, office space, retail stores and special purpose buildings.

RE 279 Buying and Selling a Home 3(3-0)

For potential purchasers or sellers of residential property. Mechanics of buying and selling a home. Covers steps necessary to transfer title, including the "closing".

RE 282 Real Estate Broker Preparation 4(4-0)

Prerequisite: RE 274 or equivalent. Prepares prospective brokers for the Educational Testing Service (ETS) State Broker's license exam. Includes review of brokerage law, closing statement preparation, law of agency, rules and regulations, fair housing, civil rights, financing, and appraisal.

RE 291 Residential Appraisal 4(4-0)

Principles, methods, and techniques of residential real estate appraising with application.

RE 292 Income Property Appraisal 4(4-0)

Prerequisite: RE 291. Advanced course for real estate brokers and/or sales associates interested in appraisal of income-producing property. Includes the rationale of the income approach, relationship of income to value, net income capitalization, mortgage-equity technique, and the residual and direct market capitalization processes.

RE 293 Real Estate Law I 3(3-0)

Prerequisite: RE 271 or RE 274 or Program Area approval. Introduction to real estate law, land and its elements, land titles and interests in land, abstracts and title insurance, deeds, easements, liens, mortgages, land contracts and foreclosures.

RE 294 Real Estate Law II 2(2-0)

Prerequisite: RE 293. Continuation of Real Estate Law I. Topics covered include landlord-tenant relations; private land use controls including restrictions; condominiums and tax policies pertaining to real estate.

Savings and Loan (SL) Management Systems Division of Business

SL 103 Teller Operations 3(3-0)

Importance of the teller in creating and maintaining good customer relations. Specific operational procedures necessary for successful performance.

SL 127 Personal Investments 3(3-0)

Examines the relationship between risk and return, importance of timing investment purchases and sales, and various investment alternatives. Covers security markets, common stock, bonds, function of investment companies, and types of speculative investments.

SL 160 Introduction to the Savings Association Business 2(2-0)

Survey the role of savings associations in business. Historical development, present-day organization, competition, and future direction.

SL 166 Communication Skills for Business 3(3-0)

Practice skills of effective two-way communication and analyze strengths and weaknesses to achieve better communication with co-workers and customers.

SL 170 Effective Business Writing 3(3-0)

You will learn specific skills needed to write effectively in your job as a financial

services professional. Refining your writing skills will save you time, improve your relationship with customers, and contribute to your professional success.

SL 208 Savings Accounts 3(3-0)

Nature and types of savings account ownership and problems unique to savings accounts.

SL 209 Savings Account Administration 3(3-0)

Extends the general presentation and emphasizes the administration and insurance of savings accounts.

SL 210 Consumer Credit Operations 3(3-0)

Introduces nature of consumer credit, compares credit providers, examines types of loans and loan features, reviews law and regulations, analyzes loan mathematics, and examines how consumer credit operations are organized. In-depth analysis of the activities performed in credit evaluation, operations, and collections.

SL 211 Mortgage Lending 3(3-0)

Residential mortgage lending operations of savings associations. Emphasis on conventional lending procedures. In-depth analysis of mortgage loan programs and the secondary mortgage market included.

SL 220 Techniques for Customer Counseling 3(3-0)

A course for all financial service professionals who meet with customers that presents theories from Sociology, Psychology, Economics and other disciplines along with practical, job-related techniques and guidelines. In this course, students investigate all aspects of customer contact in a problem-solving manner. The course covers all of the major elements that interact in financial counseling—customers and their needs, the financial services that can satisfy those needs, and the counselor's relationship to both the financial institution and the customer. This approach allows students to learn the knowledge, skills and attitudes that are required to meet special challenges of financial counseling.

MANAGEMENT DEVELOPMENT CENTER

Program Director: Marjorie Zibbel
Second Floor, Office Unit F

The Management Development Center (MDC) is the outreach unit of the Business Division serving the training and continuing education needs of local business, industry and government. Practical business training, flexible scheduling and a highly skilled staff are its trademarks. MDC can:

1. develop and deliver seminars and training programs to meet community organization needs;
2. provide these programs at the convenience of the employer at the best time and place;
3. help participants transfer their learning to on-the-job applications;
4. offer the highest quality training and development services available by seeking out resources which meet the unique needs of the organization.

The Management Development Center has created and conducted training programs for all types and sizes of community agencies, from banks and utilities to hospitals, heavy industry, police organizations and government employees.

These training programs consist of prescribed, standard courses and specially designed seminars responding to client requests. They may involve any type of training from teleconferences for large groups of participants, to skill-building sessions for a small common-interest group to total organizational programs over extended time periods.

The Management Development Center, in addition to developing specialized courses and seminars, offers the following supportive services for the business community:

- advanced management seminars addressing topics of current interest in which guest speakers are brought in to help bridge the gap between theory and practice.
- Total instruction in Management Effectiveness (TIME Series) which is programmed instruction, covering materials on a variety of managerial topics, that can be taken at the individual's own pace and convenience. (MGT 350 through MGT 399)
- resource material. The Center helps individuals to acquire material to support their educational needs.

Small Business Development Center (SBDC)

The Lansing Community College Business Division organized a Small Business Development Center in 1983 in cooperation with local business, government, and community agencies. The Small Business Development Center

provides information for those interested in starting or improving the management and operation of a small business. This Center is organized to:

1. contribute to the economic growth and development of the Mid-Michigan area by assisting the small business community;
2. function as a centralized resource to assist small business management;
3. provide information concerning available services and educational programs relating to small business operations.

Where appropriate, clients will be referred to agencies and organizations which can provide specialized assistance for starting and/or improving the operation of a small business in Michigan.

COURSE DESCRIPTIONS

Management (MGT) Management Development Center Division of Business

Total Instruction in Management Effectiveness (T.I.M.E. Series) has courses designed for those who wish to increase their managerial and marketing skills but who are unable to attend classes on a regular basis. Each TIME course is self-paced to allow maximum flexibility in scheduling, enabling participants to study at their own convenience. (See MGT 350 through MGT 399 as described below)

MGT 351 How to Buy and Use Small Business Computers 2(2-0)

Designed for those who want to gain some general knowledge in the field of computers as applied to small businesses. Focuses on the evaluation, selection, financing and security of hardware and software.

MGT 352 Management Information Systems 2(2-0)

A basic orientation to the structure of a Management Information System (MIS). Includes information on developing plans from routine information flows, data collection, report generation and evaluating the effectiveness of systems.

MGT 353 Personal Selling Skills 2(2-0)

An introduction to the basic sales process. Topics included: how to set up sales calls; the basic fundamentals of personal selling; the customer buying habits and the support systems available to the salesperson. At the completion of this course, the student should be aware of how to make a sale. NOTE: This course will not be a substitute for the sales course (MKT 120) but is being used as a supplement to that course and as an elective in all areas.

MGT 354 Management of Field Sales 1(1-0)

Covers duties and responsibilities of the field sales manager topics included: planning requirements, supervision, research, control, recruiting, selecting, hiring, qualities, training, motivating, compensation, and counseling techniques.

MGT 355 Purchasing Management 2(2-0)

Designed to help managers with the purchasing activities within the company. Topics include goal setting, planning, human relations, the psychology of management and negotiations.

MGT 357 Setting and Achieving Personal Goals 1(1-0)

Designed to help students achieve goals. Topics include: defining personal goals, identifying strengths and weaknesses, overcoming obstacles, solving problems and matching personal goals with company goals.

MGT 358 Assertiveness for Career and Personal Success 1(1-0)

The topics covered are: shifting from habitual reaction to action; increasing ability to get the job done; reducing fears and anxieties; maneuvering through the system; giving feedback; enhancing self-image; saying "no"; and avoiding defensive behavior in social situations.

MGT 359 How To Build Memory Skills 1(1-0)

This course will help increase concentration power or retention and organize thinking. The student will learn to remember facts, important dates, names, figures, reports, details, and speeches. Emphasis will be on sensory approach to memory, mnemonics, key-word alphabet, reading effectively, remembering what was heard, and memorizing a speech or presentation in minutes.

MGT 360 Communication Skills for Managers 2(2-0)

Examines how to put ideas across effectively in a business situation. Includes areas of practical application such as effective writing of letters, memos and reports, improvement of reading skills, effective presentations, nonverbal communications, and listening effectively.

MGT 361 A Manager's Guide to Human Behavior 2(2-0)

An overview of the complex area of human behavior as it applies to the

management of productive organizations. Major areas of emphasis include psychological concepts, interpersonal relationships, and group behavior.

MGT 362 Transactional Analysis for Managers 2(2-0)

An introduction to the basic principles and language of Transactional Analysis. By applying TA techniques to business situations, the student should be able to better understand his/her own behavior and the behavior of others, reduce interpersonal problems that result from crossed transactions; improve communications and quality decisions and create a more productive environment.

MGT 363 Basic Business Psychology 1(1-0)

Covers how to use psychology to help select the right person for the job, overcome decision-making problems, motivate high and low achievers, evaluate work performance, open up lines of communication, reduce conflict, and use the organization climate to influence people in a positive way.

MGT 364 Supervisory Management 2(2-0)

Designed to help managers at all levels to develop, enhance, and update their skills. Major areas of emphasis include: planning, operating, controlling, personnel functions, decision making, job design, job analysis, and quality control within the department.

MGT 368 What Managers Do 2(2-0)

Designed to clarify the role and responsibilities of a manager's job. Particular emphasis will be placed on relationships, contributions, hierarchy structure, superior-subordinate relations, and social interactions. The student will gain insight into the managerial situations, rules, and the regulations that effect it.

MGT 370 Effective Presentation 2(2-0)

Designed to provide a basic awareness of the steps necessary for making an effective oral presentation. Topics include: specific principles and techniques to make an oral presentation be effective; how to use and apply the principles and techniques learned; how to measure one's own degree of professionalism and effectiveness.

MGT 371 How To Run Productive Meetings 2(2-0)

Designed to give the student specific training needed to organize and run policy meetings, creative meetings, sales meetings, information meetings, and problem-solving conferences. Included are techniques to guide and control meetings, how to organize materials; how to keep the meeting on track and control problem participants.

MGT 372 Getting Results Through MBO 2(2-0)

An introduction to the basic concepts of MBO. The system of MBO is explained and evaluated. Topics included are: installing MBO, establishing objectives and measuring performance.

MGT 373 How To Manage by Objectives 2(2-0)

Covers the fundamentals, principles, and procedures of managing by objectives, its benefits, and its various applications. Serves as a practical operating guide for those who wish to introduce and develop the concept as a management system in their organization; and gives additional insight and alternative techniques to individuals already practicing managing by objectives.

MGT 374 Personnel Management 2(2-0)

The purpose of this course is to identify and correct common misconceptions about what personnel work involves. Topics such as human resource planning, staffing, appraisals, training, development, benefits, wage and salary administration, labor relations, and safety policies are explored.

MGT 375 Zero-Base Planning and Budgeting 1(1-0)

Designed to help managers and top executives lead an entire company toward a results-based system. Topics covered are key terms, planning, decision packages, ranking, implementation, administration, problems, and solutions.

MGT 376 Performing the Operations Analysis 2(2-0)

The purpose of this course is to provide the student with a comprehensive understanding of the various aspects of Operations Analysis. Special emphasis will be placed on specific applications in areas such as management, marketing, personnel, manufacturing, purchasing and engineering.

MGT 377 Finance for Nonfinancial Managers 2(2-0)

Designed to provide the manager with an understanding of finance. It is a practical way for a manager to become more effective and valuable. (audio cassettes)

MGT 378 Project Management 2(2-0)

An overview of the basic ideas behind Project Management. Topics include

the ideal flow of power within an organization, the why and when of planning, the need for project control documentation, the benefits of in-contract service, the step-by-step approach to decision making, the steps for budgeting, nature and scope of systems engineering on a project, and the main tasks to be performed by the procurement, contracts and the production sections.

MGT 379 How To Be A Successful Product Manager 2(2-0)

Examines the responsibilities of the product manager. Topics include: successful introduction, marketing, and sale of products; the continuous review and analysis of the product or product lines in order to assure continued overall profitable growth and marketing position.

MGT 380 Problem Solving for Managers 1(1-0)

Designed to assist you in becoming a creative problem solver. It will show you how to generate innovative ideas, select the most useful solution, translate this solution into practical terms and specific strategies, and gain support for your ideas and put them into action. (audio cassettes)

MGT 381 How Successful Women Manage 2(2-0)

An overview of the various functions and processes involved in management. Will discuss possible explanations for women's slow rate of progress in attaining managerial positions. It is enlightening and an absolute "must" for any woman who is considering entering or is now a part of the managerial area.

MGT 382 Decision Making 2(2-0)

Describes the basic differences between the satisfying and optimizing decision model, the various kinds of measurement scales, and explains the possible alternative futures. Topics such as decision processes, recognizing the need for change, translating objectives into criteria, and predicting the outcomes of alternatives, translating outcome scores into value scores, and making the decision and living with it.

MGT 383 Training for Productivity 1(1-0)

Examines what is needed to motivate all employees to work more effectively, efficiently and productively. Participants will learn the techniques, strategies, and skills necessary to identify problems that training can solve; create a climate that encourages and supports the self-directed worker; and structure a training or development program.

MGT 384 Modern Production Management I 2(2-0)

The purpose of this course is to explain the principles and techniques required for making short-term decisions necessary to operations control. An orientation to analytical methods is provided so that the study of the problem areas of planning and control can be based on these analytical methods. Topics such as capital costs and investment criteria, product and process design, plant location, facilities design, production standards, and man-machine systems are explored.

MGT 385 Modern Production Management II 2(2-0)

Analyzes the long-range planning and decision making that commit an organization and its resources to a specific productive system design. Discusses the advantages and disadvantages of the four types of production systems and analyzes the critical influence of capital costs and investment criteria in designing systems. Topics such as production-inventory systems, forecasting, "systems concepts," quality control, and machine maintenance are explored.

MGT 386 Getting Results With Time Management 2(2-0)

Emphasis on situational analysis, identification of problem areas, and action steps to be taken. Studies underlying causes of poor time utilization, including insufficient or improper delegation.

MGT 387 Successful Delegation 1(1-0)

Covers the five rules of delegating that guarantee task completion; spells out accountability in measurable terms; matches delegated tasks with abilities; encourages subordinates to make decisions on their own; and monitors performance in a way that averts employee frustration.

MGT 389 How to Write a Business Plan 2(2-0)

Designed for managers with little or no planning background. A step-by-step guide will help students create a plan that tells the student where the business is now, where it is headed, how to get there, how to reach goals and how to get back on track.

MGT 391 How To Evaluate Performance and Assess Potential 1(1-0)

Systems for evaluating an employee's performance and assessing potential will be examined. Problems which stem from organizational reluctance to implement an effective evaluation and assessment program will be explored.

MGT 392 How To Develop Dynamic Leadership 2(2-0)

This course focuses on three styles of leadership. Includes self-analysis to

determine one's personal style of leadership, style comparison and the consequences of each leadership posture, suggestions for change of style and the process for moving toward dynamic leadership.

MGT 394 Managing Labor Relations 2(2-0)

Designed to provide and understanding of labor/management relationships. Emphasizes labor relations today, negotiations, bargaining power, and advance planning. This course will cover every aspect of dealing with a union.

MGT 395 Negotiating Your Way to Success 1(1-0)

Covers how to approach every bargaining situation confidently; how to sway the opponent with timing and association techniques; how to make concessions without losing; how to communicate position clearly and precisely; and how to identify the opponent's real but often hidden needs. This course is a technical approach highlighting on Industrial Labor Relations.

MGT 396 Executive Writing, Speaking, and Listening Skills 1(1-0)

This course provides all the tools needed to put ideas across effectively in any business situation. Topics include interviewing techniques, writing memos and proposals, non-verbal communications, and making presentations.

MGT 398 Using Mathematics As A Business Tool 2(2-0)

Designed to increase familiarity with formulas and calculations most frequently used in business. Participants will learn to apply various ratios to test a company's strength, use statistical tools to read results more accurately, forecast more reliably, and assess the viability of a project through breakeven analysis.

MGT 399 The Executive Guide to Commercial Law 2(2-0)

Explains negotiating steps necessary to produce a legally enforceable contract. Covers oral promises made to employees or outside contractors, the conditions under which a contract can be legally voided, and liability under employment contracts.

**Management Seminars (MGT)
Management Development Center
Division of Business**

Open-to-the-Public Management Seminars are designed for those who want to improve their supervisory and management skills, who are interested in becoming more effective as trainers, or who wish to learn how to better manage their own careers. Scheduling information will appear in the term schedule book.

MGT 902 Teaching Through Demonstration 2(2-0)

This course is intended to introduce participants to a variety of learning barriers they may encounter and to present them with a strategy for teaching skills in a one-on-one training situation. Participants are given opportunity to apply the strategy in simulated teaching encounters.

MGT 903 Train-the-Trainer 3(3-0)

The new trainer and the seasoned trainer can use this training program to re-think training methods and techniques and to develop some additional ones. The emphasis is on the "how-to's" of training with ample opportunity to practice training-related skills.

MGT 905 Media Utilization for Trainers 1(1-0)

This course is designed to improve trainer's presentation skills through hands-on practice in setting up, trouble-shooting and operating basic audio-visual equipment including overhead projectors, slide projectors, 16mm film projectors and tape recorders.

MGT 923 On-The-Job Negotiating 1(1-0)

This seminar is designed to give participants a basic understanding of negotiation in their daily lives. Participants will assess their own negotiation skills and learn what to consider when planning for negotiation. Specific techniques will be presented, and participants will have an opportunity to determine what techniques match their personality types. The seminar considers the risks involved and the possible trade-offs or concessions necessary when negotiating.

MGT 924 Self Motivation 1(1-0)

This seminar is designed to help participants become more self-aware and develop habits which will aid them in becoming more self confident and therefore more highly motivated toward personal achievement.

MGT 926 Managing Discipline 1(1-0)

This seminar will cover the process of discipline from the approach that it can be managed in a positive manner, if certain conditions are present in the relationships that exist between managers and employees.

- MGT 928 Effective Presentations** 1(1-0)
Whether it's one-on-one or in front of a group, creating a successful image is critical in getting your ideas across. The skills needed to express what you already know include gestures, voice techniques, visual aids, handling questions, and organizing messages.
- MGT 929 Leading Effective Meetings** 1(1-0)
Effective meetings are vital to the productivity and morale in an organization, and depend largely on the multiple skills of a leader. The purpose of this seminar is to help participants develop the planning, coordination and management skills necessary for leading effective meetings.
- MGT 932 Employee Selection Interviewing** 1(1-0)
This course is designed to train participants to conduct employment interviews and to interpret the results fairly, accurate, efficiently and economically. The principles and techniques applied in selection are applicable to coaching, career development, performance appraisal and disciplinary interviews.
- MGT 933 Effective Delegation** 1(1-0)
Participants will learn how to use expectations, clear instructions and feedback to increase the effectiveness of delegation as a supervisory skill for increasing productivity.
- MGT 943 Problem Solving/Decision Making** 1(1-0)
Designed for business people who use the steps in problem solving in order to improve their decision making capability. Opportunity is provided to practice the skills used in problem solving and decision making.
- MGT 944 Collaborative Problem Solving** 1(1-0)
Collaborative Problem Solving teaches an objective system for acting quickly, decisively and carefully in solving the problems you face on your job which limit your productivity.
- MGT 958 Team Building** 1(1-0)
Principles and practices to help a work group function more effectively; covering leadership, communication, decision-making, and conflict resolution.
- MGT 959 Developing Instructional Materials** 1(1-0)
This course teaches how to design, develop, and evaluate instructional programs. Hands-on experience with task analysis, developing test items, giving feedback and creating outlines is included.
- MGT 964 Employee Performance Appraisal** 1(1-0)
Personal discussions with employees centering on job performance are important opportunities for communication in all aspects of the job relationship, and the key to harnessing skills, attitudes, and motivation. Counseling, goal setting, and feedback are developed.
- MGT 972 Job Analysis/Job Description** 1(1-0)
This seminar will review some of the established methods and procedures for obtaining job information. It is also designed to allow class participants to actually design and go through a job analysis procedure so they can develop their own analysis for their particular business.
- MGT 973 Assessing Leadership Potential** 1(1-0)
Personal data spelled out, insights about leadership strengths, areas for minor alterations, basis for decisions about developing one's most productive management style.
- MGT 975 Supervising for Motivation** 1(1-0)
"How do we get people to do their best?" Key steps to take in improving employee motivation, affecting productivity as well as improving employee morale.
- MGT 977 Communications for Results** 1(1-0)
The interpersonal communication process is studied in light of the demands on a manager and supervisor. Effective communication is needed when giving instructions, problem solving, and clarifying information for employees.
- MGT 978 Time Management in Business** 1(1-0)
Systematic approach to managing yourself and others through analyzing and correcting time problems.
- MGT 982 Managing Your Career** 1(1-0)
Personal career planning techniques. Self direction and responsibility for career growth. Becoming successful in one's current position first and then building long-term career goals.
- MGT 985 Coaching Work Performance** 1(1-0)
Helps supervisors or managers deal with employee performance and personal problems. Several specific skills are developed in order for the participant to implement a comprehensive program of coaching and counseling.
- MGT 986 Moving Up in Management** 1(1-0)
Skill assessment, transitional issues, management techniques, and creative problem-solving techniques.
- MGT 988 Stress Management** 1(1-0)
Skills to prevent or alleviate the effects of job tension, stress, and burn-out.
- MGT 994 Written Communication Skills for the Manager** 1(1-0)
Will offer professionals the opportunity to look at and practice their writing skills from the stand point of clarity, speed and image. Because professionals often are responsible also for the writing of subordinates, the seminar will offer practice in critiquing and editing another person's writing.
- MGT 996 Supervisory Skills Training** 3(3-0)
Seven, half-day sessions. Each is devoted to a specific management skill: Self Assessment, Employee Motivation, Communication Skills, Time Management, Problem Solving, Performance Appraisal, Team Work, and Coaching-Counseling Employee.
- MGT 997 Interpersonal Skills for Managers** 3(3-0)
This course explores factors affecting interpersonal relationships on the job and the process used to get and give information, including the role of self-disclosure.
- Marketing (MKT)**
Management Development Center
Division of Business
- MKT 151 Effective Retail Selling** 1(1-0)
Opportunity to review, update, and add to their selling skills.
- MKT 154 Professional Selling Skills** 1(1-0)
This course is for those salespeople who have already learned the basic art of selling. It presents the new techniques to help them surpass past performance and build a professional image.
- MKT 162 Telemarketing** 1(1-0)
Mastering the art of telephone selling. The course shows practical methods to increase efficiency and success.
- MKT 163 Customer Relations** 1(1-0)
Creating good customer relations and improving the image of the organization. Increase motivation through positive attitude, effective communication with different types of customer personalities, handling complaints, and strategies for meeting needs to satisfy customers.
- Small Business Management (SBM)**
Management Development Center
Division of Business
- SBM 250 Starting a Small Business** 1(1-0)
A seminar to familiarize participants with resources that are available to assist them in starting a small business, to increase awareness of major concepts and fundamental principles dealing with types of businesses, types of business ownership, capital sources, a business plan, credit, marketing and site location.
- SBM 252 Financial Management for Small Business** 1(1-0)
A seminar to familiarize the participants with the fundamental principles and major concepts of financial management; including analyzing and applying the information from balance sheets, income statements and cash flow statements in order to determine key ratios and break even. Other areas covered include an overview of lease versus buy and recordkeeping.
- SBM 254 Record Keeping for Small Business** 1(1-0)
A seminar to introduce and increase the participants working knowledge of the accounting process and the maintenance of accounting records; including ledgers, income statements, and preparation for income tax time.
- SBM 256 Legal Considerations for Small Business** 1(1-0)
A seminar to familiarize the participants with the legal considerations of business formation, consumer protection, employee relations, competition and benefit packages.

SBM 258 How to Buy/Sell/Evaluate Existing Small Businesses 1(1-0)

A seminar to familiarize the participants with the statistics needed, legalities involved, and the evaluation of the sellers's books in order to determine the business' worth, structure an offer/sale, evaluate the land lease, and finance the deal.

SBM 260 Marketing for Profit for Small Businesses 1(1-0)

A seminar to familiarize the participants with the marketing concept in order to develop a marketing plan which identifies the target customer, determines a marketing mix (promotion, product, price, and place), and examines uncontrollable environmental variables. Other areas covered include an overview of marketing data resources and a comparison of advertising medias.

SBM 262 Advertising and Promotion for Small Business 1(1-0)

A seminar to familiarize the participants with the why, where, when, and how to advertise.

SBM 264 Customer Relations for Small Business 1(1-0)

A seminar to familiarize the participants with successful strategies for satisfying the needs of customers which include; increased motivation through a positive mental attitude, effective communication with different types of customer personalities, and sensitive handling of customer complaints.

SBM 270 Computers in Small Business 1(1-0)

A seminar to familiarize the participants with the fundamentals of selecting and using a computer in the small business environment.

SBM 272 Employment Practices for Small Business 1(1-0)

A seminar to familiarize the participants with aspects of employment procedures including interviewing, evaluating, and the law.

SBM 274 Loss Prevention/Inventory Control 1(1-0)

Bottom line profit is effected by how successful small business owners are in controlling people-related theft and in using effective cost-control techniques. This seminar combines the necessary people and "paper" control techniques useful in small business assets management.

SBM 276 The Business Plan 1(1-0)

A seminar to familiarize participants with the concept of business planning; including a review of the planning process and how to develop and maintain a business plan with the emphasis on the use of small computers to assist the process.

SBM 278 Franchising 1(1-0)

This course will increase awareness of what franchising entails, and help participants decide whether to buy a franchise or how to choose a franchisor.

OFFICE SYSTEMS

Program Director: Dr. Mildred L. Williams
Office Unit B

The goal of Office Systems is to offer quality education to prepare the individual student for a career in the business office. Continual updating of its offerings through ongoing contact with business and industry in addition to searching for increasingly student-oriented methods of teaching strategies is another goal. State-of-the-art equipment is available to provide its graduates for meaningful careers in the business world. Long range plans for the 1990's are being made to provide its students with skills assuring them of employability in the present as well as in the future.

To keep pace with trends in the business world, the Office Systems program area has recruited advisory committee members. Because of their experience and their role in the business world, suggestions and advice presented to the program area by advisory committee members have greatly contributed to the excellence of the curricula offered by Office Systems.

The Office Systems program area offers several associate degree programs designed to provide trained graduates capable of meeting the increasing demands of the business world. An associate degree requires the successful completion of a minimum of 90 credits.

Certificate of achievement programs requiring the successful completion of a minimum of 45 credits are designed for persons desiring comprehensive training as well as rapid entry into the labor market.

Office Systems offers traditional classroom instruction, hands-on equipment training, and self-paced instruction (AVT-audio/visual tutorial) in various courses. The AVT method provides continuous availability of tutors or instructors, flexibility in time scheduling, and the opportunity to complete courses as rapidly or as slowly as one's capabilities and/or time commitments will allow.

Students desiring to enroll in courses offered by the Office Systems program area will find the courses identified as follows:

BUS - for Business
CCR - for Court & Conference Reporting
DE - for Data Entry
IWP - for Information/Word Processing

General curricular guides for each program offered by Office Systems are available in the Counseling offices and the program area office in Office Unit B. The student is encouraged to discuss his or her particular educational background and requirements with an advisor from Office Systems.

Administrative Assistant Program

An Associate Degree program offers opportunities to those persons who want responsible office positions in other than the secretarial areas. Successful graduates of this program are equipped to handle effectively the functions of most offices. The program provides for adequate skills to succeed in entry-level positions and incorporates the business understanding and management training necessary for advancement to supervisory positions. Formerly Office Management Program. (Curriculum Code 425)

Office Automation Specialist

This certificate program is designed for those persons having previous post-secondary education or training who are desiring rapid introduction to automated office skills. (Curriculum Code 417)

Court and Conference Reporting Program

The Court and Conference Reporting program is an Associate Degree program presented in eight terms, including the summer term. In addition to preparing students to meet state certification requirements, this program prepares students for positions as court reporters, conference reporters, hearings reporters, legislative reporters, and general free-lance reporters. The program provides instruction in machine shorthand, computer-aided-transcription, technical, legal and medical dictation and vocabulary as well as in core skills. The program begins each fall and spring term. (Curriculum Code 415)

Data Entry Specialist Program

The certificate program is designed to provide business, industry, and government with improved information flow. Students will be trained on electronic equipment utilized in automated office systems and will learn automated office procedures and basic business skills. Students will be prepared for multi-vocational skills leading them to positions such as typist, record clerk, data entry operator, etc. (Curriculum Code 421)

Executive Secretarial Program

The two-year Executive Secretarial program will prepare the student for placement in the many interesting and challenging positions in business, from senior stenographer to executive secretary. The program provides the skills necessary for entrance-level jobs and sufficient background in related areas to enable the serious graduate to advance rapidly. Varied teaching techniques are used. (Curriculum Code 435)

Office Clerical Program

The one-year general clerical program is designed for those students who want to develop or increase the basic skills necessary for entrance jobs in the modern office. Further courses may be taken leading to an Associate Degree. (Curriculum Code 420)

Gregg Stenographer Program

The certificate program provides instruction in skills and abilities for entry level positions requiring shorthand. Students completing this program will be qualified for a variety of office positions as well. Students may elect to continue their studies for an Associate Degree in the secretarial program. (Curriculum Code 430)

Information/Word Processing Associate Degree Program

This program provides students with intensive training in skills needed for the automated office as well as skills basic to any office. The graduate of this two-year program will have instruction in machine transcription, the use of the microcomputer for word processing, spreadsheets, graphics, data base management and communications. This and an office simulation program is designed to enable students to move rapidly on their career path. In addition, sufficient background in related areas of business are provided so that the graduate may meet the needs of modern business and accept the opportunities provided in this exciting field. (Curriculum Code 418)

Information/Word Processing Certificate Program

The one-year certificate program is designed for those individuals who want to develop entry-level, skill in typewriting, machine transcription, and automated word processing equipment. Students pursuing the one-year certificate program will develop entry level skills in typing, machine transcription, and word

processing applications on the microcomputer, as well as receive training in other skills basic to any office. (Curriculum Code 419)

Medical Transcriptionist Program

This one-year certificate program concentrates on the knowledge of medical terminology and machine transcription skills in preparing for entry level transcription position found in medical offices, hospitals, clinics, and other health related institutions. (Curriculum Code 423)

Records Management

Students completing this Associate Degree program will be prepared for a position in a records department or center as a records employee or manager. Students will learn manual and electronic methods of filing, storage, and retrieval. Some courses will use the microcomputer applications. The field of records management is growing rapidly and increasing in importance due to the rapid explosion of information. (Curriculum Code 427)

Legal Secretarial Program

An Associate Degree program which provides the student with the skills and knowledge necessary to manage the office of an attorney. It develops an understanding of the specialized legal vocabulary and the production of legal documents, in addition to providing secretarial skills. (Curriculum Code 440)

Medical Secretarial Program

This Associate Degree program provides basic secretarial skills and the technical knowledge and understanding necessary for competence and self-confidence in this specialized field. Graduates of this program may find employment in hospitals, medical offices, clinics, or other health related institutions. (Curriculum Code 445)

Speedwriting Stenographer Program

The one-year Speedwriting Stenographer program includes instruction and practice in basic office skills as well as an alphabetic method of taking dictation. A certificate is awarded for satisfactory completion of the courses. (Curriculum Code 431)

Business (BUS) Office Systems Division of Business

BUS 100 Typewriting I 3(4-0)

This course is designed to teach the typewriter keyboarding process. Course content includes developing speed and accuracy on straight-copy materials, personal and business correspondence, and centering information. A basic skill level of 31-40 wpm is developed. Students may not advance to BUS 101, Typing II, unless a grade of 2.0 is earned.

BUS 101 Typewriting II 3(4-0)

Prerequisite: BUS 100 or previous typing. This course is designed to improve the speed and accuracy of typing straight copy materials together with learning tabulation, manuscripts, footnotes, business letters, and special communication forms. Performance levels range from 40 to 50 wpm. Students may not advance to the next course unless a grade of 2.0 is earned.

BUS 102 Typewriting III/Electronic 4(4-0)

Prerequisite: BUS 101. This course emphasizes individual skill building exercises as well as refining skills in language arts, editing, proofreading, formatting, composing, priority setting, and working under pressure with interruptions. Students will complete office simulations using the electronic typewriter.

BUS 104 Shorthand I 4(4-0)

This course teaches principles of Gregg shorthand and basic business vocabulary and is offered for students who have had no previous Gregg shorthand experience. A minimum performance level of 60 wpm for one minute at 95% accuracy is required before advancing to Shorthand II.

BUS 105 Shorthand II 4(4-0)

Prerequisite: BUS 104 or previous shorthand. This course continues the application of principles learned in Shorthand I in addition to developing speed and accuracy in taking dictation and completing transcription. Students with Gregg shorthand experience gained at other schools or colleges should resume their skill building in this course. A minimum performance level of 70 wpm for two minutes at 96% accuracy is required before advancing to Shorthand III.

BUS 106 Shorthand III 4(4-0)

Prerequisite: BUS 105. This course emphasizes skills developed in Shorthand I and II in addition to developing greater ability in taking and transcribing

dictation at a performance level of 80 wpm for three minutes at 97% accuracy level.

BUS 107 Business Machines I (AVT) 1, 2, or 3 credits

Prerequisite: BUS 117 or previous math. This course teaches basic mathematical operations on the 10-key adding machine, printing calculator, and/or the electronic display and electronic printing calculator. The amount of credit allowed is dependent upon the number of machines the student learns to operate.

BUS 114 Speedwriting I 4(4-0)

Students will learn an alphabetic shorthand. The minimum performance level for dictation and transcription is 60 wpm for two minutes at 95% accuracy before the student is eligible for Speedwriting II.

BUS 115 Speedwriting II 4(4-0)

Prerequisite: BUS 114. This course is designed to build speed and accuracy. The minimum performance level for a 2.0 is 70 wpm for three minutes at 96% accuracy. Completion of this course will give students a marketable office skill.

BUS 117 Business Mathematics 4(4-0)

Prerequisite: MTH or placement. This course can be taken as a classroom lecture or as an audio-visual-tutorial (AVT) course in the business math lab. Both methods of teaching develop skill and accuracy in basic mathematical computations as found in accounting, finance, management and marketing.

BUS 119 Office Methods3(3-0)

Prerequisite: BUS 101. Clerical office procedures and responsibilities and the study and evaluation of effective personality traits are areas of emphasis.

BUS 120 Keyboarding 2(2-0)

Basic keyboarding skills for the microcomputer operator are developed. Emphasis is upon speed and accuracy. This course is designed for students having no previous typing experience.

BUS 153 Shorthand Refresher 2(2-0)

Prerequisite: Gregg shorthand, at 60 w.p.m. This course is designed to refine and increase existing skills in Gregg Shorthand with emphasis upon producing accurate transcripts. Previous knowledge of shorthand is necessary.

BUS 160 Refresher Typing 3(3-0)

Prerequisite: Previous typing courses and experience. This course reviews basic typing techniques and the typing of memoranda, personal and business letters, letter styles, vertical and horizontal centering, tables, proofreading, and resumes.

BUS 175 Time Management in the Office (AVT) 1(0-2)

This audio-visual-tutorial class treats time management as a vital office skill that can be developed and/or enhanced. Excellent course for all office personnel.

BUS 199 Medical Vocabulary (AVT) 3(1-4)

This course provides instruction in spelling, definition, structure and concepts of medical terms from various fields of medicine. On-campus students receive instruction and drill in medical vocabulary in the classroom as well as using audio-visual-tutorial (AVT) materials. Off-campus students receive the same course through classroom instruction only.

BUS 200 Shorthand IV 4(4-0)

Prerequisite: BUS 106. This course completes the series of Gregg Shorthand courses developing speed and accuracy in dictation and transcription. Students entering this course should possess a skill of 100 wpm for three minutes at 98% accuracy.

BUS 203 Administrative Office Procedures 3(3-0)

Prerequisite: Sophomore status or secretarial experience or Program Area approval. The topics of the course include typing; reprographics; composition; handling incoming and outgoing mail; postal and shipping services; telephone and telegraph services; records management; planning meetings and conferences; collecting, processing, and presenting business data; handling financial statements, payroll and legal responsibilities; and office automation.

BUS 204 Business Communications 4(4-0)

Prerequisite: COM 051 and WRI 111. This course emphasizes the organization of clear, concise, easy-to-understand documents by application of basic business theory in communication. On-campus sections will use the micro-computer to prepare and edit documents in addition to classroom instruction. Off-campus sections will receive classroom instruction only.

- BUS 206 Legal Vocabulary** 3(2-2)
Prerequisite: Previous typing. This course utilizes basic legal terminology of general and specialized areas of law. It defines legal terms and their uses in legal contexts.
- BUS 207 Medical Terminology and Transcription** 4(2-4)
Prerequisite: BUS 199, WRI 111, and typing speed of 50 wpm. This course is designed to develop skill in defining, writing and transcribing medical words, phrases, and reports with the use of a transcriber and self-correcting typewriter.
- BUS 208 Business Theory for Professional Secretaries** 4(4-0)
2 sections, 4 credits each (Fall and Winter Terms)
Prerequisite: Employed as a secretary. This course is designed to prepare the student for the international Certified Professional Secretary examination or to improve his or her knowledge and skills in four areas of the exam: Office Administration and Technology, Communication Applications, Behavioral Science in Business, and Economics and Management.
- BUS 210 Administrative Development for Office Personnel** 3(3-0)
Prerequisite: Employed as a secretary. This course provides instruction in the administrative functions of office: coordination and supervision of personnel; writing and editing reports; making speeches; attending meetings; and handling correspondence. Emphasis is given to the development of the leadership role for office personnel.
- BUS 215 Records and Information Management** 3(3-0)
Records and information management involves controlling the creation, protection, storage, and disposition of business records with use of methods and systems (manual, automatic, and electronic data base).
- BUS 216 Records and Information Management Applications** 3(3-0)
Prerequisite: BUS 215 and previous typing. This course is a concentrated study of planning, organizing and controlling records and information systems and emphasizes the role of records management in integrated information systems. The student will use the microcomputer to complete some exercises.
- BUS 217 Micro-Records** 2(2-0)
This course deals with micro-forms represented by micro-film, roll film, aperture card, cartridge cassette, and micro-opaques. It also provides information for consideration in making a decision as to whether one should micro-film, concerning retrieval methods, and concerning privacy laws.
- BUS 220 Office Systems Management** 3(3-0)
Prerequisite: Sophomore status or previous typing. This course emphasizes the principles of office management, the role of office as a service center as well as part of a system, structure and design, workflow, procedures, job analysis, and issues relating to personnel selection, salary administration, productivity and budget.
- BUS 221 Human Resource Management in the Automated Office** 4(4-0)
Prerequisite: Sophomore status or previous experience. This course explores the psychological, sociological, and technological factors affecting the quality of personnel interaction in the work environment, specifically the automated office.
- BUS 222 Advanced Medical Terminology and Transcription** 3(2-2)
Prerequisite: GPA of 2.0 in BUS 207. This course is designed to develop skill in defining, writing, and transcribing words and phrases commonly used in medical language. Transcription of actual medical reports from hospitals are utilized as well as selected tapes with originators having foreign or cultural accents.
- BUS 230 Office Seminar** .5(5-0)
Classroom instruction on special topics of current interest, 6 to 8 hours.
- BUS 231 Office Seminar** 1(1-0)
Classroom instruction on special topics of current interest, 8 to 14 hours.
- BUS 232 Office Seminar** 2(2-0)
Classroom instruction on special topics of current interest, 20 to 24 hours.
- BUS 233 Office Seminar** 3(3-0)
Classroom instruction on special topics of current interest, 30 to 34 hours.
- BUS 240 Office Internship (Fall Term)** 3(0-6)
BUS 241 Office Internship (Winter Term) 3(0-6)
BUS 242 Office Internship (Spring Term) 3(0-6)

- BUS 243 Office Internship (Summer Term)** 3(0-6)
Approval for an office internship is based on the successful completion of basic business courses. Placement is made in an approved training station to earn credits for satisfactory work performance and earn wages for work performed. Occupational interests of the student are considered along with his or her background or having completed related classes in determining employment arrangements.

**Court and Conference Reporting (CCR)
Office Systems
Division of Business**

First Year CCR—Day Sequence Courses

- CCR 101 Machine Shorthand I** 6(8-0)
This course involves basic touch shorthand computer-compatible theory taught on a stenograph machine and developing speeds up to 80 wpm.
- CCR 102 Machine Shorthand II** 6(8-0)
Prerequisite: CCR 101. This course provides additional touch shorthand theory and speed building up to 100 wpm.
- CCR 103 Machine Shorthand III** 6(8-0)
Prerequisite: CCR 102. This course includes intermediate speed building with shorthand skills up to 120 wpm and an introduction to jury charge and legal abbreviations.
- CCR 104 Machine Shorthand IV** 6(8-0)
Prerequisite: CCR 103. This course involves advanced speed building up to 140 wpm and medical terminology and dictation.

Second Year CCR Classes

- CCR 201 C.A.T. Xscribe** 2(1-2)
Prerequisite: CCR 211. This course is designed to give students hands-on experience with computer-aided transcription for the court reporter.
- CCR 211 Q & A I** 4(4-0)
Prerequisite: CCR 104. This course includes two-voice testimony dictation and machine shorthand speed building up to 140—160 wpm.
- CCR 212 Q & A II** 4(4-0)
Prerequisite: CCR 211. This course includes two-voice testimony dictation machine shorthand and speed building up to 160—180 wpm.
- CCR 213 Q & A III** 4(4-0)
Prerequisite: CCR 212. This course includes two-voice testimony dictation and machine shorthand speed building up to 180—200 wpm. It also introduces four-voice testimony.
- CCR 214 Q & A IV** 4(4-0)
Prerequisite: CCR 213. This course includes two-voice testimony dictation and machine shorthand speed building, as well as four-voice testimony dictation with speeds up to 210—230 wpm.
- CCR 221 Jury Charge I** 2(2-0)
Prerequisite: CCR 104. This course includes jury charge dictation and machine shorthand speed building up to 130—140 wpm.
- CCR 222 Jury Charge II** 2(2-0)
Prerequisite: CCR 221. This course includes jury charge dictation and machine shorthand speed building up to 150—160 wpm.
- CCR 223 Jury Charge III** 2(2-0)
Prerequisite: CCR 222. This course includes jury charge dictation and machine shorthand speed building up to 170—180 wpm.
- CCR 224 Jury Charge IV** 2(2-0)
Prerequisite: CCR 223. This course includes jury charge dictation and machine shorthand speed building up to 190—200 wpm. Legal opinion and argument dictation is also included.
- CCR 231 Literary I** 4(4-0)
Prerequisite: CCR 104. This course includes literary dictation and machine shorthand speed building up to 110—130 wpm.

CCR 232 Literary II 4(4-0)

Prerequisite: CCR 231. This course includes literary dictation, and machine shorthand speed building up to 130—150 wpm.

CCR 233 Literary III 4(4-0)

Prerequisite: CCR 232. This course includes literary dictation and machine shorthand speed building up to 150—170 wpm.

CCR 234 Literary IV 4(4-0)

Prerequisite: CCR 233. This course includes literary dictation and machine shorthand speed building. A performance level of 180 wpm must be reached.

CCR 240 Court Internship 4(1-6)

Prerequisite: Q & A speed of 200 wpm. A student placed in this internship will spend 10-12 hours per week with an experienced shorthand reporter writing and transcribing notes into proper form concerning courtroom trials, conferences, hearings, or depositions.

CCR 250 Introduction to Medical and Technical Testimony 4(4-0)

Prerequisite: Program Area approval or CCR 104 and BUS 199. Reinforces knowledge of medical vocabulary through classroom drills, writing and transcribing 2-voice testimony that may be encountered by court, deposition, or hearings reporters.

**Data Entry (DE)
Office Systems
Division of Business**

DE 101 Fundamentals of Data Entry 4(0-8)

Prerequisite: Bus 100 or Bus 120. The basic concepts of data entry operations are learned on the IBM Personal Computer. Data entry, editing, and document handling skills are also developed in this course.

DE 102 Key To Diskette 4(0-8)

Prerequisite: DE 101. This course is directed toward the refinement of the skills attained in DE 101. The student will enter data onto a diskette, learn complex job layouts, and the use of program and data diskettes on the IBM 3742 Key Diskette. At the completion of the course, the student should have acquired the skills needed for employment.

DE 103 Advanced Data Entry—Visual Display Terminal 4(0-8)

Prerequisite: DE 102. Students will learn new types of formatting, more complex exercises, documentation handling on the microcomputer; and expand their knowledge of common formats of input and output devices for data entry.

**Information/Word Processing (IWP)
Office Systems
Division of Business**

IWP 101 Introduction to Office Automation 4(4-0)

This is a survey course of the principles, terminology, equipment, equipment selection criteria, and implementation procedures used in information/word processing technology as well as investigating career paths. A concept course—no “hands-on” experience is provided.

IWP 102 Proofreading 2(2-0)

The course is designed to teach proofreading and editing skills essential to the production of accurate and coherent business communications.

IWP 105 Machine Transcription 4(4-0)

Prerequisite: Bus 101 and WRI III. This course is designed for the production of mailable communications by using transcribers, recorded cassettes, and microcomputers. Development of proficiency in spelling, punctuation, grammar, and business vocabulary is emphasized.

IWP 205 Information/Word Processing Management 4(4-0)

Prerequisite: IWP 101. This course will include identifying methods to develop a realistic, practical approach to anticipating and solving managerial problems. It also includes planning and organizing systems for implementing and maintaining word processing operations plus defining, reviewing, and examining the manager/supervisor's role.

IWP 215 Fundamentals of Word Processing on the IBM Personal Computer 4(3-2)

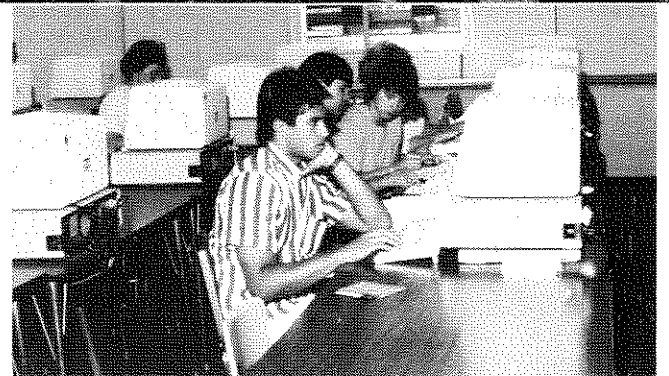
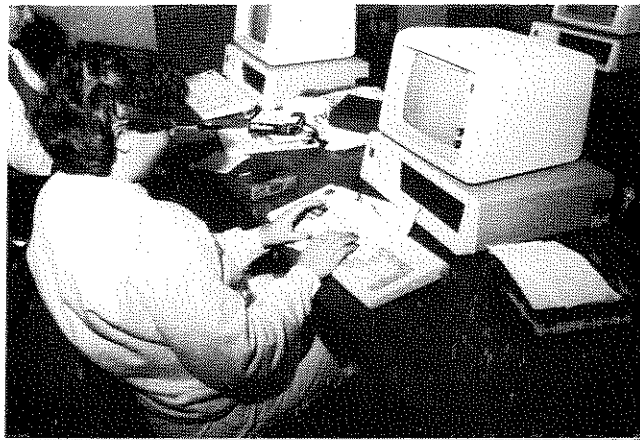
Prerequisite: BUS 101 or equivalent. This course is designed to develop basic skills using word processing software on the IBM Personal Computer for production, revision, and retrieval of routine business documents, i.e., letters, envelopes, memoranda, tables, reports, short manuscripts, and repetitive correspondence.

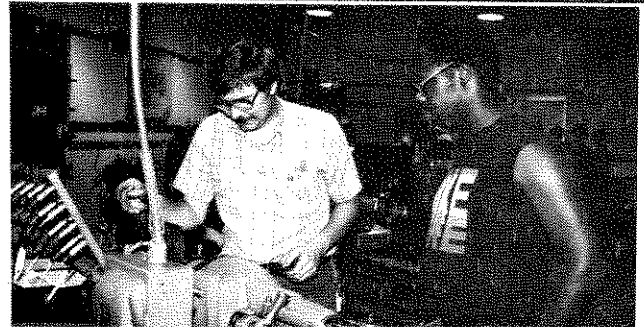
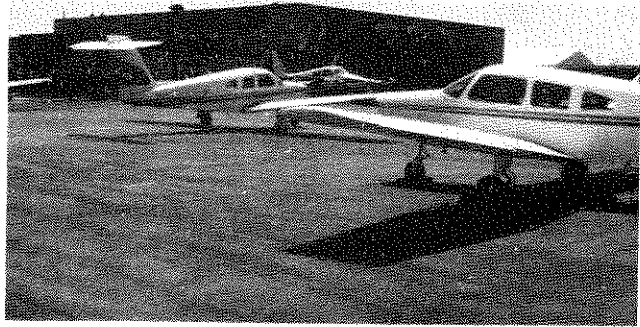
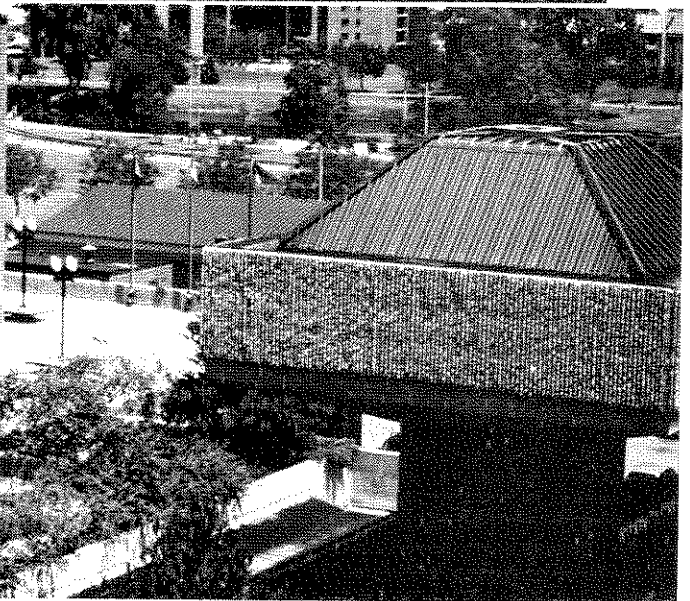
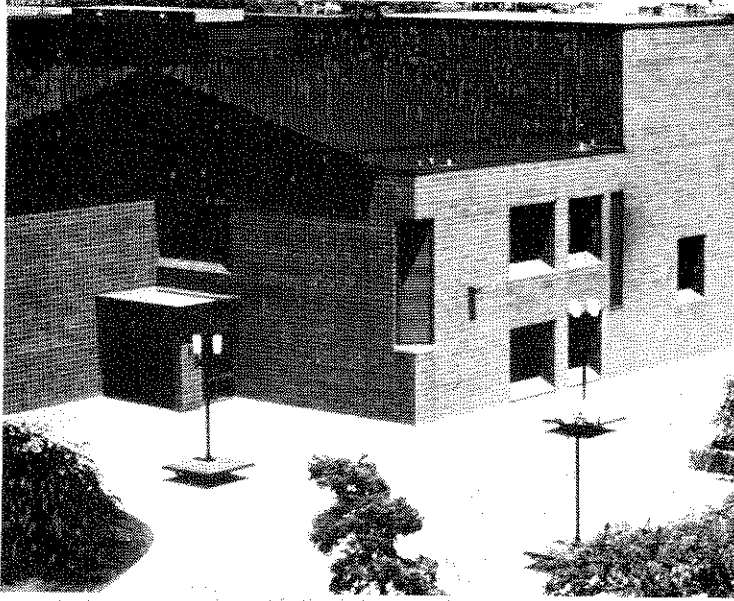
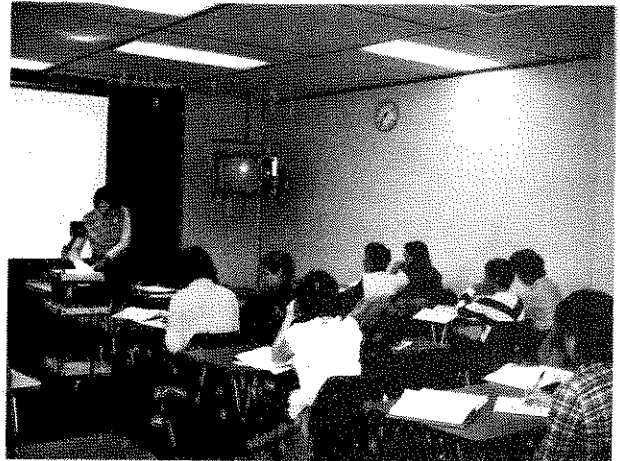
IWP 220 Office Automation Application I 4(4-4)

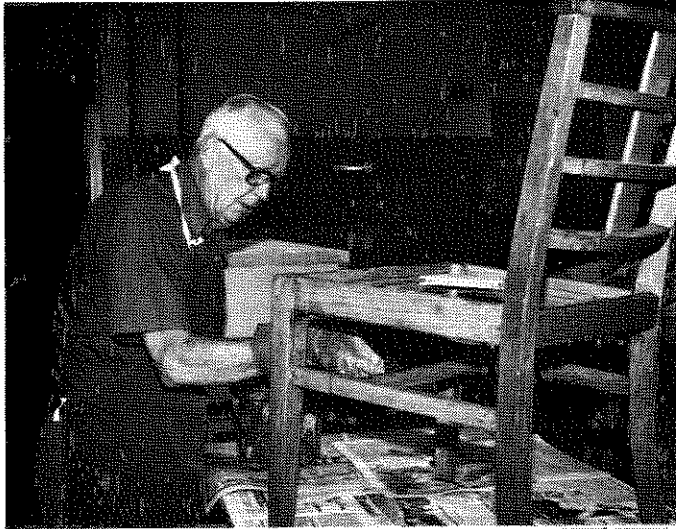
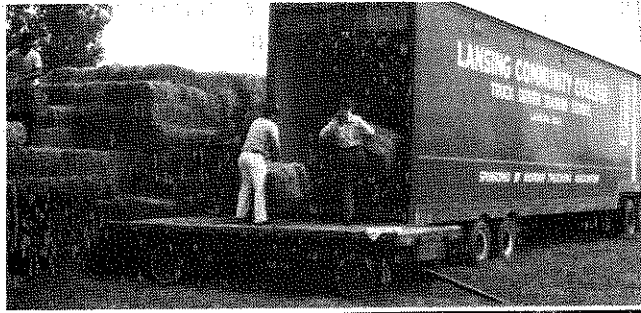
Prerequisite: IWP 215. This course is designed to expand word processing skills in advanced application on the microcomputer. Students will also receive instruction in spreadsheets, graphics, calendaring, and advanced communications.

IWP 221 Office Automation Applications II 4(4-4)

Prerequisite: IWP 220. This course is a simulation of skills previously developed in machine transcription, word processing, spreadsheets, graphics, calendaring, and communications. Introduction to additional applications such as data base management and merging software packages will be taught.







Lansing Community College



Dean William Darr

DIVISION OF TECHNOLOGY & APPLIED SCIENCES

Automotive Programs
Aviation
Computer Integrated Manufacturing
Construction Technology
Health Careers
Transportation Training

DIVISION OF TECHNOLOGY AND APPLIED SCIENCES

Dean William Darr
220 I Gannon Vocational Technical Building

The Division of Technology and Applied Sciences attempts to include in the catalog a listing of all courses offered by the Division. However, from time to time, courses are added to satisfy changing student needs. For this reason, anyone desiring a course not listed in the catalog should contact a Department Chairperson, Department Director or the Dean for further information.

In support of the College mission, the programs offered by the Division of Technology and Applied Sciences are developed to serve a diversity of needs across the community. In addition to the career training needs of individuals, the programs are designed to meet the particular needs of labor, industry, business and government, and of other groups wishing to participate in seminars, courses, or other educational activities. With the exception of a few continuing education courses offered by the Department of Health Careers, all courses offered by the Division can be applied to a certificate or degree program. However, students who wish to take individual courses may do so without being required to enroll in either a certificate or degree program.

Program Objectives

The programs of the Division of Technology and Applied Sciences have been designed:

1. to meet specific individual needs through single courses, one-year certificate programs and associate degree career programs,
2. to provide an opportunity for students to prepare for one of today's increasingly complex jobs, to become qualified for a more advanced position, or to perform better in their present job,
3. to provide an opportunity for industries, governmental agencies, hospitals, or other organizations wishing specific courses to help their employees perform better in assigned tasks or become qualified for advancement,
4. to provide an opportunity for apprentices to enroll in joint "on-the-job" training with local employers and related training at the Community College, and
5. to provide fee-for-service contracts for companies wanting specific training.

Organization of Resources

In addition to the College staff and full-time faculty, the career programs feature a team of adjunct faculty who are working full-time in careers related to their teaching specialties. This group includes not only technical specialists, but company executives and other experienced personnel.

The Division also utilizes advisory committees for all programs to ensure that the programs are state-of-the-art and meeting industry needs. Many programs require licensure or certification for graduates in order for them to become employed after completion of their program.

The modern facilities and equipment in the Division make it possible for the students to receive training on equipment currently being utilized in industry.

Major Programs

The programs offered by the Division of Technology and Applied Sciences fall into six categories. The categories include (1) the associate of Applied Science, (2) the associate of Applied Science, general technology, (3) the certificate of achievement, (4) community service, (5) transfer programs, and (6) apprenticeship.

The Associate Degree Programs

As indicated above, the Division offers the Associate of Applied Science and the Associate of Applied Science, General Technology Degrees. To receive one of the associate degrees, a student must meet the following requirements:

1. Completion of course requirements of specific programs for specialized study areas outlined in the curriculum guides of each program or the requirements outlined in #830 curriculum guide for the Associate Degree in General Technology
2. Completion of a minimum total of 90 credits
3. A grade point average of 2.0 or better
4. A minimum of 30 credits earned in attendance at Lansing Community College
5. Completion of four credits of American Government or State and Local Government (SS 104 or SS 105)

Currently, an associate degree may be earned with a major emphasis in any one of 29 technical fields and 6 health fields (a total of 35 career fields). These fields are listed below as well as in the subsequent sections of this catalog devoted to the offerings of the departments of the Division of Technology and Applied Sciences.

- Advanced Emergency Medical Technology (Paramedic)
- Architectural Technology
- Architectural Technology—Solar Option
- Automotive Technology
- Auto Body Repair and Painting

- Avionics Technology
- Aviation Flight Technology
- Aviation Maintenance Technology
- Dental Assistant
- Dental Hygiene
- Diesel Engine Technology
- Industrial Drafting Technology
- Electro-Mechanical Technology
- Electronics Technology—Communications Option
- Electronics Technology—Biomedical Option
- Electronics Technology—Digital Option
- Fire Science Technology
- General Technology
- Heating, Air Conditioning and Refrigeration
- Industrial Technology
- Landscape Architectural Technology
- Machine Maintenance Technology
- Numerical Control Programmer
- Nursing (Career Ladder LPN—RN)
- Occupational Safety and Health
- Plumber-Pipefitter (Industrial)
- Production Inventory Control
- Quality Control and Reliability Technology
- Radiologic Technology
- Respiratory Therapy Technology
- Robotics
- Tool Inspection
- Tool Making
- Tool and Die Making
- Welder

Certificate Programs

Certificate programs are designed to meet specialized needs of students in certain career fields. Such programs vary in duration from a few days for an intensive workshop to an extensive program requiring additional work beyond the associate degree program. These certificate programs, like the associate degree programs, are described in the departmental sections of this catalog. The following is a list of certificate programs:

- Auto Body Repair & Painting
- Auto Mechanics
- Dental Assistant
- Dental Business Assistant
- Die Maker-Tool and Die Maker
- Diesel Engine Technology
- Emergency Medical Technician
- Heating and Air Conditioning
- Industrial Drafting
- Machine Repair
- Machinist, Toolmaker
- Medical Sonography (Ultrasound) Technology (Start Fall, 1985)
- Medical Assistant
- Millwright
- Nuclear Medicine Technician
- Pipefitter
- Plastics
- Practical Nursing
- Residential Builder
- Respiratory Therapy
- Sheet Metal
- Small Engine Repair
- Truck Driver Training
- Welding

The Certificate of Achievement Programs

Currently, the Division of Technology and Applied Sciences offers a total of 24 programs leading to a certificate of achievement. Sixteen of these programs are in general technical fields and 8 of these are in the health field (a total of 24 career fields). Like the associate degree programs these certificate of achievement programs are listed in the subsequent sections of this catalog devoted to the offerings of the departments of the Division.

One will note by reading the descriptions of the certificate of achievement programs that programs may vary in length from a few days for an intensive workshop to a period longer than it takes to earn an associate degree program.

Community Service Programs

The programs are designed individually to satisfy broad segments of the community. These may include educational offerings within industry or in other locations within the college service area. Recently, these offerings have been in the form of seminars designed for companies or groups of individuals. They have been intended to help upgrade the working effectiveness of individuals by the improvement of old skills and the addition of new skills. Usually consisting of lectures or laboratory experience or a combination of both, these seminars have stressed the importance of human relations, as well as technical skills. Credits earned through participation in such seminars can usually be applied toward the credit requirement of an appropriate certificate of achievement or associate degree.

Requests for seminars and other forms of community service in the technical fields should be made to the Dean of the Division of Technology and Applied Sciences.

Transfer Programs

Although many students transfer to a professional school or into a four-year university program after receiving an Associate Degree, it should be recognized that most individual courses are transferable even though the student does not participate in a degree program.

Universities and colleges throughout the United States differ widely in courses they accept for transfer. Transferability depends upon the university or college and the program into which the student wishes to transfer. Students planning to transfer to other universities or colleges should consult with a counselor in the Department of Student Development Services in order to achieve maximum transferability.

Apprenticeship Training

Apprentice training offers the individual the opportunity to learn a skilled craft or trade while he/she works at the trade for wages and takes related instruction to learn more about the job. A person desiring apprentice training must be employed as an apprentice before entering certain designated classes.

Upon completion of the training program, the apprentice is awarded the status of journeyman, signifying a skilled craftsman or tradesman. Many of the key persons in industry today began as apprentices.

To qualify for an apprenticeship in any of the skilled trades, a student must have mechanical aptitude, perseverance, ambition and initiative. In addition, he/she must have good health, be mentally alert, and genuinely interested in the training. Most apprenticeship trades require a high school diploma or equivalent.

School records, test results and personal interviews may be used by employers or skilled trades committees in determining the qualifications of an applicant. These guidelines are normally among those recommended by the United States Department of Labor, Bureau of Apprenticeship and Training.

Applications for most building trades apprenticeships are available in the Division office. Applications for industrial trades apprenticeships are normally secured from firms employing industrial trades apprentices. No common procedure can be outlined here since each trade differs in its selection and placement procedure. An applicant must reside within the jurisdictional area of the joint apprenticeship committee of the building trade for which he/she is making application as required by various Building Trades Apprenticeship Committees.

Applicants approved for building trades apprenticeship training are assigned a day to report for classes by the appropriate Joint Apprenticeship Committee. An apprenticeship coordinator or program director advises all apprentices as to courses they must take during their training programs. Apprentices must have the approval of the coordinator or program director for courses selected each term, in conformity with the apprenticeship standards for the individual trade and company.

Lansing Community College does not provide apprentice placement service, except through referral of applicants or students at the request of prospective employers, nor does the College exercise control over selection of apprentices. Joint Apprenticeship Committees place apprentices in the building trades.

Building Trades Apprenticeships

Apprenticeships in the field of building trades include the following:

1. Asbestos Worker
2. Bricklaying
3. Carpentry
4. Electrical (Inside)
5. Electrical (Residential)
6. Painting and Decorating
7. Plumbing and Pipefitting

Industrial Trades Apprenticeships

Apprenticeships in the industrial trades field include the following:

1. Die Making
2. Die Sinking
3. Draftsman
4. Electrician (Industrial)
5. Machine Repair
6. Machinist
7. Maintenance Machinist
8. Millwright
9. Model Making
10. Numerical Control Programmer
11. Welding Technology

AUTOMOTIVE TECHNOLOGY PROGRAM

Director: Walter E. Hayward

Room 220F Gannon Vocational-Technical Building

The Automotive Technology Program offers courses under the following course codes:

AUT: Automotive Technology

THE: Truck and Heavy Equipment

The Automotive Technology Program is designed to develop service technicians who will be able to diagnose, repair and service today's automobiles. This series of courses will provide an individual with the job entry qualifications needed to compete for employment in the automotive service trade. Rapidly changing technology, fuel efficient vehicles, emission considerations and mechanic certification laws all require today's technician be educationally prepared to face those challenges. Students will gain practical experience by doing diagnosis and repair procedures on operable vehicles in the laboratory courses.

The Automotive Program of the Division of Technology and Applied Sciences offers an associate degree program and a series of classes leading to a certificate of achievement.

Associate Degree

The Associate Degree in Science for automotive technology is designed to develop technicians who will be able to diagnose, repair and otherwise service all components of today's automobiles. General requirements for an associate's degree are set forth in the section devoted to the Division of Technology and Applied Sciences. Curriculum guides for specialty programs resulting in the associate degree are available in the Office of the Dean of the Division. Students in this program are provided the opportunity to practice diagnostic and repair skills in a specialized area of their choice.

Certificate Program

The Automotive Certificate of Achievement Program is designed to provide a student with job-entry skills for employment in the automotive service trade. The curriculum for this certificate program consists of practical courses providing the skills needed to compete in today's job market. Curriculum guides for this program are also available in the office of the Automotive Department.

Courses completed in Automotive Technology Certificate Programs are transferable toward an Associate Degree of similar nature.

COURSE DESCRIPTIONS

Automotive (AUT)

Automotive Technology Program

Division of Technology and Applied Sciences

AUT 100 Auto Service I 4(2-2)

Basic tools and equipment, safety, lubrication, exhaust systems, precision measurement and basic oxy-acetylene welding. The student is required to spend a minimum of twenty hours per term reviewing slides and tapes of the program. Lab fee.

AUT 110 Auto Electrical Theory 4(2-4)

Prerequisite: AUT 100 or concurrent. A theory and application course covering batteries, starters, generators, regulators, ignition systems, and chassis wiring. Lab fee.

AUT 111 Tune-Up I 4(2-4)

Prerequisite: AUT 210 or department approval. A lecture-laboratory course covering fuel systems, equipment operations, and tune-up procedure. Lab fee.

AUT 112 Tune-Up II 4(2-4)

Prerequisite: AUT 111. A lecture-laboratory course with emphasis on actually tuning engines, introduction to on-board computers and emission controls. Lab fee.

AUT 120 Auto Drive Trains 4(2-4)

Prerequisite: AUT 100 or concurrent. Servicing clutches, manual transmissions, universal joints, differentials, rear axles. Lab fee.

AUT 121 Automatic Transmission I 4(2-4)

Prerequisite: Department Approval or AUT 120. A basic course for automatic transmission repair. Lab fee.

AUT 122-123 Automatic Transmission II-III each 4(2-4)

Prerequisite: AUT 120 & AUT 121. Advanced automatic transmission repair. Lab fee.

- AUT 130 Engines** 4(2-4)
Prerequisite: AUT 100 or concurrent. Provides a background in principles, design, operation, and service procedures of gasoline engines, and preparation for practical experience in engine maintenance and service. Lab fee.
- AUT 133 Small Engines I** 3(2-2)
Basic course covering servicing and repair of two-cycle and four-cycle small gas engines. Each student is required to supply a small engine for laboratory work. Lab fee.
- AUT 134 Small Engines II** 3(2-2)
Prerequisite: Department approval or AUT 133. A continuation of Small Engines I with more emphasis on laboratory work. Each student is required to supply a small engine. Lab fee.
- AUT 135 Chain Saw Repair** 3(2-2)
Basic course for chain saw owners and mechanics covering basic maintenance, safe operation, tune-up, troubleshooting, major repair, chain oilers, and chain sharpening and repair. Lab fee.
- AUT 136 Marine Engine Repair** 3(2-2)
Covers the basics of outboard engine servicing including carburetion, ignition, and trouble-shooting malfunctions. Lab fee.
- AUT 137 Motorcycle Repair I** 3(2-2)
Covers the theory of operation of a motorcycle and basic service procedures, including tune-up, wheel service, brake service, and drive mechanism. Lab fee.
- AUT 140 Auto Brakes** 4(2-4)
Prerequisite: AUT 100 or concurrent. Servicing both drum and disc brakes, including adjustment, shoe replacement, drum and disc turning, pad replacement and hydraulic system service. Lab fee.
- AUT 150 Auto Suspension** 4(2-4)
Prerequisite: AUT 100 or concurrent. Instruction in wheel alignment, wheel balancing, and front end part replacement procedures. Lab fee.
- AUT 160 Auto Air Conditioning** 4(2-4)
Prerequisite: AUT 110 or concurrent. Instruction in the operating principles of auto air conditioning systems and repair procedures. Lab fee.
- AUT 165 General Auto Mechanics** 3(2-2)
Automobile owners will gain a better understanding of the automobile and be able to make some repairs. Areas covered include preventive maintenance, tune-ups, brakes, engines, electrical systems, drive lines, front end, and steering. Lab fee.
- AUT 166 General Auto Mechanics and Women** 3(2-2)
Student will gain fundamental understanding of how an automobile works and will be able to perform basic maintenance and repair procedures. Lectures cover engines, fuel and exhaust, electrical system, cooling and lubrication, transmission, steering, brakes and suspension. Lab work includes: checking and changing oil filters, belts, hoses, tires, bulbs, fuses; demonstration/identification of automotive components; use of basic hand tools.
- AUT 180 Applied Autobody Welding** 4(2-4)
Presents metal welding and plastic joining procedures as they apply to auto body repair. Included in the metal portion are gas, spot, and wire feed welding, soldering, brazing, hammer welding, and heat shrinking. The plastic section covers identification of weldable plastics, selection of appropriate welding procedures, repair of soft fascia, and vinyl repair. Lab fee.
- AUT 181 Metal Finishing** 4(2-4)
Prerequisite: AUT 180 or concurrent. Teaches basic sheet metal repair methods and the basic body shop tools and their proper use, along with typical materials used in body shops to fill and repair minor damaged panels. Lab fee.
- AUT 182 Panel Repair and Replacement** 4(2-4)
Prerequisite: AUT 181. Instruction in repair of larger dented panels, with the emphasis on replacing panels. Lab fee.
- AUT 183 Major Collision** 4(2-4)
Prerequisite: AUT 182. Emphasizes restoration of a collision-damaged automobile to its original condition, including estimating the total job, glasswork, and painting. Lab fee.
- AUT 184 Frame Straightening** 4(2-4)
Prerequisite: AUT 183. An introduction to the basics of frame straightening, covering aligning the frame or unitized body to original specifications. Portable frame equipment is used to familiarize the student with frame straightening. Lab fee.
- AUT 185 Painting I** 4(2-4)
An auto painting course designed to teach basic refinishing procedures. The student must refinish at least one panel in acrylic enamel or acrylic lacquer at the end of the course. Lab fee.
- AUT 186 Painting II** 4(2-4)
Prerequisite: AUT 185. Advanced auto painting techniques for spot repair, color matching, and troubleshooting. Lab fee.
- AUT 187 Painting III** 4(2-4)
Prerequisite: AUT 186. Advanced auto painting techniques for refinishing a complete auto in enamel, and acrylic lacquer. Includes estimating the cost of materials and overhead costs of operating a paint shop. Lab fee.
- AUT 188 Auto Body Repair and Painting** 4(0-8)
Prerequisite: AUT 181 and AUT 185. A combined course of auto body repair and painting. Provides an opportunity to practice the techniques learned in Metal Finishing I and Painting I. Lab fee.
- AUT 200 Basic Diesel Maintenance** 4(2-4)
Covers theory of operation of both two-and four-cycle diesels, maintenance operation, model identification, systems maintenance including fuel system, lubrication system, cooling system, naturally aspirated, supercharged, and turbocharged intake systems, and their repair. Lab fee.
- AUT 201 Advanced Diesel Maintenance** 4(2-4)
Prerequisite: AUT 200 or IA. Theory and practice in maintenance repair and minor rebuilding of head assemblies and ancillary equipment (i.e., water pumps, air pumps, oil pumps, generator starters), tune-up and electrical systems, systems diagnosis, and trouble shooting. Lab fee.
- AUT 202 Diesel Engine Rebuilding** 8(4-8)
Prerequisite: AUT 201. Covers engine rebuilding, including proper disassembly procedures, inspection, and repair of diesel engine components. Emphasis is on proper engine analysis prior to overhaul and proper run-in upon completion of overhaul. Lab fee.
- AUT 203 Diesel Fuel Systems** 4(2-4)
Prerequisite: AUT 201. A complete course on diesel fuel systems covering fuel classification, fuel system functions, pumps and injectors, proper diagnosis, troubleshooting, and rebuilding the complete fuel system. Lab fee.
- AUT 206 Automotive Diesel Repair** 4(2-4)
First step in preparing for a career in diesel engine repair. Covers advanced maintenance and introduces diagnostic and repair procedures, including hands-on skill development. Lab fee.
- AUT 210 Auto Electrical Theory II** 4(2-4)
Prerequisite: AUT 110. Practical application of related instruction to supplement the student's on-the-job-training. Includes generating and starting systems, batteries, schematic troubleshooting, power assist systems and wiring harnesses. Emphasis is on actual repair of electrical defects and components. Lab fee.
- AUT 215 Automotive Computers** 4(2-2)
Theory of operation and repair procedures on computerized engine and emission control systems. Operation of dwell meters, tachometers, computerized engine analyzers, digital high impedance multimeters and other equipment used in servicing electronic engine control systems.
- AUT 237 Motorcycle Repair II** 4(2-2)
Prerequisite: AUT 137. A continuation of Motorcycle Repair I with emphasis placed on engine overhaul, transmission service and repair. Lab fee.
- AUT 251 Suspension II** 4(2-4)
Prerequisite: AUT 150. Includes McPherson Strut front suspension replacement or repair, McPherson Strut suspension alignment procedures, replacement of McPherson Strut type cartridges, manual steering gears, power steering gears, linkage type power steering, power steering pumps, steering linkage repair or replacement, and alignment of steering system. The student will also gain knowledge of minor suspension and frame repair, and rack and pinion steering on Chrysler, Ford, and General Motors products. Lab fee.

- AUT 271 Engine Laboratory*** **6(0-12)**
Prerequisite: AUT 100, AUT 130 B/ and IA. A laboratory course to develop trade entry skill. Lab fee.
- AUT 272 Tune-Up and Electrical Laboratory*** **6(0-12)**
Prerequisite: AUT 100, AUT 111 B/each and IA concurrent with AUT 111. A laboratory course to develop trade entry skill. Lab fee.
- AUT 273 Brake Laboratory*** **6(0-12)**
Prerequisite: AUT 100, AUT 140 B/ and IA. A laboratory course to develop trade entry skill. Lab fee.
- AUT 274 Suspension Laboratory*** **6(0-12)**
Prerequisite: AUT 100, AUT 150 B/ and IA. A laboratory course to develop trade entry skill. Lab fee.
- AUT 276 Automatic Transmission Laboratory*** **6(0-12)**
Prerequisite: AUT 100, AUT 121 B/ and IA. A laboratory course to develop trade entry skill. Lab fee.
- AUT 280 Auto Related Service Laboratory*** **6(0-12)**
Prerequisite: AUT 100 B/ and IA. A laboratory course for practicing skills learned in previous courses. Lab fee.
*Approval may be given to take any of these lab courses twice for a maximum of twelve credits each.
- AUT 291 Automotive Internship** **6(1-5)**
Prerequisite: Director Approval. Earn credits while employed as a technician in auto mechanics, auto body, or diesel heavy equipment repair. A pre-enrollment interview between student and coordinator is required; Director must approve training station and working conditions. Requires one hour per week of related instruction at the College.

**Trucks and Heavy Equipment (THE)
Automotive Technology Program
Division of Technology and Applied Sciences**

- THE 220 Truck Drive Lines** **4(2-4)**
Theory and application of the power train system including clutches, torque converters, transmissions, and final drives. Lab fee
- THE 240 Air Brakes** **4(2-4)**
Covers air brake systems, their component parts, troubleshooting, design and control systems. Lab fee

AVIATION TECHNOLOGY

Program Director: Gayland Tennis
108 Aviation Technology Center
Capital City Airport, Lansing

The Department of Aviation Technology offers instruction in the following areas, under the codes indicated:

- AFG: General Maintenance
- AFM: Airframe Maintenance
- AFP: Powerplant Maintenance
- AFT: Flight Technology
- AV: Avionics Technology

Professional aviation career training is conducted by Lansing Community College in the areas of Flight Training and Aviation Maintenance Technology. All associated supporting instruction such as preparatory ground schools, flight simulator and electronics technology is conducted at the Lansing Community College Aviation Center located at Lansing Capital City Airport.

Career counseling in all fields of professional aviation is a continuous process at the Aviation Center. Such counseling is designed to maximize students' potential and concurrently maintain an awareness of the needs of the aviation industry as future employers of our graduates.

Graduates of the aviation technology programs at Lansing Community College have achieved excellent reputations in the aviation industry and such graduates can be found working virtually world wide in all facets of this exciting career field. Graduates are also encouraged to continue their formal education through the medium of articulation agreements with numerous four-year baccalaureate degree-granting institutions. All curricula for the programs at Lansing Community College are fully approved by the Federal Aviation Administration under curriculum codes 531 and 532.

Aviation Maintenance Technology (AFG, AFM, AFP)

Associate Degree Program in Aviation Maintenance Technology (AFG) (AFM) (AFP).

This 24 month (144 credit) program is designed to prepare the student for a professional career in aviation maintenance and it culminates in the issuance of an Associate Degree in Aviation Maintenance Technology. Graduates of this program should have achieved the qualifications required to (a) pass the Federal Aviation Administration Examinations and (b) to acquire formal certification as an Airframe and Powerplant Mechanic.

During the program in Aviation Maintenance Technology, students will cover a wide variety of subjects dealing with airplanes: reciprocating engines, turbine, fuel systems, propellers, ignition, electrical systems, and hydraulic systems. This program requires approximately a total of 1900 hours of classroom instruction, shop work and laboratory experience divided into the following three areas: airframe and powerplant mechanics general - 400 hours, powerplant mechanic - 750 hours, and airframe mechanic - 750 hours. A waiting list is maintained for admission. The Curriculum Code for this program is 532.

Avionics Technology (AV)

Associate Degree in Aviation Electronic Maintenance Technology (Avionics). This program is designed to prepare the student for a professional career in Avionics and it culminates in the issuance of an Associate Degree in Aviation Electronics Maintenance Technology. Graduates of this program will have achieved the qualifications necessary for an aviation radio repairman certificate to be issued upon employment by a Federal Aviation Administration certified repair station. Graduates will have passed the general radio telephone license examination, received hands on bench maintenance and factory approved unit training. The Avionics student curriculum covers a broad range of material from aircraft drawings to weather radar. The electrical background includes DC analog circuits of auto pilots to input diodes in radar altimeters and weather radar. This program requires approximately 2000 hours of classroom instruction, lab work and bench experience. The curriculum code for this program is 567.

Flight Technology (AFT)

This program provides training for students who aspire to become professional pilots. It includes the flight training, flight simulator experiences and associated ground school instruction necessary for the preparation of students for passing the written and practical tests for the Private, Commercial and Instrument Pilot Licenses. The program electives also include courses for the preparation of students for certification as a flight instructor, instrument flight instructor and multi-engine certification. Students are encouraged to take additional elective courses in general education and to complete the requirement of 90 credits for an associate degree and to prepare them for possible transfer to a baccalaureate degree-granting institution. The curriculum is approved by the Federal Aviation Administration. The curriculum code for this program is 531.

The courses entitled Flight Training I through IX, are designed to progressively train the students in maneuvers, navigation, and instrument flying skills required of a commercially licensed, instrument-rated professional pilot. Each flight training course provides at least 30 hours of concentrated flight training.

Prerequisites of these courses include Department approval, the possession of an FAA Class II medical certificate, and having reached the minimum age of 17 years by the start of course AFT 202. All new and continuing flight students will be required to meet at the beginning of each term with the Chief Flight Instructor to reserve flight times and to pay the \$50.00 deposit toward their lab fees for the upcoming term.

COURSE DESCRIPTIONS

**Airframe General (AFG)
Aviation Technology
Division of Technology and Applied Sciences**

- AFG 100 Aviation Mathematics and Physics** **3(3-0)**
Prerequisite: Coordinator approval. Fractions, decimals, ratio and proportions and measurements and physics involving fluids, light, heat, and electrical application used in aviation maintenance careers.
- AFG 101 Basic Electricity** **7(5-4)**
Prerequisite: Coordinator approval. Basic electrical theory and its application to aircraft and related electrical systems and circuits. Includes ac and dc currents, magnetism, generators, motors, series, series-parallel, and electrical relay circuits.
- AFG 102 Aircraft Drawings** **2(2-1)**
Prerequisite: Coordinator approval. Basic drawing applications used in aviation maintenance. Read and interpret drawings and schematics used in production of aircraft parts, components, and related systems.

AFG 103 Weight and Balance 3(2-2)

Prerequisite: Coordinator approval. Calculations involving aircraft weight changes and distribution occurring by loading, unloading, and equipment installation or modifications. Methods of computing and maintaining required records.

AFG 104 Materials and Processes I 4(2-4)

Prerequisite: Coordinator approval. Practical training in the use of basic and precision hand tools. The identification systems used in production of aircraft hardware and standards used for repair and replacement.

AFG 105 Materials and Processes II 5(4-3)

Prerequisite: Coordinator approval. Aircraft construction and methods of cleaning and preserving aircraft structural materials. The non-destructive inspections are conducted by Zyglo, magnaflux, and dye penetrants.

AFG 106 Ground Operation and Servicing 2(1-2)

Prerequisite: Coordinator approval. Introduction to aircraft ground operations and servicing of related aircraft systems. Techniques and safety applications used during aircraft engine run-up and taxi maintenance functions.

AFG 107 Maintenance Regulations, Publications, Forms and Privileges 3(2-3)

Prerequisite: Coordinator approval. Explores various aircraft maintenance publications, forms and records. Introduces regulations involving mechanic limitations and rights and maintenance-accepted practices.

AFG 232 General Test Preparation 2(2-0)

Prerequisite: Coordinator approval. Reviews all general subjects to assist the student in preparation for the FAA written and practical examination.

Airframe Mechanics (AFM)**Aviation Technology****Division of Technology and Applied Sciences****AFM 208 Aircraft Structures I 7(5-5)**

Prerequisite: Coordinator approval. Covers structural design and construction of wood and fabric-covered aircraft and the methods of inspection and repairs required. Also covers the application of primers and paint finishes used in the aircraft industry.

AFM 209 Aircraft Structures II 7(3-8)

Prerequisite: Coordinator approval. Studies maintenance practices used in construction, inspection, and repair of aircraft metal structures.

AFM 210 Aircraft Welding 3(2-3)

Prerequisite: Coordinator approval. Presents welding applications and methods used in repairs and inspection of aircraft structures in accordance with approved aviation maintenance techniques.

AFM 211 Assembly and Rigging 6(4-4)

Prerequisite: Coordinator approval. Covers assembly and rigging of aircraft control structures. Provides practical application in removal, installation, and adjustment of aircraft flight controls by balance, tension, and motion to meet flight safety standards.

AFM 212 Aircraft Fuel Systems 3(2-2)

Prerequisite: Coordinator approval. Covers the study, analysis, trouble-shooting, and repair of various aircraft fuel systems.

AFM 213 Aircraft Electrical Systems 9(7-5)

Prerequisite: Coordinator approval. Inspection and repair of aircraft electrical circuits and components.

AFM 214 Aircraft Hydraulics and Pneumatics Systems 4(3-2)

Prerequisite: Coordinator approval. Inspection, service and repair of aircraft hydraulics and pneumatic systems and components.

AFM 215 Aircraft Landing Gear Systems 4(3-3)

Prerequisite: Coordinator approval. Study, analysis and trouble-shooting of aircraft landing gear and its various warning systems.

AFM 216 Aircraft Environmental and Protection Systems 4(3-2)

Prerequisite: Coordinator approval. Aircraft pressurization and heating systems; methods and systems used to prevent icing of aircraft structures and systems; protection systems used in fire detection and extinguishing systems.

AFM 217 Aircraft Instruments and Communications 4(3-2)

Prerequisite: Coordinator approval. Application of various instrument systems used in pressure, heat, flow, and navigation. Identifies types and location of communication, navigation equipment, and antenna systems.

AFM 218 Airframe Inspection 3(2-2)

Prerequisite: Coordinator approval. Inspection systems used to meet conformity certification of aircraft and system components.

AFM 233 Airframe Test Preparation 3(3-0)

Prerequisite: Coordinator approval. Reviews all airframe subjects to assist the student in preparation for the FAA written and practical examination.

Aviation Powerplant (AFP)**Aviation Technology****Division of Technology and Applied Sciences****AFP 219 Engine Electrical Systems 3(2-3)**

Prerequisite: Coordinator approval. Study, analysis, service and repair of engine electrical systems and components.

AFP 220 Ignition Systems 7(5-5)

Prerequisite: Coordinator approval. Study, analysis, service, and repair of aircraft engine ignition systems and components.

AFP 221 Propeller Systems and Controls 6(4-4)

Prerequisite: Coordinator approval. Covers study, analysis, service and repair of aircraft engine propellers, systems and controls.

AFP 222 Lubrication Systems 4(3-2)

Prerequisite: Coordinator approval. Studies aircraft engine lubrication systems and components.

AFP 223 Engine Fuel Systems I 1(1-1)

Prerequisite: Coordinator approval. Studies and analyzes aircraft engine fuel systems and components.

AFP 224 Engine Fuel Systems II 4(3-3)

Prerequisite: Coordinator approval. Covers aircraft engine carburetion requirements including the application, service, and repair of carburetors.

AFP 225 Induction and Exhaust Systems 3(2-2)

Prerequisite: Coordinator approval. Study of aircraft engine induction and exhaust systems; the maintenance, repair, and inspection of these systems and components.

AFP 226 Reciprocating Engine I 7(5-5)

Prerequisite: Coordinator approval. Presents theory, application and practices used in inspection, tear down, and preventive maintenance of reciprocating engines. Students conduct inspection, disassembly and reassembly of reciprocating engines.

AFP 227 Turbine Engine I 4(3-2)

Prerequisite: Coordinator approval. Covers the theory of operation and design of various turbine engine powerplants.

AFP 228 Reciprocating Engine II 3(2-3)

Prerequisite: Coordinator approval. Covers practical installation, removal, and trouble-shooting reciprocating engines and their related systems.

AFP 229 Turbine Engine II 3(2-3)

Prerequisite: Coordinator approval. Covers practical test cell installation and trouble-shooting turbine engines and their related systems.

AFP 230 Engine Instrument Systems 3(2-2)

Prerequisite: Coordinator approval. Covers study, analysis, service and repair of engine temperature, pressure and related system indicators.

AFP 231 Engine Trouble-Shooting and Inspection 4(3-3)

Prerequisite: Coordinator approval. Covers inspection requirements of aircraft engines to meet established conformity and standards of airworthiness. Engine system operations and adjustments are conducted by use of FAA and maintenance publications.

AFP 234 Powerplant Test Preparation 3(3-0)

Prerequisite: Coordinator approval. Reviews all powerplant subjects to assist the student in preparation for the FAA written and practical examination.

Flight Technology (AFT)
Aviation Technology
Division of Technology and Applied Sciences

- AFT 100 Private Pilot Ground School 6(6-0)**
 Develops knowledge, skills, and techniques for successful completion of the FAA Private Pilot written examination. Audio-visual tutorial system available for supplemental study.
- AFT 113 Aircraft Maintenance For Pilots 2(2-0)**
 Covers the identification of maintenance problems on a variety of aircraft systems. Cooperation with the certified airframe and powerplant technician will be stressed. Preventive maintenance per FAR 43 will also be emphasized including considerable hands-on experience.
- AFT 114 Aviation Meteorology 4(4-0)**
 This course is designed to assist pilots in the interpretation and analysis of meteorology. Topics include general circulation, synoptic systems, the atmosphere, weather services and the practical aspects of applying the knowledge of meteorology to aviation. Explores actual case studies of aviation/meteorology accidents and includes weather statistics as related to aviation.
- AFT 115 Aviation History 2(2-0)**
 How aviation has evolved into what it is today is covered in detail. In this relatively new field, progress has been based upon the accomplishments and failures of those who have devoted their careers to aviation. Through a series of films and lectures students will learn about the evolution of aviation from a dream to the science it is today.
- AFT 150 Instrument Pilot Ground School 6(6-0)**
 Preparation for the FAA Instrument Rating written examination. Instrument ground school training in instrument flying practices and procedures.
- AFT 156 Airline Transport Pilot Ground School 3(3-0)**
 This course prepares the student for the FAA Written Exam for Airline Transport Pilot (Part 121.) The topics include Federal Aviation Regulations, Aviation Weather and Services, High Altitude Flight Planning, IFR Procedures, Turbojet Weight and Balance and Aircraft (Turbojet) Performance Charts.
- AFT 157 VFR Refresher Course 1(1-0)**
 The course is designed to update the VFR Private Pilot in the areas of rules and procedures, aviation weather services and the use of Aircraft Performance Charts.
- AFT 158 IFR Refresher Course 1(1-0)**
 This course is designed for the instrument rated pilot desiring recurrent training in IFR procedures and flight planning. It is especially directed at the pilot who has not recently flown in the IFR environment.
- AFT 159 Aviation Law Seminar .5(.75-0)**
 This seminar is an overview of the legal considerations relevant to aircraft ownership and operation, legal liability and contracts.
- AFT 201 Flight Training I 6(6-0)**
 Prerequisite: Coordinator approval, AFT 100 and AFT 211 concurrently. Develop the skills and knowledge to fly an aircraft on solo cross-country flights.
- AFT 202 Flight Training II 6(6-0)**
 Prerequisite: Coordinator approval, AFT 212 concurrently. Preparation for the Private Pilot license flight test.
- AFT 203 Flight Training III 6(6-0)**
 Prerequisite: Coordinator approval and Private Pilot Certificate, AFT 213 and AFT 150 or AFT 220 are taken concurrently during the term., Builds experience required for the Commercial Pilot license. Involves cross-country flying and instrument skills.
- AFT 204 Flight Training IV 6(6-0)**
 Prerequisite: Coordinator approval and AFT 203. AFT 214 and AFT 220 or AFT 150 are taken concurrently during the term. Involves cross-country flying and skills in commercial pilot maneuvers.
- AFT 205 Flight Training V 6(6-0)**
 Prerequisite: Coordinator approval and AFT 204. Commercial or Instrument written exam passed. Trains the Commercial Pilot applicant in complex aircraft and IFR procedures.
- AFT 206 Flight Training VI 6(6-0)**
 Prerequisite: Coordinator approval and AFT 205. Commercial and Instrument written exam passed. Provides training in preparation for the FAA Commercial Pilot Flight Test and Instrument Rating flight tests.
- AFT 207 Instructor Flight Training 6(6-0)**
 Prerequisite: Coordinator approval and Commercial Pilot certificate with Instrument Rating. Prepares the Commercial Pilot with an Instrument Rating for the FAA Flight Instructor Rating. Highly concentrated flight training to provide the confidence, skill, knowledge, precision, and professional attitudes required of a licensed flight instructor.
- AFT 208 Instrument Instructor Flight Training 2(2-0)**
 Prerequisite: Coordinator approval and Flight Instructor Certificate. Prepares the Certified Flight Instructor (CFI) to achieve the Instrument Flight Instructor rating.
- AFT 209 Multi-Engine Flight Training 2(2-0)**
 Prerequisite: Coordinator approval. Provides the commercially licensed instrument pilot with the opportunity to obtain a Multi-Engine Pilot Rating. May be tailored to provide pilot refresher or Airline Transport Pilot Rating training.
- AFT 211 Flight Simulator I 2(1-1)**
 Dual instruction in the simulator ground trainer and ground instruction. The simulator provides instruction in flight basics of straight, level, turns, climbs and descents, plus basic VOR navigational procedures.
- AFT 212 Flight Simulator II 2(1-1)**
 Prerequisite: AFT 211. Emphasizes VOR and ADF navigational procedures. Includes review of applicable private pilot maneuvers.
- AFT 213 Flight Simulator III 2(1-1)**
 Prerequisite: AFT 212. Maneuvers and procedures necessary for an Instrument Rating. Emphasizes basic instrument flying including turns, climbs, descents, partial panel, steep turns, stalls, unusual attitudes and VOR navigational procedures.
- AFT 214 Flight Simulator IV 2(1-1)**
 Prerequisite: AFT 213. Includes VOR and ADF orientation; tracking and intercepts; VOR and ADF holding patterns at station and intersection; VOR and ADF approaches.
- AFT 215 Flight Simulator V 2(1-1)**
 Prerequisite: AFT 214. Reviews VOR and ADF holding, ILS front and back course approaches, ASR and no gyro approaches, and lost communication procedures.
- AFT 216 Flight Simulator VI 2(1-1)**
 Prerequisite: AFT 215. In-depth study of all instrument maneuvers and procedures.
- AFT 217 Multi-Engine Flight Simulator 2(1-1)**
 Prerequisite: Coordinator approval. Ten hours of instruction in the multi-engine simulator and ten hours of related ground instruction. Introductory course limited to Instrument Rated Commercial Pilots (airplane) who desire to obtain the knowledge and skills necessary to pass a six-month instrument proficiency check in multi-engine.
- AFT 219 Multi-Engine Flight Simulator II 1(1-0)**
 Offers 5 hours of instruction in the Flightmatic multi-engine simulator and 5 hours of related ground instruction. A 1 credit course for the Instrument Rated Commercial Pilot (airplane) who desires to obtain the knowledge and skills necessary to take the multi-engine flight test. Prerequisite: Instrument Rating and Commercial Pilot Certificate (airplane)
- AFT 220 Commercial Pilot Ground School 6(6-0)**
 Prerequisite: Private Pilot Certificate or Coordinator Approval. Preparation for completion of the FAA Commercial Pilot written examination. Review of instrument regulations and procedures.
- AFT 221 Flight Engineer, Basic & Turbojet 3(3-0)**
 This course prepares the applicant who holds a commercial license with an instrument rating, for the flight engineer (Basic and Turbojet - B727) FAA Written Exam.
- AFT 224 Tail Wheel Transition 2(2-0)**
 Provides 10 hours dual instruction in a conventional landing gear type airplane and 10 hours of associated ground instruction. Prepares the pilot for flying

skills associated with crop dusting, pipeline patrol, short takeoff and landings. Minimum prerequisite is a Private Pilot license. Coordinator approval is also required.

AFT 225 Multi-Engine Instructor 2(2-0)

This course provides instruction in preparation for the Flight Instructor Airplane, Multi-Engine practical test. Subjects covered include a review of lesson planning and the normal and emergency operation of Multi-Engine airplanes, with stress placed on aircraft systems. The effective performance and teaching of Multi-Engine training maneuvers and emergency procedures will be emphasized. Heavily stressed will be the safe conduct of instructional flights. This course consists of seven hours of flight training, including two hours reserved for the flight test. Also included are fifteen hours of ground instruction. Prerequisite: Coordinator approval.

AFT 255 Flight Instructor Ground School 6(6-0)

Preparation for the FAA Flight Instructor and FAA Flight Instructor Fundamentals written examination. Prepare for the FAA Advanced Ground School instructor's license.

AFT 259 Intern Flight Instructor 4(2-4)

This course provides practical flight instruction experience through temporary employment at the Aviation Flight Technology Center. Close supervision and training is given to student/instructor relationships, record keeping and certification processes. Students must have obtained Flight Instructor certification as a student at Lansing Community College. All applications for admission must be made to the Chief Flight Instructor. Openings are limited. Prerequisite: CFI Airplane, Single Engine and Coordinator Approval.

**Avionics Technology (AV)
Avionics Technology
Division of Technology and Applied Sciences**

AV 100 Aircraft Orientation I 5(3-6)

Prerequisite: Coordinator Approval. Familiarization with airframe design. Covers basic drawing applications used in aviation maintenance. Included are reading and interpretation of drawings and schematics used in production of aircraft components, training in the use of basic and precision hand tools, and the identification systems used in production of aircraft hardware. Also covers methods of maintaining required records and standards used for repair and replacement. Lab fee required.

AV 101 Aircraft Orientation II 4(3-2)

This course includes familiarization with aircraft instruments and controls, an introduction to avionics components, weight and balance problems and aircraft records, such as log book entries and equipment list.

AV 190 Avionics Test Equipment 5(3-3)

Covers operational characteristics and proper operation of basic and specialized test equipment found in the Avionics industry. Equipment covered on a basic nature includes power supplies—DUM's and oscilloscopes. Specialized equipment covered includes multi-function signal generator/modulators, time domain reflectometers and spectrum analyzers. "L" and "X" band equipment is included in course material but will be covered in AV 212.

AV 195 Avionics Troubleshooting Techniques 5(3-4)

Familiarization with basic troubleshooting logic. Student will construct a basic super heterodyne radio and make modifications. Student will increase electronic construction skills.

AV 200 Aircraft Electronics Systems I 6(3-7)

Prerequisite: Coordinator approval. A study of the electronics systems aboard modern aircraft, focusing on operation and test of such systems as ADF, VOR, LOC, radar, radio altimeters and other equipment serviced by the avionics technician. Laboratory activities cover familiarization with the aircraft and includes system installation techniques, wire and cable routing, antenna location and mounting and working with aircraft hardware and structure. FAA and manufacturer requirements will be stressed.

AV 201 Aircraft Electronics Systems II 4(3-2)

Prerequisite: Coordinator approval. A study of aircraft flight control systems common to general aviation type aircraft including the operation and function of single, dual and three axis autopilot systems, compass systems, and gyros. The study of interconnection to other flight systems in the aircraft will acquaint the student with complete autopilot operation and the function of individual components including aircraft yaw damper systems. Additional topics include installation requirements, troubleshooting, FAA regulations and other information concerning use and operation of flight directors and flight controls on general aviation aircraft.

AV 210 Avionics Navigation Systems 6(3-7)

Prerequisite: AV 201 and coordinator approval. A study of navigation systems including VOR/LOC, glideslope receivers, marker beacons, ADF, VLF/Omega, LORAN C, and other types of navigation equipment. The student will operate, make performance checks, troubleshoot various types of avionics navigation equipment, and learn the proper use of different types of test equipment found in the aviation industry.

AV 211 Avionics Communication Systems 6(3-7)

Prerequisite: AV 210 and coordinator approval. A study of communications systems including VHF and HF communication receivers and transmitters, audio system antennas, and other types of communication equipment. The student will operate, make performance checks, troubleshoot various types of avionics communication equipment, and learn the proper use of different types of test equipment found in the aviation industry.

AV 212 Avionics Pulse Systems 5(3-7)

Prerequisite: AV 211 and coordinator approval. The study of distance measuring equipment (DME), transponders (TXP), weather radar, radar altimeters and other pulse equipment in aviation. Laboratory activities include troubleshooting and repair of the equipment studied. Students will service live equipment using modern test equipment and tools common to the industry.

AV 299 Advanced Aviation Electronics Equipment Lab 5(0-5)

Prerequisite: Coordinator approval. Applications lab. May be concurrent with AV 210, AV 211 or AV 212. May be repeated once.

COMPUTER INTEGRATED MANUFACTURING PROGRAM

Program Director: Ronald D. Garthe
Room 220-D Gannon Vocational Technical Center

The Computer Integrated Manufacturing Program offers courses under the following course codes:

ATR: Metal Machine Trades
CIM: Computer Integrated Manufacturing
CG: Computer Graphics
CNC: Computerized Numerical Control
DT: Industrial Drafting Technology
EM: Electro-Mechanical Technology
ET: Electronics Technology
HC: Heating and Air Conditioning
PIC: Production Inventory Control
QC: Quality Control
RB: Robotics Technology
WLD: Welding Technology

Technological developments and achievements in electronics, automated devices, numerical controlled machines, computer graphics, integrated manufacturing, and other computer applications have progressively changed the content and objectives of courses in the area of Computer Integrated Manufacturing. These new and revised courses are meeting the challenge of what is being called the robotics era or the "computer revolution."

The computer graphics "CADAM" Laboratory equipped with integrated manufacturing capabilities, the digital program in electronics and the computer-aided instructional laboratory are a few examples of meeting "high technology" needs.

The Computer Integrated Manufacturing Programs offer curricula or courses supporting the new integrated manufacturing technologies such as robotics, numerical machine control, programmable controllers, pneumatic logic control, electrical discharge machining and hydraulics/pneumatics courses. These specialized courses are designed to aid technical personnel in working more effectively within their manufacturing environments. The systems approach to troubleshooting, maintenance and repair is the focus of these courses.

Administrators and faculty are available to assist students in the selection of courses and in the planning of programs to meet individual needs: transfer of credit for formal courses to be taken at other schools, including military schools, or work experience that is pertinent to occupational programs.

Associate Degree Programs

Courses completed in Computer Integrated Manufacturing Certificate Programs are usually transferable toward an Associate Degree of similar nature within the area. The requirements for an Associate Degree are set forth near the beginning of the section of this catalog devoted to programs of the Division of Technology and Applied Sciences. Students should contact the Office of the Director of Computer Integrated Manufacturing or the Office of the Dean of the Division.

Certificate Programs

The one-year Certificate Programs offered by the Computer Integrated Manufacturing area are designed for initial job placement. They also should enable many students to enter apprenticeship training programs and receive partial or full pre-credit for the courses taken. These courses may usually be taken on a part-time basis.

Some may wish to enroll in a Certificate Program for the purpose of job advancement or to seek a new field of employment. Others may wish to transfer to an Associate Degree Program after completion.

A minimum of 45 credit-hours is required with a Grade Point Average of 2.0 or above in order to complete the Certificate Program. A certificate is awarded for satisfactory completion of the courses.

Students should bear in mind that the Certificate Programs are informational and instructive in nature but are not equivalent in course work or job experience to the programs of the various Lansing Joint Apprenticeship Committees, and do not of themselves lead to journeyman status.

Students seeking journeyman status should consult with the Apprenticeship and Training Committee of the appropriate Joint Apprenticeship Board, as registered with the Bureau of Apprenticeship and Training, Lansing Office of the U.S. Department of Labor, or the Computer Integrated Manufacturing program.

Metal Machine Trades Program

We are living in an age of metal. There has been a rapid change in the way we design, form, fabricate, assemble and inspect metal. This rapid change has created a cluster of job opportunities for men and women.

The metal machine trades program has been designed to meet the current and future needs of industry by providing students with the basic skills and technical knowledge necessary to manipulate modern machines, tools, instruments and materials safely and productively.

This program provides a comprehensive treatment of all metal working procedures with a special emphasis on computerized numerical control.

Computerized Numerical Control Program

Numerical Control and Computer Numerical Control (NC and CNC) machines are the "cutting edge" of modern machining processes. These sophisticated machines, linked with the new CADAM (Computer-graphics Augmented Design And Manufacturing) open a very bright future for qualified individuals. This program is also closely associated with Robotics and Integrated Manufacturing Techniques. To qualify, the student must first acquire a solid machining background and necessary mathematical skills for computing precision movements. A programmer must also become expert at reading blueprints. Machine programming in some companies is performed in their engineering departments.

This curriculum provides job entry skills and enough related knowledge to communicate with all personnel in this exciting and changing field. Associate Degree available in this program.

Computer Graphics Program

Programs offered by our Computer Integrated Manufacturing Department have moved rapidly toward a Factory-of-the-Future concept since the acquisition of the CADAM system. Computer-graphics Augmented Design And Manufacturing (CADAM) is the trademark name for the software donation made to Lansing Community College by CADAM, Inc., a subsidiary of Lockheed Corp. CADAM is one of the most sophisticated products among the available CAD/CAM manufacturing systems. Lansing Community College is proud to be among the first community colleges in the nation to provide CADAM training as a regular part of its design program. Thanks to CADAM, designers can trade their drafting boards, T-squares and pencils for a video screen and a light pen. Using the light pen to indicate the location of lines and points, and keyboard to enter descriptive data, designers construct the design geometry on the computer screen, and the system automatically plots a scale drawing. Certificate and Associate Degree can be obtained through the Industrial Drafting Curriculum.

Industrial Drafting Program

Is composed of various drafting courses which will familiarize an individual with product design, tool design, and die design. The total concept of these courses is structured to prepare toward a drafting and design environment, utilizing conventional or computer aided design technologies. Certificate and Associate Degree available in this program.

Electro-Mechanical Program

The Electro-Mechanical curriculum provides education and training in electrical control of mechanical systems. This curriculum has been developed to provide course work for people who are interested in becoming industrial electricians, maintenance personnel, testing technicians, machine control circuit designers and construction electricians. The curriculum will prepare students to enter the "high tech" process and manufacturing environment. Graduates of this program may be employed by original equipment manufacturers of components or systems, testing facilities and end users in light to heavy manufacturing, food processing and warehousing industries, and electrical contracting firms.

For the employed electrician, maintenance person or control circuit designer the EM curriculum includes courses that provide in-depth knowledge of documentation systems used in industry, electrical codes and standards that insure safety, some theoretical explanation about how systems and components work, and information about how to create electrical control systems using relays, programmable controllers, off-the-shelf electronic units and computers.

To insure that our graduates can perform in the automated and programmable environment of today, the EM Associate Degree also requires courses in Electronics Technology, Robotics, Computer Programming and other curricula of CIM.

Completion of the Associate Degree entitles the student to claim two years credit toward the work experience required to apply for a State of Michigan journeyman electrician's license.

Electronics Program

The field of electronics continues to expand rapidly as technology in computers, communications, navigation, industrial automation, medical life support systems and numerous other "High Technology" applications are developed. Lansing Community College offers a two-year program leading to an Associate Degree. LCC's electronics technology staff is kept up-to-date by constant contact with industries to update as necessary their skill and knowledge.

Job opportunities in electronics technology are many and varied. Placement in any given segment of the electronics field will depend upon circumstance and opportunity at the time the graduate seeks employment. Students may follow one of several "tracks" developed to emphasize specialty areas of electronics. These specialties are: digital, biomedical, and communications.

Digital Electronics (Computer Electronics) is one of the most dynamic and challenging areas in the electronics field. Recent developments in this technology promise to make computers as common in everyday life as radio and television.

Digital electronics is devoted to the circuits and devices used in modern business and industrial computers and other digital devices of modern technology. LCC's Digital Electronics Program will prepare the student to maintain, troubleshoot, repair and often build and install computers, computer peripheral devices and similar digital equipment.

The Biomedical Equipment Technician (BMET) is expected to maintain, calibrate, repair and test a wide variety of highly sophisticated electronic and electro-mechanical systems used in the modern hospital, medical or dental clinic. Such equipment includes life sustaining and monitoring equipment found in critical care units, as well as many other devices and systems found throughout the hospital or clinic. LCC's BMET Program helps the graduate qualify for BMET Certification.

The Communications Service Technician installs and maintains radio and television transmitting and receiving equipment. Lansing Community College offers courses that focus on electronic communications, circuitry and systems. The radio-television service sequence prepares a student to gain an entry level position in the electronic service industry by offering the opportunity to repair radio and television equipment during the courses.

Heating and Air Conditioning Program

The Heating and Air Conditioning program is designed to teach a technician to service and install a total comfort air conditioning system in residential and light commercial applications. The student works with air conditioning systems designed to control the temperature, humidity, purity and circulation of air within an enclosed space, such as a home or business. Students receive necessary background to calculate heat gains and heat losses, and learn layout, planning and design of cooling and heating systems.

In the heating sections, the installation and servicing of oil burners, gas-fired systems and the controls needed for these systems are thoroughly covered. Much time is spent in the cooling sections, building a background knowledge of the combination of motors, compressors, valves, coils, piping, ducts, electrical wiring and automatic controls that make up air conditioning systems.

The student gains a thorough knowledge of the latest tools, gauges and testing equipment used in air conditioning, and a general background in troubleshooting domestic refrigerators. Specialized advanced courses such as pneumatic controls for H.V.A.C. are also offered, as well as updating seminars for experienced field technicians to help prepare them for changes in new technology. Certificate and Associate Degree available in this program.

Production and Inventory Control Program

The tremendous increase in the power of the computer over the last twenty years has given systems designers, managers and engineering staffs of manufacturing companies tools that could not have previously been imagined. One of the new concepts brought about by computer technology is the ability for all facets of an organization to share information on an almost immediate basis. The integration of manufacturing information by a computerized communication system will allow most manufacturing companies the ability to more closely monitor and control their scheduling, material management and other production oriented functions.

The study of PIC concepts that will take place in these courses will be approached in a practical manner based on knowledge gained from actual manufacturing situations that will be simulated in the lab and in the classroom. Associate Degree available in this program.

Quality Control and Reliability Program

Modern civilization moves forward on a dynamic technology which generates products and services that contribute to the well-being of mankind. As technology advances, the demands for better quality and reliability become increasingly challenging.

The task of controlling the quality and reliability of goods and services for industry and government has become a professional discipline. Process Control concepts and techniques have been devised and proven effective.

Quality Control and Reliability Engineers and Managers need inspectors, technicians and analysts to assist them in their task of controlling the quality and reliability of goods and services. The performance of these tasks requires specialized training in the concepts and techniques of quality control and reliability.

The Quality Control and Reliability Program at Lansing Community College is designed to provide the training to meet industry and government needs for competent persons in this field. Courses may be taken individually. Students desiring Certificates or Associate Degrees may develop programs to fit their individual needs.

Robotics Technician

The field of industrial automation is in an interesting stage of development. This program will cover all types of automation technology, such as vision systems, speech recognition, robotics, and bar coding. It is focused on the creation of a general automation technician who may work on a robot one day, a numerical control machine the next, and a conveyor line on another. The student will select a concentration from four tracks: managerial, technician, or design.

Welding Technology

The field of welding has become one of the most important skilled trades in our present technical society. Welding Technology is universally recognized as the principle joining process in manufacturing, maintenance, construction and agriculture. With the need for greater production economy and more effective metal bonding, a variety of welding processes have been developed to meet these increasing demands. This program has been designed to provide a comprehensive coverage of all current welding practices.

COURSE DESCRIPTIONS
**Metal Machine Trades (ATR)
Computer Integrated Manufacturing Program
Division of Technology and Applied Sciences**

- ATR 100 Machine Tool Survey** 5(2-6)
Lecture covers machine tools used by the machinist. Laboratory offers a variety of hands-on experience. For maintenance people, supervisors, mechanical engineers, and students of Engineering Technology. Lab fee
- ATR 101 Machine Shop I** 5(2-6)
Theory and practice in the operation and setup of machine tools with emphasis on lathe, drill press, bench work, and measuring instruments. Lab fee
- ATR 102 Machine Shop II** 5(2-6)
Prerequisite: ATR 101. Continuation of ATR 101 with emphasis on milling machine practice. Some reference to shapers and planers and an introduction to heat treating of steels. Lab fee
- ATR 103 Machine Shop III** 5(2-6)
Prerequisite: ATR 102. Continuation of ATR 102 with emphasis on grinding machine practice, metallurgy, and cutting fluids with an introduction to numerically controlled machines (N/C). Lab fee
- ATR 104 Tool and Cutter Grinding** 4(2-4)
Operations and setup in tool and cutter grinding of drills, reamers, single point tools, all types of milling cutters, including ball end mills, and concave radius cutters. Can be adapted to the needs of the student from a particular shop. Lab fee
- ATR 105 Project Laboratory (Machine Shop)** 4(0-6)
Prerequisite: ATR 103 or Department approval. Advanced course for students wishing to do in-depth work in the machine shop area or to develop trade entry skills. Students select projects compatible with their individual fields of work. Lab fee (Approval may be given to take this course twice for a maximum of eight credits.)
- ATR 107 Insert Tools—Selection and Use** 3(2-2)
Prerequisite: ATR 102. Examines comparative advantages of high speed steel vs. carbides, ceramics, cubic boron nitride and diamond cutting tool materials. Enables economic selection of carbide and ceramic grades and appropriate

tool holders and milling cutter bodies. Study of speeds, feeds and depths of cuts for insert tooling. Analyzes causes and remedies for insert failure, poor tool life and/or finish quality. Includes coverage of setup for insert milling cutters and tool holders. Lab fee.

ATR 113 Die Construction I 3(2-2)

Prerequisite: DT 100 or DT 110 or program approval. Emphasis on layout and processing, types and uses of aids applying to die construction, selection of steels, limitations on accuracy, and finishing parts used in die construction. Covers various types of die construction used in industry and presses related to die construction.

ATR 114 Die Construction II 3(2-2)

Prerequisite: Program approval or ATR 113. Continuation of ATR 113. Covers theory of heat treat, repair and maintenance, welding, types of steels, and types of aids used in die construction; also auxiliary equipment to dies such as lifters, loaders, kickers, stackers, hoppers, and dial feeds. Shows how dies should be built for long life and maintenance.

ATR 118 Principles of E.D.M. 3(2-2)

Involves theory, fundamentals, and practice of Electric Discharge Machining; programming the control console, machining of electrodes, practical applications, and estimating time of operation. Lab fee

ATR 127 Machinery Handbook I 4(4-0)

Prerequisite: ATR 151. The Machinery Handbook has been recognized as the "Bible" for all phases of the metal working industry. This course will familiarize each student with the effective utilization of information contained in the Machinery Handbook.

ATR 137 Industrial Presses I 4(4-0)

Covers different types of mechanical presses, terminology, purposes, and functions in industry. Includes movies and slides of mechanical action, maintenance systems, and safety, supplemented by visits to plants using presses and press repairs. For mechanical trades apprentices, press repair and maintenance people, stamping plant foremen, press operators, die setup employees.

ATR 138 Industrial Presses II 4(4-0)

Prerequisite: ATR 137. Continuation of ATR 137 with emphasis on maintenance, in-depth coverage of the various clutches, slides, and bearings, supplemented by slides, movies, and field trips. Press tonnage capacities and various applications to dies utilized provides a broader knowledge for individuals from many different trades and occupations. Lab fee.

ATR 139 Rigging 3(2-2)

Covers uses and strengths of ropes, chains, block and tackles, and the construction and erection of gin poles, with a study of rope knots used in rigging. Also, safe working strength of slings, hooks, sheaves, ropes and chains, and the use of personal safety equipment. Lab fee.

ATR 142 Applied Metallurgy 3(2-2)

Explains physical and mechanical properties of metals, identification, selection, atomic structure, crystal structure, phases in metal systems, phase diagrams, and metallography. Lab fee.

ATR 143 Industrial Heat Treat 3(2-2)

Prerequisite: ATR 142. Covers hardening, normalizing, annealing, case hardening, carburizing, cyaniding, nitriding, flame hardening, induction hardening, marquenching, austempering, martempering, and production of metals. Lab fee.

ATR 144 Hydraulics and Pneumatics 3(2-2)

Introduces the theory of fluid power and basic circuits, using cylinders, valves, accumulators, filters, pumps, motors, etc., as they are used in current industrial applications. Hands-on experience will be given using cutaways, standard components and test stands. Lab fee.

ATR 145 Industrial Hydraulics and Pneumatics 3(2-2)

Prerequisite: ATR 144. Continuation of ATR 144. Emphasis is on applications of hydraulic and pneumatic circuitry, ANSI symbols and trouble-shooting. Lab fee.

ATR 160 Precision Inspection I 3(2-2)

Techniques of tool and gauge inspection: micrometers, verniers, gauge blocks, fixed dial and thread gauges, test indicators, gear and comparator measurement, hardness testing. Lab fee.

- ATR 161 Precision Inspection II** 3(2-2)
Prerequisite: ATR 160. Continuation of ATR 160. Precision in-depth layout work related to gauges and inspection problems. Lab fee.
- ATR 218 Machine Maintenance I** 4(2-4)
Explains theory and industrial application of machine repair, safe practices, troubleshooting, dismantling, and the rebuilding of a tool room machine to be continued through three terms. Lab fee.
- ATR 219 Machine Maintenance II** 4(2-4)
Prerequisite: ATR 218. Continuation of ATR 218, rebuilding and replacing worn parts, alignment of slides and ways, and use of proper tools and service manuals. Lab fee.
- ATR 220 Machine Maintenance III** 4(2-4)
Prerequisite: ATR 218, ATR 219, or department approval. Completion of rebuilding tool room machine. Machining and scraping a 6" x 6" surface plate. Lab fee.
- ATR 224 Industrial Pump Repair** 4(2-4)
Fundamentals and operating principles of pumps and pump controls, applications of pump equipment in industry, along with installation, alignment, operation, and maintenance procedures.
- ATR 225 Sequencing Industrial Equipment** 4(4-0)
Prerequisite: ATR 144. Covers chronological order of sequences of operation, analyzing circuit malfunction from sequence prints, and the relationship of electrical controls and fluid power systems.
- ATR 230 Pneumatic Tool Repair** 3(1-3)
Covers maintenance and repair of industrial and automotive pneumatic tools. Lubrication, gears, motors, hoists, spray gun seals, and bearings will be covered. Lab fee.
- Numerical Control and Computerized Numerical Control (CNC)
Computer Integrated Manufacturing Program
Division of Technology and Applied Sciences**
- CNC 206 Numerical Control I—
Fundamentals of Numerical Control** 4(3-1)
Prerequisite: ATR 153 taken concurrently. Introduction to modern concepts of numerical control of machine tools including the interrelationship of these new manufacturing methods in the various departments of a company. Emphasizes controlling media, introductory programming, and limited machine operation. Lab fee.
- CNC 207 Numerical Control II—
Manual Programming for Numerical Control** 4(3-1)
Prerequisite: CNC 206 and ATR 153. Continuation of CNC 206 with emphasis on developing skill in manual programming of two- and three-axis, point-to-point positioning, numerically controlled machine tools. Operation of Flexo-writer and vertical milling machine provides an important part of this course. Lab fee.
- CNC 208 COMPACT II—Introduction to
Computer Assisted Programming** 4(3-1)
Prerequisite: CNC 207. Study types of parts which can be programmed to advantage using a computer and actual experience in programming. Includes a survey of various computer programming languages used to apply to numerically controlled machine tools. Equipment used includes Flexo-writer and three-axis N/C milling machine. Lab fee.
- CNC 209 COMPACT II MILL** 3(2-2)
Prerequisite: CNC 208. A continuation of CNC 208 featuring the advanced features of COMPACT II to create sophisticated NC programs for the Cincinnati 750 VMC machining center. Lab fee.
- CNC 210 Computerized Numerical Control HURCO** 3(3-1)
Prerequisite: ATR 152. The HURCO milling machine has a special Computerized Numerical Control for its operation that is easily learned because of its use of standard english words and menu type programming. Hands-on operation. Lab fee.
- CNC 212 Computerized Numerical Control MILL I** 3(2-2)
Prerequisite: CNC 207. Introduction to manual Computerized Numerical Control programming including: milling, drilling, tapping routines, program editing, etc. with hands-on operation of Cincinnati 750 VMC machining center. Lab fee.
- CNC 213 Computerized Numerical Control MILL II** 3(2-2)
Prerequisite: CNC 212. A continuation of Computerized Numerical Control MILL I with advanced programming with emphasis on cutter diameter compensation (CDC), work surface programming (WSP), thread boring, and other features of the Cincinnati machining center. Lab fee.
- CNC 214 Compact II LATHE** 3(2-2)
Prerequisite: CNC 208. Introductory course to computer assisted CNC lathe programming featuring COMPACT II language and Cincinnati 10" turning center. Lab fee.
- CNC 215 Advanced COMPACT II LATHE** 3(2-2)
Prerequisite: CNC 214. A continuation of CNC 214 with emphasis on contouring, threading and special features of COMPACT II programming language. Lab fee.
- CNC 216 Computerized Numerical Control LATHE I** 3(2-2)
Prerequisite: CNC 207. Introduction to manual programming of Cincinnati 10" turning center with hands-on operation. Lab fee.
- CNC 217 Computerized Numerical Control LATHE II** 3(2-2)
Prerequisite: CNC 216. A continuation of CNC 216 with emphasis on contouring, threading, tail stock usage, x and z axis tool compensation. Lab fee.
- Computer Graphics Center (CG)
Computer Integrated Manufacturing Program
Division of Technology and Applied Sciences**
- CG 201 CADAM Training: BASIC** 4(4-0)
Prerequisite: DT 101 or equivalent. Is an informative computer graphics course which will explore the latest in software, and hardware used on the IBM CADAM work station. The operator will use functions and menu items to create multi-view mechanical drawings. Dimensions and notes will be created to complete the drawing. Emphasis will be placed on creating and editing drawings. Lab fee.
- CG 241 CADAM Training: Industrial I** 4(4-0)
Prerequisite: CG 201, DT 102 and DT 103 concurrently. This class is designed to apply the skills of basic CADAM. Emphasis will be placed on how the computer may increase productivity by applying the basic functions to industrial drawings of moderate detail. Lab fee.
- CG 242 CADAM Training: Industrial II** 4(4-0)
Prerequisite: CG 241 and DT 106 concurrently. This class is an in-depth study of most functions and menu items on the CADAM system. The operator will use details from the standard library. Emphasis will be placed on design drawings with the down stream consideration of Computer Integrated Manufacturing. Lab fee.
- CG 261 CADAM Training: NC I Introductory** 4(4-0)
Prerequisite: CG 201 and CNC 208. Introductory course in adding Numerical Control data to the CADAM model geometry. Cutter diameter, path, feedrates, spindle speeds, etc. will be developed for 3-Axis milling machines and lathes. Procedures for producing the NC program will be discussed. Lab fee.
- CG 271 CADAM 3-D 1** 4(4-0)
Prerequisite: CG 242, DT 102 and DT 103. This class will introduce 3-Dimensional design concepts and practices used on the CADAM system. Using the 3-D Interactive Module, wire frame modeling with surfaces will be completed on mechanical components. Lab fee.
- CG 285, 295 CADAM Project Laboratory** 2(0-4), 4(0-8)
A project laboratory gives the industrial drafting student the opportunity to do an independent study on the IBM CADAM Graphics System. Project assignment will be through a mutual agreement between student and instructor. It will be the responsibility of the student to define and outline the project objectives. A preliminary design concept will be made utilizing conventional drafting practices, e.g. material specifications, standard components and tolerance requirements, etc. Upon approval of this design, a time estimate will be made for the completion of this assignment using the Computer Graphics facility (CADAM). The lab fee will vary depending on time necessary to complete project.
- Computer Integrated Manufacturing (CIM)
Computer Integrated Manufacturing Program
Division of Technology and Applied Sciences**
- CIM 100 Introduction to Computer Integrated Manufacturing** 3(3-0)
Manufacturing businesses are generally the most complex form of business in existence and the most basic to a nation's economy. This course will provide

an overview of the concepts of CIM including computer aided design, computer aided manufacturing, robotics, quality control, and manufacturing information systems.

CIM 250 Personal Computer Applications 3(1-3)

This class provides students with a basic understanding of the uses of micro computers. A major emphasis will be placed on the IBM-PC. Students are given a basic understanding of what software is available for micros by use of handouts and are given a working knowledge of the major software packages that are available. Half of this course will be hands on in the lab using the IBM-PC. Lab fee.

CIM 251 Personal Computer Applications II 3(1-3)

Prerequisite: CIM 250. An in-depth study of the use and operation of the IBM or IBM compatible PC computer systems. There will be four major software programs scheduled for study: the IBM/MS-DOS operating system, Volkswriter, Lotus 1-2-3, and dBase III program. The class will study the technique of building batch files, changing operating system prompts, setting paths, backing up and restoring, building hierarchal subdirectories and I/O piping. In the Volkswriter class, merging files and mail merge uses will be studied for the purpose of producing form letters. Advanced Lotus will include complex formula construction, data base uses, and creating macros. Finally, dBase will include report generation, menu construction and dBase programming techniques. Lab fee.

CIM 260 DOS Applications 3(2-2)

Prerequisite: CIM 250. This class will provide advanced instruction regarding the PC-DOS/MS-DOS operating system. Making directories on a fixed disk drive will be covered. Students will be taught to make batch files and retrieve lost files, as well as other advanced DOS commands. The class is designed for uses in general and in particular for those who are responsible for installing and maintaining software on PCs. Lab fee.

**Industrial Drafting Technology (DT)
Computer Integrated Manufacturing Program
Division of Technology and Applied Sciences**

DT 100 Basic Drafting 3(2-2)

Focuses on basic concepts in orthographic projection, auxiliary projections, sketching, both orthographic and pictorial. Lettering techniques will be stressed; a brief approach to industrial dimensioning practices is presented. Lab fee

DT 101 Industrial Drafting I 6(2-6)

Prerequisite: DT 100 or Departmental approval. Emphasis is placed on orthographic projection, sections auxiliary views and dimensioning technique. Each student will work on a set of drawings applying above mentioned drafting methods to both conventional drafting and MICRO-CAD techniques to accomplish tasks. Lab fee.

DT 102 Industrial Drafting II 6(4-4)

Prerequisite: DT 101. Emphasis is on advanced techniques. Beginning layout will be stressed along with preparation of welding or fabrication type drawings. Both conventional drafting and MICRO-CAD will be used to accomplish tasks. Lab fee.

DT 103 Descriptive Geometry 4(2-4)

Prerequisite: DT 101. Covers graphic representation and solution of space problems through the practice of fundamental principles of advanced orthographic projection. Includes points, lines and planes, primary and successive auxiliary views, parallelism, perpendicularity, developments and intersections; civil and mechanical engineering problems. Lab fee.

DT 104 Jigs and Fixtures I (Detailing) 4(2-4)

Prerequisite: DT 101. Detailing techniques and dimensioning will be emphasized thru the development of working drawings. These drawings will be extracted from a design concept or assembly type drawing. Familiarization with standard components will also be stressed. Lab fee

DT 105 Jigs and Fixtures II (Design) 4(2-4)

Prerequisite: DT 104. Design concepts and a problem solving type approach will be utilized in designing tools for various product drawings.

DT 106 Industrial Drafting III 4(2-4)

Prerequisite: DT 102. Stresses layout and design concepts, and practical design projects in problem solving and creativity. Assignments prepare the student for DT 294 and DT 296. Lab fee

DT 110 Industrial Blueprint Reading I 4(4-0)

Prerequisite: DT 100. Covers basic concepts in orthographic projection, with emphasis on interpretation of engineering drawings. Lab fee

DT 111 Industrial Blueprint Reading II 4(4-0)

Prerequisite: DT 110. A continuation of DT 110 with emphasis on more complex prints. Shop processes will also be covered.

DT 135 Technical Illustration I 4(2-4)

Prerequisite: DT 101 or Equivalent. Introduces methods of illustration currently used in industry: use of sketches, photographs, axonometric construction, and introduction to the perspective grid. Use of line weights is stressed to achieve desired finished drawing effects. Lab fee

DT 136 Technical Illustration II 4(2-4)

Prerequisite: DT 135. Covers applying practical concepts used in industrial pictorial communications, preparation of layouts from layout and part prints and photographs, design considerations in layout preparation, acetate overlays, paste-up, keylining techniques, and graphic reproductive processes. Lab fee

DT 202 Die Design I (Detailing) 4(2-4)

Prerequisite: DT 101. This course will emphasize the proper steps to designing a die. Also, will cover the names of various die components and understanding how they work. Lab fee.

DT 203 Die Design II (Layout) 4(2-4)

Prerequisite: DT 202. Includes the design of blanking, piercing basic forming, basic trim, progressive, and transfer dies. Also this course will emphasize the processing and estimating of sheet metal tooling. Lab fee.

DT 209 Industrial Drafting Lab 2(0-4)

Prerequisite: Instructor approval. Gives additional lab time to industrial drafting students to fulfill extra requirements. This lab must be taken in conjunction with a drafting class.

DT 210 Industrial Dimensioning Practices 3(3-0)

Prerequisite: DT 102 or equivalent. Establishing rules, principles and methods of dimensioning and tolerancing for specific design requirements on engineering drawings, and uniform practices for stating and interpreting these requirements. Includes geometric tolerances and introducing the symbolic method of specification.

DT 294 Project Laboratory (Industrial) 4(0-8)

Prerequisite: Coordinator approval. Further drafting skills in beginning layout and advanced detailing. Advanced problems and research in design application.

DT 296 Project Laboratory (Industrial) 6(0-12)

Prerequisite: Coordinator Approval and DT 294. A minimum of 12 hours per week on layout procedures. Includes the design of a mechanical device and making a complete design drawing.

**Electro-Mechanical (EM)
Computer Integrated Manufacturing Program
Division of Technology and Applied Sciences**

EM 100 Electrical Safety Standards 1(1-0)

Covers basic electrical safety practices in construction and industry. Prerequisite or co-requisite for all Electro-Mechanical classes that have a lab. All terms.

EM 102 Basic Wiring Installation 3(2-2)

Prerequisite: EM 100 and EM 104. Electric wiring systems maintenance and installing wiring systems in wood-frame and masonry construction. Practice in the installation of non-metallic sheathed cable, flexible metal clad cable, electrical metallic tubing and rigid conduit. Lab fee.

EM 103 Electric Motor Maintenance 3(2-2)

Prerequisite: EM 104 or EM 131. Diagnose and test single and three phase alternating motors and some dc motors; identify electrical and mechanical problems using various meters, test equipment and testing procedures; conduct minor electrical and mechanical repairs; learn rewinding process and metal working procedures that are used for extensive motor repair. Lab fee

EM 104 Practical Electricity 3(2-2)

Prerequisite: EM 100 concurrently/Algebra recommended. This course introduces the student to electricity on a practical level. The student will learn to use meters to measure electrical quantities, do basic circuit calculations, install basic household wiring, investigate the behavior of motors and transformers, and review local electrical codes and standards. Lab fee.

EM 110 Introduction to Electromechanics 3(2-2)

This course is designed to give an overview of the electrical technologies. Focus is on what it is and where to go to gain some marketable skills rather than developing high level skills. Emphasis is on career choice, employment outlook and includes representative academic and laboratory exercises. Lab fee.

EM 121 Math for Electricians I 4(4-0)

Basic mathematic review beginning with arithmetic operations, fractions, decimals, scientific notation, ratio and proportion. Course also introduces elementary algebra. Majority of problems deal with practical electrical situations.

EM 122 Math for Electricians II 4(4-0)

Prerequisite: EM 121. More skill is developed in algebra; learn basic trigonometric functions and the manipulation of phasors in order to solve problems in alternating current circuits.

EM 123 Math for Electricians III 4(4-0)

Prerequisite: EM 122. Applies phasor skills to the solution of three-phase circuits. Time is also available for special selected topics.

EM 131 Electric Circuits for Machine Control 4(3-2)

Prerequisite: EM 100 concurrently. A course in relay controls using J.I.C. standards. Construct and understand the operation of 3 phase motor control circuits. Learn the symbols for and understand the operation of machine control components including limit switches, pneumatic timers, latch relays, etc. Use wiring and ladder diagrams to connect circuits. Develop circuits to control simple manufacturing machines. Lab fee.

EM 132 Electric Circuits for Automated Machinery 4(3-2)

Prerequisite: EM 100 and EM 131. Continuation of EM 131. Proximity switches and optical devices. Automation interlocking. Automatic/continuous cycling of machinery. More ladder diagram development as well as electronic controls. Documentation of automated lines. Lab fee.

EM 135 Electrical Prints for Residential and Commercial Buildings 3(2-2)

Prerequisite: EM 101 or some wiring experience is helpful. Covers construction prints with emphasis on standard symbols, interpretation of non-standard symbols, and interpretation of prints. Emphasis on use of the National Electrical Code to calculate branch circuit and feeder sizes in residential and commercial buildings. Brief introduction to fire alarm systems. Lab fee

EM 136 Electrical Prints for Industrial Buildings 3(2-2)

Prerequisite: EM 135. Emphasis on industrial applications, primarily motor and other electrical circuits. Other topics include lighting calculations, high voltage distribution, signalling and safety systems, continuous power supplies, energy management. Continuing use of the National Electrical Code. Lab fee

EM 161 Introduction to Programmable Controllers 4(3-2)

Prerequisite: EM 100 and EM 131. Covers major components of a programmable controller and how these components are connected to create an operating programmable controller; the capabilities, similarities and differences among controllers and their component parts; programming relay equivalent circuits on both Allen Bradley and Modicon programmable controllers. Lab fee.

EM 163 Allen Bradley Programmable Controllers I 5(3-4)

Prerequisite: EM 161. Programming and system connections for Allen Bradley programmable controllers, beginning with timers, counters and math through subroutines. Learn logic design for machine control. System documentation. Trouble-shooting. Lab fee.

EM 164 Modicon Programmable Controllers I 5(3-4)

Prerequisite: EM 161. Programming and system connections for Modicon Programmable Controllers. Beginning with timers, counters, and math. Learn to configure PC, I/O and traffic cop. Learn logic design for machine control. System documentation. Trouble-shooting. Lab fee.

EM 211 DC Motors and Generators 4(3-2)

Prerequisite: EM 100, ET 112 and EM 123. Covers basic principles of dc motors and generators including induced voltage, development of torque, and mechanical output power; operating characteristics, modern dc motor control. Emphasis on mathematical problem solving. Lab fee

EM 212 Alternators and Single Phase Motors 4(3-2)

Prerequisite: EM 211. Begins with review of three-phase theory and calculations. Covers construction and operating characteristics of three-phase alternators. Brief introduction to three-phase motor theory. Common single-phase motor construction and operating characteristics emphasized. Lab fee

EM 213 Transformers and Three Phase Motors 4(3-2)

Prerequisite: EM 212. This is a continuation of EM 212. Covers three-phase induction and synchronous motors, single-phase and three-phase transformers. Common transformer hook-ups are discussed and investigated in lab. Lab fee

EM 240 Electrical Estimating 3(2-2)

Prerequisite: EM 102 and EM 135. Covers basics of preparing accurate, competitive, electrical estimates for the building trades; fundamental take-off procedure using electrical, mechanical and architectural prints; labor and materials cost, evaluation techniques, and proper use of specifications. Students should have practical wiring experience, considerable practice in the use of National Electrical code rules, and be able to read electrical construction prints before enrolling. Lab fee

EM 264 Modicon Programmable Controllers II 5(3-4)

Prerequisite: EM 164. Write programs using R to T and T to R sequencers and drum controller instruction. Learn about intelligent cards, analog, ASCII, etc. Network two or more similar PC's on Modbus. Lab fee.

EM 266 Allen Bradley Programmable Controllers II 5(3-4)

Prerequisite: EM 163. Write programs using file, block transfer, sequence, logic and bit manipulation instructions. Learn about intelligent cards, ASCII, analog, etc. Network 2 or more similar PC's on data highway. Lab fee.

EM 291, 292, 293 Project Labs 1(0-2),2(0-4),3(0-6)

Prerequisite: Coordinator approval. Use of the electro-mechanical laboratory and other resources to pursue an individual project. Submit a written proposal outlining the project and secure approval from the supervising instructor before enrolling. It is recommended that the student be at least half way through the Electro-Mechanical curriculum before attempting a project lab.

**Electronics Technology (ET)
Computer Integrated Manufacturing Program
Division of Technology and Applied Sciences**

ET 100 Electronics for Non-Majors 4(2-4)

Prerequisite: High school algebra. Covers the fundamental concepts of electricity to electronic amplification, using transistors. Emphasis on laboratory work. Lab fee.

ET 111 Electrical Circuits I (DC Circuits) 6(4-4)

Prerequisite: TEC 151 concurrently, high school algebra or equivalent. Introduces basic electrical circuits with emphasis on direct current. Covers electrical units, resistor color code, Ohm's law, Kirchhoff's laws, network theorems, inductance, capacitance and R.C. time constants. Laboratory work includes measurement of voltage, current and resistance in dc circuits using the VOM and DVM, constructing and testing sample meters, and using the oscilloscope to measure the period and amplitude of an ac signal. Basic trouble-shooting concepts are also introduced. Lab fee.

ET 112 Electrical Circuits II (AC Circuits and Diodes) 6(4-4)

Prerequisite: ET 111 and TEC 152 concurrently. The second of a series of three courses in electrical and electronic fundamentals. ET 112 deals with the sine wave, inductive and capacitive reactance, impedance of series and parallel circuits, series and parallel resonance and filters. Solid state diodes are introduced, and circuits using these devices are discussed, including rectifiers and zener regulators. Small Signal characteristics of diodes are examined. Lab fee.

ET 113 Electrical Circuits III (Transistors) 6(4-4)

Prerequisite: ET 112. The last of a series of three courses in electrical and electronic fundamentals. ET 113 deals with bipolar and field effect transistors. Biasing methods, small signal and large signal characteristics of typical transistor amplifiers are discussed, both from an analysis and from a design standpoint. Interstage coupling and bypassing are examined. Solid state trouble-shooting is introduced. Lab fee.

ET 120 Digital Programming Concepts 4(3-2)

Prerequisite: ET 111 and TEC 151. This course is designed specifically for electronic students and will include a basic introduction to several of the most common programming languages. Emphasis will be on the specific requirements of the language as it relates to the job of a computer field engineer. In this course a link is established between the higher level languages, assembler and the machine language training that the students will receive the following term, while actually programming the microprocessors in the electronics lab. Lab fee.

- ET 121 Machine Language Programming** 3(2-2)
Prerequisite: ET 112 and ET 131 concurrently. For electronics majors planning to study digital electronics. Covers fundamentals of machine language programming; emphasis on number systems, addressing modes, machine instructions, branching and interrupts. Lab work in writing and debugging programs in machine language. Lab fee.
- ET 131 Digital Basics** 3(2-2)
Prerequisite: ET 112. Introduces digital electronics and associated circuitry, binary number systems, basic logic gates, flip flops, counters, Boolean algebra, the basics of TTL integrated circuits, and fundamentals of computer operation. Laboratory work in construction and analysis of digital circuitry using TTL integrated circuits. Lab fee.
- ET 206, 207, 208 Project Laboratory** 1(0-2),2(0-4),3(0-6)
Prerequisite: ET 113 and department approval. Pursue a topic of interest within the area of electronics, using the Project Lab to construct an electronic device, or develop a research paper on a particular aspect of electronics.
- ET 211 Electronic Applications I** 4(3-2)
Prerequisite: ET 113. A continuation of ET 113 with emphasis upon bipolar and field effect transistors, and an introduction to characteristics and applications of operational amplifiers. Lab fee.
- ET 212 Electronic Applications II** 4(3-2)
Prerequisite: ET 211. A continuation of ET 211 with units on waveform generation, power supplies, phase locked loops and frequency to voltage and voltage to frequency conversion. Lab fee.
- ET 213 Electronic Applications III** 4(3-2)
Prerequisite: ET 212. A continuation of ET 212 with units on digital to analog and analog to digital conversion, data acquisition, active filters and other applications of analog electronics. A portion of the laboratory activity in this course is devoted to an electronic construction project including printed circuit board design. Lab fee.
- ET 231 Digital Electronics I** 5(4-2)
Prerequisite: ET 113, ET 121, ET 131. Covers logic gates, combinational logic, pulsed logic, flip flops, digital counters, electronic displays, multivibrators, timers, TTL, CMOS, and ECL circuitry. Lab work in breadboarding and measuring digital circuits. Lab fee.
- ET 232 Digital Electronics II** 5(4-2)
Prerequisite: ET 231. Covers electronic memories, magnetic memories, analog interface devices and an introduction to microprocessors and microcomputers, including the 6800, 8085, and 8080 processors. Lab work in breadboarding electronic circuits, and using a microcomputer. Lab fee.
- ET 233 Digital Electronics III** 5(4-2)
Prerequisite: ET 232. This course deals with advanced topics in microprocessors, including the 8086, 68000, 68020 microprocessor. Lab work includes a microprocessor based computer design project. Lab fee.
- ET 241 Test Equipment I** 4(3-2)
Prerequisite: ET 113. The first of a series of two courses for second year students that deals with modern test equipment and instrumentation application and theory. The course covers analog and digital instrumentation, including function generators and oscilloscopes. Laboratory work utilizes digital and analog breadboarding and emphasizes the calibration and standardization of various test equipment. Lab fee.
- ET 242 Test Equipment II** 4(3-2)
Prerequisite: ET 241. This course is a continuation of ET 241 and deals with sophisticated instrumentation. Storage oscilloscopes, spectrum analyzers and dual time base delayed sweep oscilloscopes are covered. In the latter part of the course the emphasis is on digital and computer based test equipment. Students spend time using logic analyzers and ICE (in-circuit-emulator) equipment in problem solving exercises using Intel and Motorola microcomputers. Lab fee.
- ET 243 Peripheral Devices** 4(3-2)
Prerequisite: ET 242. This course is intended for the second year student interested in computer peripheral devices. The course deals with circuit components within the computer system such as address decoders, memory components, parallel and serial peripheral support chips, CRT controllers, disk drives, printers, data terminal, modems and data communications protocols. The laboratory work covers interfacing configuration and the use of data communications test equipment, emulators and logic analyzers to solve system problems. Lab fee.
- ET 251 Digital Trouble-shooting I** 3(2-2)
Prerequisite: ET 131. Introduces basic techniques of trouble-shooting; lab experience in trouble-shooting basic digital circuits including clocked circuits, counter circuits, multiplexed displays, and other digital circuitry. Lab fee.
- ET 252 Digital Trouble-shooting II** 3(2-2)
Prerequisite: ET 232, ET 243/concurrent, ET 251. Covers use of test equipment and trouble-shooting procedures for trouble-shooting microprocessor based microcomputer systems. Lab work in writing trouble-shooting procedures for microcomputer equipment. Lab fee.
- ET 261 Radio Servicing** 5(3-4)
Prerequisite: ET 113 or instructor approval. Includes theoretical and practical trouble-shooting techniques; AM, FM-MPX radio operation; radio concepts using a block diagram of a superheterodyne receiver; vacuum tube and transistor radios. Students provide own handtools and radios for repair. Lab fee.
- ET 262 Television Servicing** 5(3-4)
Prerequisite: ET 261 or instructor approval. Explores principles of operation of black and white television receivers; trouble-shooting techniques. Students provide own handtools and televisions for repair. Lab fee.
- ET 263 Advanced Television Servicing** 5(3-4)
Prerequisite: Coordinator approval or ET 262. Trouble-shooting and alignment of color circuits. Students provide own handtools. Lab fee.
- ET 271 Communications I** 4(3-2)
Prerequisite: ET 113 or instructor approval. First of a three-term sequence of courses dealing with electronic communication theory and preparation for the FCC General Radiotelephone License examination. Topics include active and passive filter networks, rf power amplifiers, and oscillator circuits. Lab fee.
- ET 272 Communications II** 4(3-2)
Prerequisite: ET 271. Phase locked loops, amplitude modulation, single side-band, frequency modulation, and receiving systems are covered. Lab fee.
- ET 273 Communications III** 4(3-2)
Prerequisite: ET 272. Investigates antennas, transmission lines, microwave devices, and transmitting systems. Lab fee.
- ET 283 Biomedical Instrumentation** 5(4-2)
Prerequisite: ET 242 and ANT 152. Transduction of physiological variables to electrical signals and the measurement of these signals with emphasis on instruments used in a hospital. Lab fee.
- Heating and Air Conditioning (HAC)
Computer Integrated Manufacturing Program
Division of Technology and Applied Sciences**
- HAC 100 Applied Electricity I** 4(3-1)
Symbols, wiring diagrams, circuits, meters, and motors are discussed and worked on. A review for the experienced; also for the beginner. Lab fee.
- HAC 101 Heating and Cooling Fundamentals** 4(4-0)
An introduction to the mechanical refrigeration cycle as it applies to residential and light commercial refrigeration and air conditioning equipment. The refrigeration system operation as well as the function of its individual components, such as compressor, evaporator, condenser and metering device are covered in detail. Also covered is a brief overview of residential central air conditioning, exercises in psychometrics, and an introduction to system design and sizing. Lab fee.
- HAC 105 Heating and Cooling Schematics** 4(4-0)
Prerequisite: HAC 220, HAC 221 and HAC 231. Read and draw electrical diagrams and develop trouble-shooting procedures from schematics. Also covers various controls used in the H.A.C. industry. Lab fee.
- HAC 106 Systems Design and Code** 4(4-0)
Prerequisite: HAC 232, HAC 240, BTR 135. Advance heating and air conditioning, stressing design and sizing of heating, air conditioning, and refrigeration systems, residential heating and air conditioning, with some emphasis on duct design. Basics of mechanical code also are covered. Lab fee.

HAC 110 Refrigeration Servicing I 4(2-4)
 Prerequisite: HAC 231. Covers common types of domestic refrigerators, with particular attention to principles of construction and operation of complete refrigeration systems. Includes theory and principles underlying repairing and practical shop work, including jobs such as tube bending, flaring and soldering, and charging and testing refrigeration equipment. Lab fee.

HAC 200 Applied Electricity II 4(3-1)
 Prerequisite: HAC 100. Emphasis is on heating and cooling controls, operation and repair of electric motors and control wiring. Lab fee.

HAC 210 Refrigeration Servicing II 4(2-4)
 Prerequisite: HAC 231 or coordinator approval. Beginning course in light commercial refrigeration servicing. Commercial refrigeration systems are discussed and students connect various components to make complete refrigeration systems. Students receive practical work in adjusting and servicing refrigerant valves and controls and in trouble-shooting defrost systems and pressure controls. Lab fee.

HAC 211 Refrigeration III 4(2-4)
 Prerequisite: HAC 210. Thorough knowledge of Refrigeration II will make the student ready for the move into the servicing of commercial units such as reach-ins, walk-ins, display cases and ice makers. Piping, EPR valves, head pressure control devices are examples of the topics covered in detail. In addition, emphasis in this course will be placed on maintenance and repair of semi-hermetic compressors. Lab fee.

HAC 220 Gas Heating 6(4-4)
 Prerequisite: HAC 100 and HAC 101. Knowledge of electrical schematics recommended. Basic components and functions of a gas furnace, with detail on application, theory, trouble-shooting, and service of domestic gas heating systems. Spark ignition systems and an introduction to commercial gas equipment is covered. Lab fee.

HAC 221 Oil Heating 4(2-4)
 Prerequisite: HAC 100 and HAC 101. Knowledge of electrical schematics recommended. Construction and operation of various types of oil-fired heating equipment. Emphasis on high-pressure oil burners; other types will be discussed. Covers systematic burner service and proper combustion testing procedures; techniques of trouble-shooting in residential oil heating equipment. Lab fee.

HAC 222 Hydronics 4(2-4)
 Prerequisite: HAC 220 and HAC 221. Covers gas, oil, electrical hot water, and steam heating systems; also, boiler, chiller (with hot water), piping system, and all accessories necessary for a residential system. Students perform planned service, testing, adjusting for system and components, in the lab and field. Lab fee.

HAC 224 Pneumatic Control 4(2-4)
 Prerequisite: HAC 105. Basic concepts of pneumatic controls for HVAC equipment in commercial structures; adjustment and calibration of pneumatic thermostats; checking spring ranges of valves and damper operators. Familiarization with equipment, fittings and devices in common use. Lab fee.

HAC 231 Air Conditioning I 5(4-2)
 Prerequisite: HAC 100 and HAC 101. Fundamentals and principles of air conditioning systems, repair, maintenance and servicing residential units. Lab fee.

HAC 232 Air Conditioning II 4(2-4)
 Prerequisite: HAC 231. The fundamentals of air conditioning servicing: the testing, repairing and trouble-shooting of a variety of residential and commercial systems. Also, the proper air distribution and control devices in residential climate control systems. Lab fee.

HAC 233 Air Conditioning III 4(2-4)
 Prerequisite: HAC 232. Installation and maintenance of heat pumps; reviews proper applications and shows improperly designed systems. Field and lab work in more complicated heat pump components and in the trouble-shooting and use of wiring schematics. Lab fee.

HAC 240 HAC Sheet Metal 4(2-4)
 Prerequisite: HAC 101. Designed to aid the installer in the skills and techniques for installation of residential and light commercial heating and cooling systems. Covered will be sheet metal layout, identification of sheet metal fittings, various types of venting, fiberglass and insulated duct, and general furnace installation procedures. Lab fee.

**Production and Inventory Control (PIC)
 Computer Integrated Manufacturing Program
 Division of Technology and Applied Sciences**

PIC 200 Introduction to Manufacturing Systems 3(3-0)
 This course is designed to represent an overview of production and inventory systems. It will introduce such topics as bill of material inventory control, master scheduling, material requirements planning and capacity planning.

PIC 215 Master Production Schedule 3(3-0)
 The first and main purpose of this course is to define master production scheduling and all those activities that take place within this function. The second objective is to provide an overview of the MPS function and its relationship to other manufacturing information system components.

PIC 220 Material Requirements Planning 3(3-0)
 This overview of the material requirements planning system will include discussions on the purpose and objectives of MRP and the role it plays in the manufacturing control system. Order point and other traditional inventory control methods will be discussed and compared to MRP.

PIC 225 Capacity Management 3(3-0)
 This course examines the function of establishing, measuring, monitoring and adjusting limits or levels of capacity in order to execute all manufacturing schedules.

PIC 230 Plant Maintenance 3(3-0)
 This course will include instruction in preventive maintenance scheduling online reporting of maintenance activities and the study of how these activities interface with the main production plan to insure that the required resources are available.

PIC 235 Production Activity Control 3(3-0)
 Covers the principles, approaches and techniques used by managers to plan, schedule, control and evaluate the effectiveness of shop production operations.

PIC 240 Inventory Management 3(3-0)
 This course will encompass the principles, concepts and techniques for deciding what items to order, how much to order, when they are needed, when to order, and how and where to store them.

**Quality Control and Reliability Technology (QC)
 Computer Integrated Manufacturing Program
 Division of Technology and Applied Sciences**

QC 100 Introduction to Quality Control 3(3-0)
 An introduction to the quality field, this class provides an understanding of what quality control is and why it is important. It covers quality control applications in different industries and companies, the role of statistics, concepts of management, job opportunities in the quality field, a history of the field, and definitions of many of the terms. Lab fee.

QC 101 Problem Solving Using Charts and Graphs 3(3-0)
 An introduction to basic graphs and control charts to analyze processes and identify problems. Covers use of SPC in task force of team problem solving. Covers such techniques as design and use of data collection sheets, how to use different charts and graphs, cause and effect diagram, histograms, X and R charts, and attribute charts. Lab fee.

QC 102 Total Quality Assurance 3(3-0)
 Basic managerial techniques and functions of running a quality control department. This class explores the area of managing for quality, using a total quality control approach. Topics include quality costs, organizing for quality, commitment to quality, marketplace demands, and responsibilities for quality. The engineering technologies basic to the modern program will be reviewed. Lab fee.

QC 103 Probability and Statistics for SPC 3(3-0)
 Basic probability and statistics and an introduction to the normal poisson and binomial distribution as related to statistical process control (SPC). Material covered includes probability, counting techniques, binomial distribution, hypergeometric sampling plans, poisson distribution, and normal distribution. Lab fee.

QC 104 Shop Floor Data Collection 2(2-0)
 Prerequisite: QC 101. This class will cover the use of electronic hand-held collectors, primarily the Datamate. Areas to be covered are how to set up and use a Datamate, use of data collectors and SPC, accessories available with data collectors for use on various applications, and interfacing of data collectors with computers. Lab fee.

QC 105 Cost of Quality 2(2-0)

Explains the definitions and philosophy of quality costs and covers quality improvement using cost of quality (cost collection, trend analysis, problem solving, and cost reductions), and reporting to management.

QC 200 Control Charts for SPC 3(3-0)

Prerequisite: QC 103. Application, design and selection of control charts. The student will learn to plan the implementation of control charts for their processes, to construct X and R charts, numerically analyze a process from a chart, distinguish between capability and control, determine when to react to a process based on a control chart, and analyze control chart patterns in terms of probabilities, and to construct attribute charts. Lab fee.

QC 201 Sampling for Process Control 3(3-0)

Prerequisite: QC 103. Acquaints students with the design and selection of sampling plans for variables and attributes. Material covered includes acceptance sampling, fundamental concepts of sampling, military standards, and aspects of life testing and reliability. Lab fee.

QC 202 Basic Reliability 3(3-0)

Introduction to fundamental reliability definitions and concepts, such as probability density function, reliability function, and hazard/failure rates. Covers life characteristic curve and reliability modeling. May include reliability/cost ratio studies. Lab fee.

QC 203 Advanced Control Charts 3(3-0)

Prerequisite: QC 200. This course continues to develop the concepts learned in QC 200. Many different types of control charts will be presented.

QC 204 Computer Programming for Quality Engineers 4(2-2)

Prerequisite: QC 209 and CAS 151. This course is an introduction to computer programming the TURBO PASCAL language, with an emphasis on statistical computing methods. The course will cover the elementary principles of computer programming in PASCAL for the first part of the course, and progress into specific applications in probability and statistics in the second part of the course. Lab fee.

QC 205 Introduction to Biostatistics I 3(3-0)

Introduction to basic concepts of statistics with practical application in the biological and health sciences. Materials covered include descriptive statistics, probability, probability distributions (binomial and normal), random sampling, estimation, hypothesis testing, chi-square, student-t and nonparametric tests.

QC 208 Design of Experimentation I (Applied Stats) 3(3-0)

Prerequisite: QC 103. Introduction to various tests to analyze data: hypothesis testing, chi-square, student-t, and so on. At the conclusion of the class, the student should be able to use the characteristics of the normal curve to analyze processes, understand the concept of hypothesis testing and apply it with various tests to means, differences in means, variances, and percentages, establish confidence intervals around estimates, and determine necessary sample sizes. Class will only be offered during the fall term of each year. Lab fee.

QC 209 Design of Experimentation II (Anova) 3(3-0)

Prerequisite: QC 208. Exploring the use of analysis of variance and regression analysis for problem solving. Covers correlation and regression analysis, confidence interval, and anova. Class will only be offered during the winter term of each year. Lab fee.

QC 210 Design of Experimentation III (Experiments) 3(3-0)

Prerequisite: QC 209. Exploring the different methods of performing a design of experiment, including nested and block. This class introduces the student to the concept of planned experimentation, gives the student the ability to work through basic designs manually, and explains the importance of planned experimentation to statistical process control. Class will only be offered during the spring term of each year. Lab fee.

**Robotics (RB)
Computer Integrated Manufacturing Program
Division of Technology and Applied Sciences**

RB 101 Introduction to Robotics 4(4-0)

Prerequisite: CIM 100. An introduction to the early development, growth and present day applications of robotics. A variety of industrial robot designs and technology are studied. A summary includes the mechanical, power and control systems that make a robot work and adapt itself to a particular application.

RB 102 Applied Robotics I 4(2-4)

Prerequisite: RB 101. A concentrated introduction to the application and history of robotics. A variety of industrial robot designs are studied and applied. Additional topics include a hands-on approach to programming, design and maintenance of robotic devices. This course is open to robotic majors and other CIM program students. Lab fee.

RB 103 Applied Robotics II 4(3-2)

Prerequisite: RB 102. An introduction to the design, construction and application of a robotic device. Students will engage in the creation of a "system" component, such as grippers, arms, fixtures or mobile material handlers. Also, a robotic work cell or system is built and various applications are studied. Each student will engage in an application project based on the students major. Sensors and interfaces are employed and an introduction to artificial intelligence is presented. Lab fee.

RB 201 Robotic Systems I 4(3-2)

Prerequisite: RB 103. Vision, speech and machine AI are stressed in this independent study course. Students are assigned individual or group responsibilities subject to review and evaluation by department. Instructors serve as project managers of this feasibility study based course, directed towards applied computer integrated manufacturing. Lab fee.

RB 204 Robotic Project I 4(3-2)

Prerequisite: RB 201. This course is the last required application class for Robotic Curriculum students who are completing the Robotics/CIM Program. Projects include close-loop off-line programming of a Servo-Controlled Hydraulic Robotic System. A disassembly and documentation of an AGVS (Automated Guided Vehicle System), and the design of a hazardous environment robotic system and end-effector design and application. Working closely with local industries, student projects are inter-related to potential employers upon completion of required core courses as stated in the Robotics Technician Curriculum. Lab fee.

**Welding (WLD)
Computer Integrated Manufacturing Program
Division of Technology and Applied Sciences**

WLD 100 Combination Welding 4(2-4)

Introduces basic principles, safe operation, and application of the oxyacetylene welding, cutting and electric arc, and MIG (metal inert gas) processes. Each process consists of beading, butt, lap, and corner joints in the flat and horizontal positions. Lab fee

WLD 101 Arc Welding I 4(2-4)

Prerequisite: WLD 100. Develops skills and confidence, producing quality type multiple pass fillet and groove welds in steel plate. Conventional and iron-powered electrodes and recommended procedures are presented in preparation for passing performance tests in all positions. Lab fee.

WLD 103 Gas Metal Arc Welding (MIG) 4(2-4)

Prerequisite: WLD 100. This course provides technical understanding of welding safety, MIG fundamentals, equipment, adjustments, metal transfer and shielding gases. Also develops manual skills in all position welding and fixture design. Some facets of destructive and non-destructive testing are also covered in this course. Lab fee.

WLD 105 Blueprint Reading for Welders 3(3-0)

This course is designed for individuals who want to know and apply the fundamentals of welding symbols. The language of welding is the welding symbol and with advancements in metallurgy, welding processes, consumables and strict code enforcement through non-destructive testing. It is critical that welding symbols be correctly drawn and/or interpreted. Lab fee.

WLD 115 Structural Fabrication 4(2-4)

Prerequisite: WLD 201 or Instructor approval. Introduction to the American Welding Society Structural Welding D1.1 and its application to steel fabrication. Satisfactory completion of this course can assist the student in passing a State of Michigan Structural Welding certification test. Lab fee.

WLD 201 Arc Welding II 4(2-4)

Prerequisite: WLD 101. Develops skills in vertical and overhead positions. Multiple pass fillet and groove welds are demonstrated in preparation for performance tests. Covers the use and interpretation of welding symbols related to arc welding applications. Lab fee.

WLD 202 TIG Welding 4(2-4)

Prerequisite: WLD 100. Study of the principles and fundamentals of Tungsten Inert Gas (TIG or Heliarc), Plasma Arc, and Submerged Arc, welding in different positions on a variety of metals. Refresh manipulative skills with the oxyacetylene

process in preparation for TIG Welding. Upon completion of Welding 100, 101, 102, 201 and 202, the student can seek a proficiency certificate in welding. Lab fee.

WLD 205 Tool and Die Welding 4(2-4)

Prerequisite: WLD 101, WLD 202, and ATR 142. Practice methods involved in welding various alloyed metals: ferrous and non-ferrous metals, pre-and post-heating of metals, recognition of materials, and the proper usage of air, oil and water hardening steels. Lab fee.

WLD 212 Automated Welding with Robots 4(2-4)

Prerequisite: WLD 100 or Instructor approval. This course familiarizes people with the GMF welding robot. Time will be devoted to practical hands-on experience in programming, set-up and adjustment of automated and semi-automated equipment, weldment, design and fixture building. Lab fee.

CONSTRUCTION TECHNOLOGY PROGRAM

Chairperson: Edwin C. Bergmann
Room 220-N Vocational-Technical Building

Construction Technology offers instruction in the following areas, under the codes indicated:

- AT: Architectural Technology
- AT: Solar Option with Architectural Technology
- ATG: Applied Technology General
- ATR: Applied Technology Related (Applied Mathematics)
- ATS: Applied Technology Seminars
- BTA: Building Trades Related (Apprentice)
- BTJ: Building Trades Related (Journeyman)
- BTR: Building Trades Related
- CT: Civil Technology
- FST: Fire Science Technology
- LAT: Landscape Architectural Technology
- SAF: Occupational Safety and Health
- TEC: Technology General

The Construction Technology Program offers educational and career opportunities for students in Architectural Technology, Landscape Technology, Solar/Energy Technology, Civil Technology, Fire Science and the Building Trades. A program of instruction can be a single course to upgrade students in their present position or to begin the selection of a new career. A program may consist of 90 credit hours, leading to the issuance of an associate degree and preparing the individual to enter a specialized technical position without the need for more than a minimum of additional training after entering such a position.

Administrators and faculty are available to assist students (1) in the planning of programs to meet their individual needs, (2) in transferring credit for formal courses to be taken at other schools, including military schools, and (3) in their placement in work experiences that are pertinent to their occupational programs.

Curriculum guides are available for all associate degree programs.

Architectural Technology Program (AT)

The Architectural Studies Center at Lansing Community College constitutes one of the most sophisticated facilities of its type in the nation. The program offers a series of two-year Associate of Science Degrees and other degree options designed to prepare students as technicians in the fields of Architecture, Landscape Architecture and Solar Technology.

Additional degree options are also offered to provide the necessary preparatory skills needed for successful advanced study to the student who is interested in working toward a Bachelors or Masters Degree.

Students enrolled in the various degree programs or those students wishing to take individual specialty classes may choose from a wide variety of courses offered through the Architectural Studies Center. These classes are supplemented by additional college courses in Civil Technology, Art, Interior Design, Math, Science, English and Computer Design Technology. All courses are structured and taught by field trained professionals using the latest equipment and teaching techniques. Courses in Computer Aided Design (CAD) will be offered to students using the largest computer graphics system available at any community college in the nation.

Associate Degree

The two-year Associate of Science Degree in Architecture is a program directed to the total development of a paraprofessional—the architectural drafting technician. Required classes for the Associate Degree in Architecture are assembled from the areas of architectural drafting, graphics, structural design, materials of construction, landscaping, solar, architectural history and building codes.

Additional classes are selected from the areas of math, English, technical and general electives. Please see Curriculum Code 540.

Architecture/Solar Option Program (AT)

A solar/energy technician is a highly skilled paraprofessional who works directly with architects, engineers, builders, HVAC specialists or as an independent design consultant. Course workcenters on the design of structures and their supplementary utility and human systems which are compatible with the natural environment. Emphasis is placed on making use of available solar radiation and other renewable resources and integrating these with efficient fossil fuel back-up systems. Super-insulation techniques, solar collection, storage and distribution systems, thermal shuttering, natural ventilation, site planning and orientation all play a major role in the design of energy efficient buildings. Curriculum Code 542.

The Solar Design Program gives students a chance to earn a two-year Associate degree under Architectural Technology—Solar Option, or one of several one-year "Certificates of Achievement" in a specialized area of study for those not desiring or needing a degree. Certificate programs include: Passive Solar Design, Energy Technology, Solar Energy Engineering, or Alternative Energy Applications. Students may select a specialized area of study and tailor a Certificate Program to their own specific needs.

Building Trades Related Program (BTA, BTJ, BTR) Certificate Program

The Residential Building Certificate of Achievement Program is designed to provide a student with job-entry skills in the building trades area. The Curriculum (Code 823) consists of practical hands-on courses that provide the skills needed to compete in today's job market. Curriculum guides for this program are available in the Construction Technology Office.

Civil Technology Program (CT)

Civil Engineering Technology is one of the broadest fields in the overall practice of engineering since its work is coordinated with so many other branches of the science. Civil Engineering deals with the planning, design, and construction of fixed structures and ground facilities for land, sea and air transportation. It also deals with the control of the flow and uses of water.

On the job, the technician works with engineers to find practical uses for scientific discoveries and he or she serves as the informational link between an engineer and the skilled worker.

A Civil Engineering Technician is trained to draw up plans and specifications; estimate costs and materials needed; use the transit, level and other surveying instruments; and prepare maps, inspect jobs, and supervise construction.

Fire Science Technology Program (FST)

Fire Science is a relatively new science which deals with methods of prevention and control of fires. Prompted by the annual loss of 3,000 lives and billions of dollars of property destruction, the Federal Government has established the U.S. Fire Administration as part of the Federal Emergency Management Agency. This agency supports the U.S. Fire Academy. Current information emanating from the Academy is adopted into the Fire Science Program at Lansing Community College.

Constant changes in the environment and the growing complexities of modern living create demands for new materials and methods to be used in fire prevention and control. The Fire Science Technology Program prepares the student to accept these and other challenges from the world of business and industry.

Completion of the program will assist students in their search for employment in the Fire Science area and aids persons already employed in the field to earn formal credentials. Please see Curriculum Code 590 for details of course requirements.

Associate in Science Degree

Students who satisfactorily complete the program will exhibit competency in the following areas: building construction and fire safety, physics, hydraulics, fire protection systems and equipment, handling of hazardous materials, arson investigation, fire prevention, fire strategy, and administration. An Associate Degree in Fire Science will be awarded to those who complete the two-year program.

Landscape Architectural Technology Program (LAT)

The Landscape Architectural Technology Program is a comprehensive two-year curriculum of professional study offered by the Architectural Studies Center at Lansing Community College. This program provides students with the essential skills and knowledge necessary to function as paraprofessionals in the Landscape Architecture profession. Advised and taught by professionally active Architects, Designers, and Horticulturalists, the Landscape Architectural Technology program offers individual courses of study which collectively focus on developing graphic, verbal and practical landscaping skills and techniques. Courses in the program provide a working knowledge of residential landscaping, landscape construction, design, graphics, horticulture, and office practices and procedures.

Associate Degree

Students receiving an Associate Degree in Science in Landscape Architecture are highly skilled paraprofessionals who work directly with professional landscape architects, engineers, nursery-workers and urban planners. Course work centers on verbal and graphic presentation skills, and stresses working knowledge of site grading, planting design, site layout, construction materials and methods, contract documents, office practices and land design. Please see Curriculum Code 541 for courses and other requirements.

In order to fulfill the requirements for an Associate Degree in Landscape Architectural Technology, the student is required to take a minimum number of courses from each of the following areas: Introduction to Landscape Architecture, Landscape Construction, Landscape Design, Graphics, Landscape Horticulture, Office Practices and Procedures, Government, Mathematics, English, and General Electives.

Occupational Safety and Health Program (SAF)

Increasing emphasis on safety inspection, training, and record keeping is due largely to federal and state laws and regulations on safety and health standards. Many federal, state, and local government agencies, as well as the National and Michigan Occupational Safety and Health Act need professionally trained people to carry out the functions of these standards. Industry also needs trained people to implement safety practices within companies and departments.

COURSE DESCRIPTIONS
Architectural Technology (AT)
Construction Technology
Division of Technology and Applied Sciences

- | | | |
|--|--|---------------|
| AT 100 | Beginning Architectural Drawing | 3(2-2) |
| No drafting experience required. Use of drafting equipment, lettering, line convention, orthographic projection, basic pictorial drawing and dimensioning techniques. Produce a basic floor plan at conclusion of class. Lab fee | | |
| AT 131 | Residential Planning | 3(3-0) |
| Basic information for buying, building or remodeling a house: construction details, architectural styles and planning concepts; some reading of blueprints and use of working drawings. Lab fee | | |
| AT 135 | Architectural Pictorial Illustration | 4(2-4) |
| Prerequisite: AT 100 or equivalent. Basics of shade and shadows and one and two point perspective is covered. Pencils and pens are the primary rendering media. For students with little or no experience in perspective drawing. Lab fee | | |
| AT 136 | Advanced Pictorial Illustration | 4(2-4) |
| Prerequisite: AT 135 or equivalent. Pencil and pen rendering techniques will be explored. The concept of developing a total composition by means of entourage is used. Lab fee | | |
| AT 137 | Architectural Presentation | 4(1-3) |
| Prerequisite: AT 135. Explores and develops new techniques in rendering. The use of a variety of color media is included. Lab fee | | |
| AT 150 | City Planning I | 3(3-0) |
| Prerequisite: AT 100 or drafting skills. Covers the architecture of the city: the buildings, streets, squares and natural topography as built and modified by men and women for collective and private use. The physical city as a transmitter of history, a most visible and permanent record of human acts. Students will search for clues and values as they relate to the environment and ecology of the world today and tomorrow. | | |
| AT 151 | City Planning II | 3(3-0) |
| Explores urban form and development in the Twentieth Century. Analyzes the relationship of individual buildings and groups of buildings, comparing sites and situations. Students will participate in several urban design studio problems. | | |
| AT 152 | Visual Communications I | 4(2-4) |
| Develops basic skills in the use of techniques for architectural drafting and sketching. Includes two-dimensional graphics, perspective, shades and shadows, model construction and basic delineation. Lab fee | | |
| AT 153 | Visual Communications II | 4(2-4) |
| Prerequisite: AT 152. Introduces freehand drawing with charcoal, pencil, pen and ink media emphasizing and developing abilities for perspective sketching and rendering. Lab fee | | |
| AT 154 | Visual Communications III | 4(2-4) |
| Prerequisite: AT 153. Representational composition exploring and refining the use of free-hand drawing with felt tip markers, prismacolor pencil, pen and ink with a special emphasis on color. Lab fee | | |
| AT 230 | Architectural Drawing I (Residential Details) | 4(2-4) |
| Prerequisite: AT 100 or drafting background. Identify component parts and correctly draw various building details. The use of reference material in preparing detail drawings will be emphasized. Lab fee | | |
| AT 231 | Architectural Drawing II (Residential Development) | 4(2-4) |
| Prerequisite: AT 230. Offers essentials of designing and drawing floor plans. Begins a two-part series in residential development. Preliminary elevations and sections will be developed. Lab fee | | |
| AT 232 | Architectural Drawing III (Residential Development) | 4(2-4) |
| Prerequisite: AT 231. Floor plans and preliminary plans from AT 231 will be used to continue the development of residential working drawings. Working elevations and sections will be completed. Lab fee | | |
| AT 233 | Architectural Drawing IV | 4(2-4) |
| Prerequisite: AT 232. Stresses the design and construction of commercial buildings. Students will produce a preliminary set of commercial working drawings. Lab fee | | |
| AT 234 | Architectural Drawings V | 4(2-4) |
| Prerequisite: AT 233 or equivalent. A continuation of AT 233, this course will emphasize the production of a complete set of commercial working drawings. Various examples of existing commercial structures and site inspections will be used to illustrate design theories and construction detailing. Lab fee | | |
| AT 235 | Underground Shelter | 4(3-1) |
| Design and construction of underground structures. Residential and commercial applications will be studied. Slide presentations and field trips will be used to illustrate site layouts. Lab fee | | |
| AT 236 | Underground Shelter | 4(3-1) |
| Prerequisite: AT 235. Designed as a continuation of basic theories studied in AT 235. Students will have an opportunity to design and prepare drawings to complete an individual underground project. Lab fee | | |
| AT 237 | Architectural Design Seminar I | 4(2-4) |
| Designed to introduce the student to architectural design through the study of popular theoretical and philosophical view points in architecture, as well as reviewing major historical architectural precedents, and their impact. The course shall be divided between seminar lecture discussion and studio sessions. Studio work shall concentrate on specific design programs to be solved through application of course material. | | |
| AT 240 | Architecture Model Building | 3(2-2) |
| Introduces the use of models in architectural design and presentation. Each student will construct several examples of various types of models. Lab fee | | |
| AT 241 | Office Practices and Procedures | 4(4-0) |
| Covers general specifications, supplemental or job specifications, material specifications, building codes, use of reference material, shop drawings, bidding practices, office reduction of field data and field inspection procedures. Lab fee | | |
| AT 242 | Building Utility Systems | 4(4-0) |
| Investigates components and arrangement of residential and commercial plumbing and electrical systems. Heating and cooling systems introduced. Emphasizes code and specification requirements. Lab fee | | |
| AT 246 | Heating and Air Conditioning | 3(3-0) |
| Explores components and arrangement of residential and commercial heating and air conditioning systems. A calculations course emphasizing environmental factors, specification requirements and code provisions. Lab fee | | |
| AT 247 | Architectural History I | 3(3-0) |
| Explores the earliest forms of ancient architecture with emphasis on specific civilizations and their contributions to the development of various styles of architecture. Highlights of the Egyptian, Minoan, Greek, Roman, Romanesque, and Gothic periods will be presented, using a variety of visual media. Lab fee | | |

- AT 248 Architectural History II** 3(3-0)
Examines the greatest examples of architecture as built during the Gothic, Italian, French, English Renaissance period and follows with a look at the history of architecture. Lab fee
- AT 249 Preservation and Adaptive Reuse** 3(3-2)
The theory and practice of historic restoration, preservation and new uses for old buildings (adaptive reuse). Visual media and field trips are used to illustrate actual projects. Lab fee
- AT 251 BOCA/Uniform Building Code I** 3(3-0)
Emphasizes use, interpretation and application of the Uniform Building Code. Includes occupancy requirements based on types of construction, engineering regulations, fire standards, excavation and material requirements. Lab fee
- AT 252 BOCA/Uniform Building Code II** 3(3-0)
Prerequisite: AT 251 or equivalent. Offers depth in occupancy requirements based on types of construction such as exit requirements, protection of corridors and multiple dwellings, standards for apartment houses six stories and higher, fire standards and materials requirements. Lab fee
- AT 253 Mechanical Building Code** 3(3-0)
Covers alterations, repair and renovation of buildings, applications to and within buildings of different types and occupancies. Provides knowledge of mechanical designing required to penetrate a structure throughout and still maintain the building's integrity.
- AT 254 Uniform Mechanical Code** 6(6-0)
A fundamental course designed to acquaint the student with the methods and techniques used in plan review and field inspection of mechanical system.
- AT 256 Barrier Free Design** 3(3-0)
Introduction to design, construction and inspection aspects of facilities required to be accessible to the physically handicapped. Applicable Michigan laws and codes are explained; design practice problems are included. No drafting experience necessary.
- AT 258 Plumbing Code (BOCA)** 3(3-0)
Presents minimum plumbing standards that protect the public against hazards of inadequate, defective, or unsanitary installations. Includes administration and enforcement, definitions, general regulations, materials, vents and venting and disposal systems.
- AT 259 Interior Architecture I** 4(2-4)
This course is designed to be the architectural students preliminary introduction into the various aspects of residential and commercial interiors. Examples of existing structures will be used to illustrate design theory and the basics of building's support systems. Students will have the opportunity to develop basic interior architectural design problems. Lab fee.
- AT 260 Architectural CADAM Basic** 4(4-0)
Department Approval. An informative computer graphics course which explores the latest in software and hardware used on the IBM CADAM Workstation. The operator will use functions and menu items to create multi-view architectural drawings. Dimensions and notes will be created to complete the drawing. Emphasis will be placed on creating and editing drawings.
- AT 261 Architectural CADAM Drafting I** 4(1-3)
This class is the first in a two-part series which utilizes the CADAM system for the production of architectural graphics. Students will develop the skills learned in basic CADAM and produce architectural schematics, details, pictorial and various types of working drawings. Production of individual works as well as group projects will be available.
- AT 262 Architectural CADAM Drafting II** 4(1-3)
This class will enable the advanced CADAM student to expand their knowledge of computer graphics and utilize the functions of the CADAM system to its fullest extent. Emphasis will be placed on the production of complete sets of drawings which can be included in a portfolio.
- AT 263 Architecture CADAM Project** 4(4-0)
The project lab provides the advanced student with the opportunity to work on a specific architectural project of their own design. Lecture time will be devoted to a "one on one" exchange of ideas with the architectural CADAM instructor. The subject will be the design, development and production of this specific project.
- AT 264 Architectural CADAM Project** 4(4-0)
The project lab provides the advanced student with the opportunity to work on a specific architectural project of their own design. Lecture time will be devoted to a "one on one" exchange of ideas with the architectural CADAM instructor. The subject will be the design, development and production of this specific project.
- AT 265 Architectural Micro Computer Graphics** 4(1-3)
This course is intended to give students a firm understanding of the basic concepts and skills necessary to use a microcomputer system in the design and implementation of architectural, interior design and related construction drawings using AutoCAD, a Computer Aided Drafting package designed for these and many other applications.
- AT 266 Architectural Micro Computer Graphics II** 4(1-3)
Designed as a continuation of AT 265. Students will learn and use remaining functions in a final design project.
- AT 268 Architecture Micro-Graphics Project Lab** 2(0-2)
Advisor's approval. Research, design and construct a project with the guidance of an instructor. For students who have completed basic micro graphics courses.
- AT 269 Architecture Micro-Graphics Project Lab** 4(0-4)
Advisor's approval. Research, design and construct a project with the guidance of an instructor. For students who have completed basic micro-graphics courses.
- AT 271 Structural Design** 4(4-0)
Prerequisite: AT 231 or equivalent and MTH 012. Introduces statics with the application of these physical forces to structural elements of steel, wood, and concrete. Develops an awareness of the physical forces which must be resisted through the selection for building materials and their effect upon architectural design.
- AT 275 Interior Environment HVAC Light and Acoustics** 4(4-0)
Designed for architecture and interior design students interested in the interior environment of buildings. Emphasis will be on the application of acoustics, HVAC and lighting systems. Information will be presented in a series of lectures and slide presentations. Lab fee
- AT 281 Materials of Construction** 4(4-0)
Study of construction materials used for enclosure and structural support of buildings. Emphasizes masonry, steel, concrete and wood as materials and the customary methods of building with them. Develops a sensitivity to the use of building products based on a knowledge of their properties, limitation and availability.
- AT 285 Residential Cost Estimating** 4(4-0)
Prerequisite: AT 230, Math 012 or equivalent. Covers estimating amount of material (lumber, brick, concrete) required for residential construction. Also involves the cost of the material and labor for carpentry, plumbing and excavating. Calculations are a major part of this course.
- AT 286 Advanced Construction Cost Estimating** 4(4-0)
Prerequisite: AT 285. In-depth study of more complex residential construction and small commercial instruction, comparisons of labor costs, methods and materials to insure minimum costs with high standards of quality.
- Architecture/Solar Option Program (AT)
Construction Technology
Division of Technology and Applied Sciences**
- AT 200 Solar Housing** 3(3-0)
Covers fundamentals of solar energy conversion for domestic water and space heating systems. Passive, hybrid, and active systems will be surveyed for use in both new construction and retrofit applications. An introduction to solar and energy terminology and calculations. Lab fee
- AT 201 Principals of Solar Energy Collection** 4(4-0)
Prerequisite: AT 200 or AT 210 and working knowledge of trigonometry. Covers solar radiation calculations and flatplate collector theory, design, and performance; effect of thermal losses and heat removal from the collector. Lab fee
- AT 202 Energy Efficient Design** 4(4-0)
Survey of modern methods and materials used to improve the energy efficiency of all buildings: super-insulation techniques, solar energy input, energy storage systems and other concepts are presented along with the Michigan Energy Code. Lab fee

- AT 203 Residential Solar Heating Design** 4(4-0)
Prerequisite: AT 201. Design and predict the performance of solar hot water and space heating systems. Use the F-Chart and G-Chart methods to determine the optimum collector area. An economic analysis will be performed. Lab fee
- AT 205 Solar System Installation and Operation** 4(4-0)
Prerequisite: AT 203. Covers installation, maintenance and operation of solar heating systems; characteristics of system components, basic fluid mechanics, piping, pump, duct and blower sizing. Lab fee
- AT 207 Energy Engineering Economics** 3(3-0)
Prerequisite: AT 200 or AT 210. The application of sound economic and accounting principles to the practice of energy conservation techniques, with emphasis on a realistic cost benefit analysis considering initial and operating costs, payback periods and life-cycle costing. Lab fee
- AT 208 Solar Site Seminar** 3(1-4)
Field studies of contractor and owner-built solar energy systems. Sites include both residential and commercial applications of water heating, space heating and cooling, photovoltaic electric conversion, and swimming pool heating. Lab fee
- AT 209 Retrofitting Housing for Energy Conservation** 3(3-1)
A study of the modifications needed to increase the energy efficiency of existing housing. Topics include home appliance and furnace efficiency, weatherproofing techniques, solar potential and personal energy management. Lab fee
- AT 210 Solar Housing Applications** 4(3-2)
Introduction to the factors that determine the building energy demand, solar contribution, and effectiveness of thermal energy storage. Surveys past and present solar architecture, efficient solar collection, heat transfer and storage options. Basic mathematical relationships trace energy flow from the sun to its useful application in the home. Lab fee
- AT 211 Passive Solar Design I** 4(3-2)
Prerequisite: AT 200 or AT 210. Emphasis on the natural process of heating and cooling buildings using site planning, earth sheltering, internal massing and hybrid assists. Mazria's design patterns and the P-chart method will be presented. Lab fee
- AT 212 Solar Assisted Heat Pump Design** 4(3-2)
Prerequisite: AT 201. Highlights the techniques for assisting heat pumps with solar collection and storage systems: air-to-air, water-to-air, water-to-water and refrigerant charged systems. Special attention will be directed toward calculations for determining the solar contribution to electrically driven reverse cycle heat pumps. Lab fee
- AT 213 Solar Project Laboratory I** 3(1-4)
Prerequisite: AT 202, AT 203, AT 210, AT 211. Supervised, independent project development. Scale models of final project may be built along with blueprints, specifications, cost estimates, economics analysis and system description. Lab fee
- AT 214 Commercial Solar Applications** 4(3-2)
Prerequisite: AT 202, AT 203, AT 210, AT 211. Directed toward the advanced student and practicing architect or engineer who is interested in applying solar energy for conditioning commercial and industrial buildings. Internal energy generation, envelope design, building use patterns, energy analysis and computer aided design and management are related to both new commercial buildings and retrofit applications. Lab fee
- AT 215 Passive Solar Design II** 4(3-2)
Prerequisite: AT 211. Balcomb's L.A.L. solar load ratio method is used to predict the performance of direct gain, water wall and Trombe wall systems with and without movable insulation. Calculations include solar savings fraction, estimating temperature swings and analyzing long term performance. Lab fee
- AT 217 Energy Policy and Planning** 3(3-1)
Developing energy policy, introducing state and local legislation, subdivision and community energy planning, land-use patterns, codes and zoning, supply-demand, implementing appropriate technology programs. Lab fee
- AT 218 Solar Greenhouse** 3(2-4)
Design and construction of walk-in solar collectors. Greenhouse horticulture, movable insulation techniques and design calculations are presented to assist in planning a heat and food producing greenhouse. Lab fee
- AT 219 Computer Assisted Solar Design** 4(3-2)
Prerequisite: AT 203 or AT 211 or instructor approval. Development of simplified procedures for the design and analysis of solar energy systems. Covers electronic analysis and computer simulation, programmable calculators, microprocessors, printers information storage systems and available software. Lab fee
- AT 220 Residential Energy Auditing—Conservation** 4(3-2)
Prerequisite: High school algebra. Covers conducting audits for energy conservation measures in homes. Includes residential construction, heating and cooling systems, insulation materials, installation practices, interviewing techniques, audit report writing and field audits. Preparation for the Energy Auditor Certification Examination. Lab fee
- AT 221 Residential Energy Auditing—Solar** 3(2-2)
Prerequisite: High school algebra. Covers conducting audits which analyze the solar and wind energy potential of existing homes. Includes calculation procedures for estimating solar and wind energy availability at a given site; size and cost of equipment, economic return on investment and field audits. Supplements AT 220 course in preparing for Energy Auditors Certification Examination. Lab fee
- AT 222 National Solar Water Heater Workshop** 1(5—1.5)
Construction of solar collectors and plumbing assemblies for a domestic water heating system. Includes system design, operation and installation, basic plumbing, freeze protection and cost-benefit analysis. Students have the option of purchasing a kit for installation in their own homes. Lab fee
- AT 223 Solar Interior Design** 3(3-0)
Interior design techniques that promote energy efficiency and conservation, emphasizing window treatments and use of color, texture, pattern, lighting, plants and fabrics as contributors to thermal comfort. Lab fee
- AT 224 Photovoltaic Electric Systems** 3(3-0)
Prerequisite: AT 200 or AT 210. The direct conversion of solar radiation to electrical energy. Battery and other storage systems will be surveyed along with inverters, monitoring devices and back-up systems. State-of-the-art developments will be presented and students will perform an economic comparison between photovoltaics, wind power, unit generators and the local electric utility. Lab fee
- AT 225 Alternative Energy Systems** 3(3-0)
Investigates wind power, methane, geothermal, biomass, alcohol fuels, wood burning, and active solar along with ocean tides, saline ponds, nuclear fusion and fission. Lab fee
- AT 226 Wind Energy System Design** 3(2-2)
History of wind machines, taxonomy, types, sizes and future potential. Discusses wind resources, methods of wind measurement, wind energy estimation and applications for generating electricity and pumping water. Topics include siting problems, performance characteristics, system design, components, commercially available wind electric machines, DIY systems, wind machine fundamentals, wind machine design, selecting a system and figuring the cost of wind power. No prerequisite. Lab fee
- Applied Technology General Program (ATG)
Construction Technology
Division of Technology and Applied Sciences**
- ATG 130 Basic Woodworking** 3(2-2)
Wood characteristics, hand and portable power tools, woodworking machinery, joint construction, fastening methods, woodworking techniques and procedures, technical information, applied to student-made projects. Lab fee
- ATG 132 Woodworking With a Router** 3(2-1)
Prerequisite: ATG 130 or ATG 133 or department approval. An in-depth exploration of router applications and router techniques. A project is required. Student projects will be used to illustrate and demonstrate dove-tail joints, decorative cuts, dadoes, rabbets, mortises etc. Students furnish their own lumber for projects. Lab fee
- ATG 133 Furniture Making** 3(2-2)
Prerequisite: ATG 130 or equivalent. Design and construction of simple furniture, with emphasis on selection of materials, options in joint and fastening methods, construction techniques, assembly procedures and problem solving. Lab fee

ATG 134 Shaker Furniture 3(1-3)

Introduces the beliefs of the Shaker community, as expressed in their fine craftsmanship. Students will make several Shaker designs including a peg board, mirror and quilt rack. Lab fee

ATG 135 Antiquing and Furniture Refinishing 3(2-2)

Step-by-step procedures for removal of old finishes, minor repairs, selection of new finish, surface preparation techniques, methods of application of new finish and antiquing. Fabric work and upholstery are not included. Lab fee

ATG 137 Furniture Finishing 3(2-2)

A course designed to give the average craftsman a basic knowledge of the furniture finishing process. The course will include sealing, staining, tinting, spray and brush application, french polishing and spot repair. The course will include both lectures and "hands-on" experience on the students own projects. Lab fee

ATG 138 Wood Projects Laboratory 2(0-4)

Prerequisite: ATG 130 or ATG 133. Provides additional lab hours and individual instruction for students enrolled in ATG and BTR courses, with requirements for construction of a term project. Lab fee

ATG 140 Gunsmithing 3(2-2)

Repairing and restocking rifles. Topics include installation of sights, scopes, rebarrelling actions and repairs. Also, building a muzzle loading rifle from a kit or starting with basic components. Lab fee

ATG 145 Canoe Building 3(1-3)

Gives the student participation in building a canoe. Materials and processes using wood and modern adhesives and coatings in a manner suitable for small shop work. Subjects covered include elements of canoe design, alternate construction methods, materials for boatbuilding, laying out the hull and paddle making. Lab fee

ATG 146 Bicycle Repair and Maintenance 2(1-1)

Shows basic reconditioning techniques for ten-speed bicycles, including wheel respoking, truing wheels and general maintenance. Lab fee

ATG 148 Basic Beekeeping 3(2-2)

This course is arranged to give students essential basic knowledge of bee-keeping. When completed a student should have attained knowledge and skills enough to tend to the care of a colony of honey bees.

ATG 150 Alternate Sources of Energy 4(4-0)

Class studies problems and solutions encountered in building or assembling a solar or wind-powered device. A knowledge of basic physics or basic electricity is helpful but not necessary.

ATG 175 Graphics I 3(2-2)

First of a three-term printing graphics series for those on apprenticeship programs and for those interested in the field of graphics. Explores basic printing processes and operations. Lab fee

ATG 176 Graphics II 3(2-2)

Prerequisite: ATG 175. Covers offset techniques, stripping, layout and composition processes. Lab fee

ATG 177 Graphics III 3(2-2)

Prerequisite: ATG 175 & ATG 176. Further study of individual interest areas: press operations, process camera, halftones, etc. Lab fee

**Applied Technology Related Program (ATR)
Construction Technology
Division of Technology and Applied Sciences**

ATR 149 The Metric System 4(2-0)

Introduction to basic units of the metric system and their use; the reasons for changing from our system to the metric system; the costs and problems which are incurred by such a change, and how these can be minimized by proper preparation. Derived units useful in industrial applications also are covered.

ATR 150 Basic Mathematics 4(4-0)

Review of basic arithmetic operations: whole numbers, common fractions, decimals, percentage, ratio and proportion. Introduction to some basic algebraic concepts and solutions for practical geometric problems involving areas and volumes. Lab fee

ATR 151 Applied Algebra 4(4-0)

Introduces and/or reviews basic algebraic operations with emphasis on those operations essential in solving practical problems encountered in shop operations.

ATR 152 Applied Plane Geometry 4(4-0)

Prerequisite: ATR 151. Applications of geometric functions to the solution of practical shop problems. Introduction to trigonometry.

ATR 153 Applied Plane Trigonometry 4(4-0)

Prerequisite: ATR 152. Analysis of industrial problems utilizing trigonometric solutions by calculator.

ATR 154 Advanced Applied Trigonometry 4(4-0)

Prerequisite: ATR 153. Continuation of ATR 153. Provides broad experience in solution of problems taken directly from industry.

ATR 155 Compound Angles I 4(4-0)

Prerequisite: ATR 153 or ATR 154. Combination of solid geometry and advanced (solid) trigonometry enabling students to solve setup problems involving angles and tilted work.

ATR 156 Compound Angles II 4(4-0)

Prerequisite: ATR 155. Continuation of ATR 155. Emphasis on application of actual tooling setups for complex machining operations.

**Applied Technology Seminar Program (ATS)
Construction Technology
Division of Technology and Applied Sciences**

ATS 090—094 Pre-Apprenticeship Seminar Credits variable

Designed to assist individuals who need or desire additional background to aid in being considered for apprenticeship training.

ATS 120—123 Building Trades Seminar Credits variable

These seminars are planned to assist any building trades group or groups to upgrade their skills or to review new and emerging techniques.

ATS 192—196 Technology General Credits variable

Includes seminars not listed under other headings.

**Building Trades Apprenticeship Program (BTA)
Construction Technology
Division of Technology and Applied Sciences**

BTA 100 Apprentice Bricklaying 4(1 3/4-1 3/4)

For apprentice bricklayers on registered programs with the Lansing Bricklaying and Stonemasonry Joint Apprenticeship Committee. Includes manipulative practices, related theory, mathematics, estimating, blueprint reading and drawing.

BTA 105 Apprentice Asbestos Workers 4(2-2)

Open to apprentice asbestos workers indentured to the Asbestos Workers Joint Apprenticeship Training Committee. Covers blueprints, applied science, related mathematics, estimating and manipulative practices.

BTA 110 Apprentice-Carpentry 4(1 3/4-1 3/4)

For apprentice carpenters on registered programs with the Lansing Carpentry Joint Apprenticeship Committee. Covers free-hand sketching and drawing, blueprint reading mathematics, use of steel square, estimating and layout, building codes, safety practices, manipulative practices and applied science. Includes light and heavy construction practices.

BTA 120 Apprentice—Electrical (inside) 4(1 3/4-1 3/4)

Open to electrical apprentices indentured to the Lansing Electrical Joint Apprenticeship and Training Committee. Covers blueprint reading and drawing, electrical theory, laboratory work, electrical code and mathematics.

BTA 125 Apprentice Electrical—Residential 4(2-2)

Open to electrical residential trainees indentured to the Lansing Electrical Residential Training Committee. Covers blueprint reading and drawing, electrical theory, laboratory work, electrical code and mathematics necessary for residential electricians.

BTA 140 Apprentice Painting and Decorating 4(2-2)

Open to painting and decorating apprentices on registered programs with the Lansing Painting and Decorating Joint Apprenticeship Committee. Includes trade techniques, color mixing and matching, mathematics related to the trade, estimating and paperhanging.

BTA 150 Apprentice Plumbing or Pipefitting 4(1 3/4-1 3/4)

For apprentice plumbers and pipefitters indentured to the Lansing Joint Plumbing and Pipefitting Apprenticeship and Training Committee. Includes mathematics, manipulative practices, theory, blueprint reading and drawing, job analysis, physics and other science, and supplementary courses from the regular College offerings approved by the J.A.T.C.

**Building Trades Journeyman Program (BTJ)
Construction Technology
Division of Technology and Applied Sciences**

BTJ 128 Journeyman Electricians Welding I 4(2-4)

Open to electrical journeymen. Includes some fundamentals of oxyacetylene welding and cutting. Major emphasis on arc welding and skills needed by the electrician. Lab fee

BTJ 129 Journeyman Electricians Welding II 4(2-4)

Prerequisite: BTJ 128 or Instructor Approval. Open to electrical journeymen. Includes some fundamentals of oxyacetylene welding and cutting. Major emphasis on arc welding and skills needed by the electrician. Lab fee

BTJ 160 Journeyman Pipefitters Welding I 4(2-4)

Students who enter this class should be Journeymen Plumbers or Pipefitters. Apprentices to the plumbing or pipefitting trades will be admitted when the degree of training they have achieved meets the approval of the Joint Apprenticeship Committee on Plumbing. Training begins with a review of welding fundamentals and proceeds rapidly into more advanced skills according to the needs of the individual student. Teaches welding of all varieties of pipe, including stainless steel, using the heliarc method. Lab fee

BTJ 161 Journeyman Pipefitters Welding II 4(2-4)

Prerequisite: BTJ 160. Continuation of BTJ 160. Lab fee

BTJ 162 Journeyman Pipefitters Welding III 4(2-4)

Prerequisite: BTJ 161. Continuation of BTJ 161. Lab fee

**Building Trades Related (BTR)
Construction Technology
Division of Technology and Applied Sciences**

BTR 100 Introduction to Construction 3(0-3)

Covers basic concepts of construction, including city and regional planning, managing, contracting, designing, engineering, estimating, bidding and inspecting, as well as the production work normally associated with construction.

BTR 101 Masonry Home Projects 3(2-2)

Instruction in building home masonry projects such as barbecue pits, patching and repairing masonry walls. Not designed for preparation as a bricklayer. Individuals wishing to prepare for a career in bricklaying should apply to enter the Bricklaying Apprenticeship Program. Lab fee

BTR 105 General Home Maintenance I 3(2-1)

An introductory course in general home maintenance. Topics are furnace maintenance, humidifiers, painting, hot water heaters, basic plumbing and electrical repairs. Lab fee

BTR 110 Build Your Own Patio Deck 3(2-1)

Plan, estimate, layout, build your own patio floor or off the ground deck. Investigate materials, designs, structural considerations and costs. Course will include tips and techniques for getting the job done. Lab fee

BTR 114 Residential Framing 3(2-1)

Describes various types of frame construction but concentrates on platform framing. Includes stages of house construction from top of the foundation to top of exterior walls. Lab work covers layout and assembly for sills, joists, bridging, sub-floor and exterior wall components. Lab fee

BTR 115 Framing Square 3(2-1)

Covers use of the framing square. Students will lay out common, hip, valley and jack rafters. Layouts will also include gable end studs, cross bridging and stair stringers. Instruction will emphasize understanding of math and decimal conversions involved in using the square. Lab fee

BTR 116 Residential Framing II 3(2-1)

A continuation of BTR 114. Hands-on experience with ceiling joists, gable end studs, cornice construction, door and window installation and roof sheathing. Lab fee

BTR 125 Residential Foundations 2(2-0)

Information on concrete blocks, poured concrete, and treated wooden timbers; relative advantages and disadvantages with respect to one another. Also, the layout of footings, excavations, setting of forms and the erection of residential foundations.

BTR 126 Remodeling 3(2-2)

Prerequisite: BTR 114. A course on building of additions, restoring and renovations. Lecture and lab work will show how to measure up work, planning and drawing, figure how to tear into building, roof and foundations. Lab fee

BTR 135 Structural Blueprint Reading 4(4-0)

Shows how to visualize and interpret illustrations and sections from blueprints, and translate them into practical solutions. Also shows the purpose of and the relationship between specifications and blueprints as applied to various trades.

BTR 136 Structural Blueprint Reading II 4(4-0)

Prerequisite: BTR 135. Covers symbols, conventions and abbreviations used in structural blueprints, and to further develop perceptual skills required for comprehension of prints. Emphasis will be on reading prints for commercial buildings.

BTR 138 Residential Estimating 4(4-0)

Prerequisite: BTR 114 and BTR 135. Covers the execution of a complete material takeoff and material pricing of a residential structure. Includes the entire structure with the exception of mechanical and electrical materials.

BTR 139 Construction Estimating 4(4-0)

Prerequisite: BTR 138. Provides experience in construction estimating; blueprint reading, specification reading, math calculations, use of labor, time tables, current material costs and weather factors. Emphasis on estimating costs of light commercial buildings.

BTR 140 Cabinet Layout and Interior Trim 3(2-2)

Prerequisite: BTR 114. For the individual who wishes to build or remodel a home. Topics covered will be an introduction to interior trim and basic tool use. Lab fee

BTR 141 Stair Building 3(0-3)

Prerequisite: BTR 114. To learn how to assemble the component parts of a flight of stairs. To understand the layout of the rise and run of the stair stringers and stair well opening. To learn about cutting of the stringers, treads, riser and handrail to newel post. Lab fee

BTR 142 Build Your Own Home 3(3-0)

For persons who wish to build their own home or have their home built. Includes design considerations, land acquisition, selection of materials, choosing contractors, scheduling of work, financing and landscaping. Features guest speakers who are experts in their various fields.

BTR 144 Shingling and Siding 3(1-2)

Prerequisite: BTR 114 or Instructor Approval. Covers tools, materials, estimating and techniques of application. Materials covered will include asphalt shingles, wood shingles and shakes, as well as siding options and introduction to aluminum trim products. Lab fee

BTR 145 Builders Review 1(1-0)

A two-day workshop offered by the college, designed to ready individuals for the State of Michigan Residential Builders Examination. The workshop will include concentrated instruction in Blueprint Reading, State Regulations, Building Terms, Basic Math, and Construction Codes, which are topics covered by the exam.

BTR 146 Build Your Own Cabinets 3(1-3)

Prerequisite: BTR 140 or ATG 130. A hands-on experience in building vanities, base cabinets and wall cabinets. Not a furniture-making class. Covers use of tools and machines, cabinet construction, drawer construction, door style options and formica work. Students supply their own lumber. Lab fee

BTR 147 Paper Hanging I 3(2-2)

For painter-decorators. Includes preparation of surfaces, selection and care of tools, selection of materials and adhesives, estimating of materials, layout, avoiding and correcting faults, application of paper and vinyl. Lab fee

BTR 148 Paper Hanging II 3(2-2)

For painter-decorators. Includes preparation of surfaces, selection and care of tools, selection of materials and adhesives, estimating of materials, layout, avoiding and correcting faults, application of paper and vinyl. Lab fee

BTR 155 Blueprint Reading for Plumbers 4(4-0)

Covers orthographic projection, linear and angular measurement and reading of prints in which three views are given in the three principal planes of projection. Examples apply to the plumbing trades.

BTR 156 Blueprint Reading for Plumbers II 4(4-0)

Prerequisite: BTR 155 or Instructor Approval. Continuation of Building Trades 155 with emphasis on more complex prints. Actual construction prints are used whenever possible.

BTR 175 Sheet Metal I 3(2-2)

Includes mathematics and pattern drafting related to sheet metal. Covers straight line, parallel line, radial line, triangulation pattern development and current techniques of fabrication. Lab fee

BTR 175 Sheet Metal II 3(2-2)

Prerequisite: BTR 175 or Instructor Approval. Continuation of Sheet Metal I with more advanced problems. Lab fee

BTR 177 Sheet Metal III 3(2-2)

Prerequisite: BTR 176. Continuation of Sheet Metal II with specialty work. Lab fee

BTR 178 Sheet Metal Fabrication 3(2-2)

Prerequisite: BTR 175. Utilizes the layout techniques learned in Sheet Metal I to fabricate simple sheet metal fittings such as elbows and square to round. Also familiarizes student with sheet metal tools. Lab fee

BTR 180 Sheet Metal Welding I 4(2-4)

Arc welding as applied to sheet metal. Introduction to and use of heliarc. Lab fee

BTR 181 Sheet Metal Welding II 4(2-4)

Prerequisite: BTR 180. Continuation of Building Trades 180 with additional emphasis on heliarc. Lab fee

BTR 223 National Electrical Code I 4(4-0)

Students will review the entire code book, locating and interpreting the National Electrical Code. Designed for individuals with little or no knowledge of the electrical code.

BTR 224 National Electrical Code II 4(4-0)

Prerequisite: BTR 223. For the wireman who has had some experience working with the code book; a general review plus problems and calculations taken from the code book.

BTR 225 National Electrical Code III 4(4-0)

Prerequisite: BTR 224. For the wireman interested in writing for a master license. Covers the local electrical code and interpretation of various sections, along with review of the most recent code changes.

BTR 290 Building Trades Internship 6(1-20)

Prerequisite: Coordinator approval. Practice of skills learned in previous courses in a real work situation. The training station, working conditions, and student must be approved by the coordinator. The student is required to attend one hour per week of related instruction at the College. A pre-placement interview between the student and coordinator is also required.

Cooperative Education (CED)**Construction Technology****Division of Technology and Applied Sciences****CED 211, 221, 231, 241, 251, 261 Cooperative Education 3(1-15)**

Cooperative education enables the student in technical programs to gain work experience on a job related to the field of study. The Co-op student reports to the work site for a minimum of 15 hours per week (165 clock hours per term), and 1 hour in classroom activities (11 clock hours per term). Classroom instruction is a required part of the co-op experience and includes verbal and written activities relating to job related objectives. Evaluation of the co-op student is conducted cooperatively by both on-the-job and college personnel. (Enrollment in this course requires approval of the Co-op Coordinator.)

Civil Technology (CT)**Construction Technology****Division of Technology and Applied Sciences****CT 101 Construction Materials I 4(2-4)**

Prerequisite: Math Placement Test. Deals with the determination of properties of aggregates and concrete. Teaches methods of designing concrete mixes for different uses and methods of sampling and testing. Fall term. Lab fee

CT 102 Construction Materials II 4(2-4)

Prerequisite: CT 101 and TEC 151. Covers determination of properties of bituminous materials. Teaches methods of designing bituminous mixes for different uses and methods of sampling and testing. Spring term. Lab fee

CT 103 Construction Methods 4(4-0)

Prerequisite: Math Placement Test. Studies techniques and equipment used in constructing bridges, buildings, highways and pipelines. Comparison of building codes and construction specifications. Winter term.

CT 107 Civil Drafting 4(2-4)

Prerequisite: DT 100 or equivalent. Helps students prepare a clear, readable, graphic representation of data from survey notes. Emphasizes traverse, profile and topographical drawing problems. Fall term. Lab fee

CT 121 Structural Concepts 4(4-0)

Introduces structural terminology and concepts. Balsa wood models are used to demonstrate the general behavior of structural members in compression, tension, shear and bending due to different loading conditions. Framing for bridges and buildings will be discussed.

CT 122 Statics 4(4-0)

Prerequisite: CT 121, TEC 151. Studies loads and forces due to loads; conditions of stability and equilibrium in structural frames; and free body analysis for reactions and member forces. Winter term.

CT 123 Strength of Materials 4(4-0)

Prerequisite: CT 122, TEC 152. Covers stress, strain, creep, fatigue, yield, tension, compression, shear, bending, torsion, combined stresses and deflections.

CT 131 Basic Surveying I 4(2-4)

Prerequisite: Math Placement Test. Covers surveying, study of terminology, use of tape, level and transit for measuring distances, elevations and angles. The emphasis is on developing fieldwork skill in the handling of the equipment, analysis and use of Verniers. Fall, spring, summer terms. Lab fee

CT 132 Basic Surveying II 4(3-2)

Prerequisite: CT 131, TEC 151. Reduction of field notes for office use. Taping, leveling, and transit problems including error analysis. Traverse, horizontal curve, vertical curve and earthwork calculations. Winter term. Lab fee

CT 133 Basic Surveying III 4(2-4)

Prerequisite: CT 132. Stresses field work for bench mark circuits, profiles, cross-sections, traverses, topography and mapping. Spring term. Lab fee

Fire Science Technology Program (FST)**Construction Technology****Division of Technology and Applied Sciences****FST 125 Arson Investigation 4(4-0)**

Arson Investigation offers specialized training for insurance investigators and building operators, as well as firefighters and Fire Marshall officers. Topics covered include duties of the firefighters, investigators, police officers and prosecutors; electrical fires, scientific evidence, forensic laboratory services and vehicle fires. General areas will cover psychodynamics of criminal behavior, court decisions affecting fire investigation, insurance company operation, and any new items as current events require. No prerequisite. Lab fee

FST 130 Fire Protection Historical Overview 3(3-0)

Examines fire prevention and control in a historical and philosophical context; role of fire service in society and input from various municipal and private fire protection agencies; an overview of the nation's fire problems; job opportunities and necessary qualifications.

FST 160 Fire Fighting Strategy and Tactics I 3(3-0)

Fire fighting strategy and tactics, planning methods of attack, and preplanning fire problems.

FST 161 Basic Fire Protection 3(3-0)

Investigates organization and function of local, county, state, federal, and private fire protection agencies. Studies history of loss of life and protection by fire, and the history and philosophy of fire protection.

FST 164 Fire Protection Systems and Equipment I 3(3-0)

Covers fire detection and alarm systems, special hazard protection systems, sprinkler systems and fire extinguishing equipment.

FST 165 Hazardous Materials I 3(3-0)

Prerequisite: TEC 202. Explores fire fighting methods related to hazardous materials; includes solids, liquids and gases, and their storage. Consideration also given to the laws, standards and handling techniques of hazardous materials.

FST 166 Fire Apparatus Operation 6(6-0)

Prerequisite: Active firefighter. Phase I of the Michigan Fire Fighters Association Training Program (66 hours).

FST 167 Fire Hydraulics 3(3-0)

Prerequisite: FST 170. Outlines fundamentals of fire hydraulics. Includes water supply problems, standards on pump requirements, formulas, test criteria and physical laws relating to hydraulics, and practical application of fire fighting problems.

FST 168 Math for Firefighters 4(4-0)

Focuses on basic arithmetic operations and algebraic equations as they relate to fire science of operations and equipment.

FST 170 Physics for Firefighters 3(3-0)

Highlights several basic principals of physics: solids and their characteristics, liquids in motion, gas laws and applications.

FST 176 Fire Training Phase II 6(6-0)

Prerequisite: FST 166. In Phase II, the student will handle and properly use the tools of the fire service. Emphasis is placed on the self-contained mask and the fire fighting protective clothing worn on the fire-ground.

FST 177 Fire Hydraulics II 3(3-0)

Prerequisite: FST 167. Emphasizes applications of hydraulic circuitry in pumping operations of fire fighting equipment.

FST 180 Fire Fighting Strategy and Tactics II 3(3-0)

Prerequisite: FST 160. Studies manpower assignments for stations and apparatus in communities of various sizes, to assist officers in making proper decisions in organizing and operating fire fighting forces.

FST 186 Fire Training Phase III 6(6-0)

Prerequisite: FST 176. In Phase III, a refinement of all the techniques used in Phase I and II. Fire-ground hydraulics and drivers-training exercises are studied and practiced.

FST 196 Fire Training Phase IV 6(6-0)

Prerequisite: FST 186. Phase IV deals with the strategy and tactics used on the fire ground. Fire ground evolutions are conducted and critiqued. In most instances, this involves a structural burn. This phase is the culmination of many hours of training and testing. Students must exhibit proper physical coordination during the hands-on portion of equipment handling and apparatus operation.

FST 200 Fire Science Seminar 3(3-0)

A three credit seminar that will be offered at various times to cover special programs available to Lansing Community College students in Fire Science Technology. A large selection of topics may be available such as; arson investigation, training with special equipment, demonstrations of fire fighting under unusual circumstances, and subjects relating to specialized fields currently being developed. No prerequisite.

FST 204 Fire Protection Systems and Equipment II 3(3-0)

Prerequisite: FST 164. Covers the proper installation and need for standpipe systems, pressure tank installations, hydraulic calculations and water supplies, and study of actual installation shop drawings.

FST 263 Building Construction for Fire Security I 3(3-0)

Involves essentials of building design and construction; special features and considerations relating to fire security.

FST 264 Fire Investigation I 3(3-0)

Investigate fire behavior, importance of determining origin, and procedures used in identifying accidental, incendiary, or arson type fires. Covers methods of recognizing and identifying motivation for arson and the laws that are relative to the intentional setting of fires.

FST 266 Fire Investigation II 3(3-0)

Prerequisite: FST 264. Preservation of evidence and photographic coverage of fire, methods of interrogation related to fire investigation, and conduct for investigators; libel, slander and court procedures related to evidence and

statements, and the importance of cooperation between investigative agencies; records, reports, and case histories.

FST 268 Hazardous Materials II 3(3-0)

Prerequisite: FST 165. Covers methods of fire detection, control and extinguishing and the problems which are likely to arise whenever chemicals, explosives or radioactive materials are used, stored or transported.

FST 269 Responding to Emergencies in Hostile Situations 4(4-0)

Prerequisite: Must be a member of an emergency service unit. The purpose of this course is to acquaint personnel in emergency services occupations with a multi-disciplinary focus in dealing with the hazardous environment. Although the course is academic in nature, emphasis will be placed on developing diverse skills which enhance the safety of the practitioner is rarely exposed but where the likelihood of morbidity is great, and should be prepared to guard against danger to himself/herself and others on the scene.

FST 270 Advanced Fire/Arson Investigation 3(3-0)

Prerequisite: FST 125. Active member of fire department, law enforcement agency, or private security. This is an advanced course in Fire/Arson Investigation for law enforcement and fire department personnel.

FST 275 Fire Claim Investigation for the Insurance Adjuster 3(3-0)

Prerequisite: Insurance Claim Adjuster or Representative. This is a special course for insurance claim personnel with interest in fire claim investigation.

FST 283 Building Construction for Fire Security II 3(3-0)

Prerequisite: FST 263. Studies building construction, protection of openings in floors, walls and partitions, exits, smoke and heat venting, protection against exposures, life safety codes, sprinkler systems and special structures.

FST 290 Fire Administration 3(3-0)

Provides chief officers with a better understanding of motivation with proper direction from management, and presents modern approaches to the challenges which face today's fire executives.

FST 292 Instructor Training Methods 4(4-0)

Course is designed for training Fire Service and Emergency Services Personnel to become instructors in the subject area they know best. Will sharpen your teaching skills, or beginning students will find this course in Methodology valuable. Some of the topics covered are: communication skills, classroom arrangement, establishing goals and objectives, building an effective lesson plan, etc. Approved and recognized by the Michigan Fire Fighter's Training Council.

FST 293 Project Laboratory 3(0-6)

Undertake and complete an independent study or project under staff supervision. Consult with faculty advisor before enrolling.

FST 296 Project Laboratory 6(0-12)

Undertake and complete an independent study or project under staff supervision. Consult with faculty advisor before enrolling.

**Landscape Architecture Program (LAT)
Construction Technology
Division of Technology and Applied Sciences**

LAT 100 Intro Landscape Drafting 3(2-2)

No drafting experience required. The use of drafting equipment, emphasizing lettering, line convention, and title blocks. Develop basic format for designing construction drawings. Provides essential skills for beginning LAT Program. Lab fee.

LAT 101 Introduction to Residential Landscape 3(3-1)

Reassessment of home landscape needs to eliminate unneeded remnants of past eras and to strengthen the practicality of environmentally sound landscape philosophy of "form follows function."

LAT 130 Interior Landscaping 4(3-2)

The aim of this course is to acquaint the student with the identification, culture, placement and use of foliage and flowering plants in the home, office, mall or restaurant. Information relating to soil media, watering, light requirements, fertilizer, insect, and disease control and management will be discussed in relation to the plant's placement and use within the interior landscape.

- LAT 132 Residential Landscaping** 3(2-2)
Highlights a basic planning approach for improving your home landscape. The development of a basic design focusing on your own home including placement of plant material, decks, patios, water features and other landscape elements. A course for the new homeowner, homeowner renovating his landscape, residential landscaper or nurseryman. Lab fee
- LAT 133 Residential Landscape Maintenance** 4(4-0)
Basic insect and disease identification and control measures will be discussed. A course for the homeowner, nurseryman or maintenance contractor. Lab fee
- LAT 140 Landscape Plant Materials I (Deciduous Trees & Evergreens)** 4(2-4)
Explores a group of hardy ornamental plants emphasizing deciduous trees, shrubs, evergreens, and ground covers. How to select the best and newest varieties will be highlighted. A good course for the landscaper, nurseryman or homeowner who would like to identify or refresh ones skills in identification. Lab fee
- LAT 141 Landscape Plant Materials II (Flowering Trees, Shrubs and Ground Cover)** 4(2-4)
The exploration of spring flowering trees, shrubs, broadleaf evergreens, and groundcovers. Highlighting the time of bloom and special features such as fruit, bark, foliage color and buds as they relate to the landscape. Basic plant identification is developed and positive design characteristics of individual plants are stressed. Slides of individual plants will be presented, as well as walking labs to highlight these plants. Lab fee
- LAT 142 Landscape Plant Materials II (Perennial and Annual Flowering Plants)** 4(2-4)
This class will discuss identification and basic culture of approximately 150 perennial and annual flowering and bedding plants. Specific features of each plant will be discussed in relation to their proper landscape use. Herbs, grasses, rock and water garden plants will also be highlighted. Guest speakers will highlight major areas. Lab fee.
- LAT 150 Introduction to Landscape Architecture** 4(2-4)
Previews the broad scale concepts of landscape architecture. Lectures, reading, and practical problem-solving exercises provide a basic overview of the historical, philosophical, and technical aspects of the landscape architecture profession. Lab fee
- LAT 152 Landscape Graphic Communication I** 4(1-6)
Explores a wide variety of media and illustration techniques relative to the field of landscape architecture. Both the formal and informal applications of mechanical and freehand drafting communication are emphasized to include basic reproduction printing methods. Lab fee
- LAT 153 Landscape Graphic Communication II** 4(1-6)
Prerequisite: LAT 152. Explores the basic principles of perspective layout, acceptable landscape sketching techniques, preparation of graphic presentations. Primarily stresses black and white value drawing techniques. Lab fee
- LAT 160 Planting Design I** 4(2-2)
Provides an overview of the planting design process from site analysis to construction documentation. Covers the basic theoretical principles of planting design as well as the practical aspects of plants and design implementation. Projects cover a range of design situations and stress development of basic skills.
- LAT 161 Planting Design II** 4(2-4)
Prerequisite: LAT 160. Stresses the functional aspects of plants as major design considerations. Familiarization and use of indigenous plant material is expanded and basic on-site analysis skills are developed. Emphasis is placed on graphic techniques for delineating planting plans. Lab fee
- LAT 164 Landscape Design I** 4(1-6)
Emphasizes use of the design process to solve a variety of elementary urban and non-urban site planning problems. Project design solutions require graphic delineation primarily stressing plan view presentations. Lab fee
- LAT 165 Landscape Design II** 4(1-6)
Prerequisite: LAT 164. Focuses on advanced landscape design problem solving. Comprehensive design and analysis techniques are explored. Graphic problem solutions include the use of auxiliary elevations and detail plan views. Specialized design problems emphasize environmental design factors. Lab fee
- LAT 170 Site Grading I** 4(2-4)
Prerequisite: MTH 012. Stresses the basic principles, methods, and procedures for grading a site. Provides familiarization with the use of contour lines, the interpretation of landform features, and computation of earthwork cut and fill manipulations. Lab fee
- LAT 171 Site Grading II** 4(2-4)
Prerequisite: LAT 170. Explores advanced principles, methods, and procedures for grading a site. Emphasis is placed on the Michigan Soil Erosion and Sedimentation Control Act with respect to earth change plans and the specialized requirements related to grading recreational and utility facilities. Lab fee
- LAT 250 Landscape Construction Methods** 4(4-0)
Analyzes the comparative uses and methods of installing masonry, asphalt, wood, concrete, and other landscape materials. Physical properties of landscape materials are studied. Lab fee
- LAT 260 Planting Design III** 4(2-4)
Prerequisite: LAT 161. Covers the implementation aspects of planting design dealing with cost estimating, project phasing, planting plan detail development, and specialized planting situations and conditions. Acceptable nursery standards are previewed and planting plan specifications are examined. Lab fee
- LAT 261 Planting Design IV** 4(2-4)
Prerequisite: LAT 260. Outlines the principles and considerations for maintenance efficiency in developing planting design proposals. Provides information concerning all aspects of landscape planting care, plant installation techniques, fertilizing, disease and pest control and pruning. Low maintenance indigenous plant species are highlighted. Lab fee
- LAT 264 Landscape Design III** 4(1-6)
Prerequisite: LAT 165. Emphasizes specialized design problem solving. Environmental impact considerations are examined and alternative design solutions are explored. Previews large scale regional design techniques. Lab fee
- LAT 265 Landscape Construction Details I** 4(3-2)
Prerequisite: AT 100 or LAT 100 or equivalent. Focuses on the acceptable graphic approach for drawing landscape construction details. Includes various landscape features, pedestrian and vehicular circulation systems, utilities, light construction elements, and recreation facilities. Stresses detail coordination with site plan layout. Lab fee
- LAT 266 Landscape Construction Details II** 4(1-6)
Prerequisite: LAT 265. Emphasizes the design and build aspects of detail landscape planning. Coordinates project design with detail development, material tabulation, and cost estimating factors. Includes detail considerations of irrigation systems, general site appurtenances, and additional light construction features. Lab fee
- LAT 276 Landscape Documents and Specifications** 4(1-4)
Elaborates the principles and relationships between specifications and working drawings. Stresses familiarization with bidding procedures and general contract conditions. Involves practical landscape specification writing. Lab fee
- LAT 277 Landscape Office Practice** 4(4-0)
Introduces the elements of office business practice and organization, record-keeping, on-the-job inspection and close out, and initial proposal writing and contract formulation. Lab fee
- LAT 280 Financial Management** 4(4-0)
This class will provide a basic outline of forms and management techniques for the design professional as well as the nursery owner or general contractor. Form used and recommended by various organizations and businesses will be discussed. The proper management format for a successful small or large business will be outlined. All horticultural related businesses will be highlighted.
- LAT 282 Microcomputers in Landscape Architecture** 4(2-4)
No prerequisite. To introduce students to the use of microcomputers in the landscape field. Exposure to the use of computers for business purposes, preparing forms, data, etc. Course will feature a "hands-on" utilization for plant selection, material inventory, site construction data and design assistance. Lab fee
- LAT 287 Site Layout I** 4(2-4)
Prerequisite: LAT 171. Covers plan dimensioning and basic techniques for laying out a variety of landscape elements, such as parking lots, roadway development, sidewalks, patios and building locations. Graphic techniques are stressed. Layout and design orientation for sports and recreation facilities are highlighted. Lab fee

LAT 288 Site Layout II 4(2-4)

Prerequisite: LAT 287. Features layout of horizontal and vertical alignment of pedestrian and vehicular circulation systems as well as the layout and design of utilities, irrigation, and outdoor electrical systems. Proficiency in graphic delineation is stressed. Lab fee

LAT 292, 293, 294 Project Labs (Landscape Architectural) 2(0-4) 3(0-6) 4(0-8)

Prerequisite: Advisor's approval. Research, design and construct a project with the guidance of an instructor. For students who have completed basic landscape architectural courses and desire in-depth projects in a particular area of landscape architectural drawing.

**Occupational Safety and Health (SAF)
Construction Technology
Division of Technology and Applied Sciences**

SAF 205 Safe Practices and First Aid 3(3-0)

Covers first aid and treatment through lectures, demonstrations, and practice as outlined by the American Red Cross or equivalent; safe working practices with hand tools and around machines; safety devices of machines, and how to identify and use them.

SAF 291 OSHA/MIOSHA Safety Seminar (AVT) 1(1-0)

Slide-tape topics include: construction safety, powered industrial trucks, metal working machinery, fixed and portable ladders, abrasive wheels, fire exits, face and eye protection, and many more.

SAF 292 Safety Seminar 2(2-0)

Covers methods used in the development of an Occupational Safety Program. Student performs an independent project.

SAF 293 OSHA/MIOSHA Safety Seminar (AVT) 2(2-0)

Covers methods used in the development of an Occupational Safety Program. Complete twenty-two hours instruction in AVT. Prepare a paper outlining a safety hazard, a proposed solution, and/or a complete solution to the problem.

**Technical General Program (TEC)
Construction Technology
Division of Technology and Applied Sciences**

TEC 102 Industrial Communications 4(4-0)

A practical approach to clear written communication, including organizational skills, a review of grammar, skills needed to write effectively on the job. Written assignments include memos and business letters. All terms.

TEC 150 Technical Math Introduction 5(5-0)

Covers the prerequisite material to the TEC 151 and 152 math series. Topics include arithmetic, approximate numbers, simple equations, and factoring. All terms.

TEC 151 Mathematics for Technicians I 5(5-0)

Prerequisite: Math Placement Test. Applies topics from algebra and trigonometry to architectural technology, civil technology, electronics and mechanical technology. Covers quadratic equations, trigonometry, vectors, and j-operator. Fall, winter, and spring terms.

TEC 152 Mathematics for Technicians II 5(5-0)

Prerequisite: TEC 151 or equivalent. Covers the application of logarithms, differential calculus and integral calculus to practical technical problems. Topics include related rates, maximum and minimum problems, and areas under curves. Winter and spring terms.

TEC 153 Mathematics for Technicians III 5(5-0)

Prerequisite: TEC 152 or equivalent.

TEC 155 Programming Scientific Calculators for Technicians 2(1-1)

Introduces the student to basic programming techniques to make use of the power of the programmable calculator as an aid in solving various technical problems. The course is general in nature so programming methods may be adapted to a variety of scientific calculators and fields of study. Students must have their own programmable calculators.

TEC 201 Applied Physics 4(4-0)

Includes basic principles of mechanical technology, electricity and electronics technology, civil technology, hydraulics, metal working, heating and air conditioning. Provides basic training in fundamental physical phenomena and emphasizes practical problems. All terms.

TEC 202 Industrial Chemistry 4(4-0)

Focuses on basics in general chemistry for the technician. Topics include atomic and molecular theory, bonding properties or elements, oxidation reduction reactions, kinetic-molecular theory, solutions and electrochemistry. Applications are made to the field of fire protection primarily.

TEC 203 Technical Report Writing 4(4-0)

Prerequisite: TEC 102. Covers technical writing style, format and techniques. Emphasis is on organization and purpose. Special unit on developing materials for employment applications. Recommended for second year students. All terms.

TEC 204, 205, 206, 207, 208, 209, 210 Technical Internship 2-8 credits

After successful completion of basic courses, usually following the freshman year, students may elect an internship. This course allows the student to be placed in an approved training station and earn credits for satisfactory work performance. To participate in this program students must be qualified to receive approval from their department. Their occupational interests are considered along with their background or related classes to determine placement.

**DEPARTMENT OF HEALTH CAREERS
AND CENTER FOR
HEALTH EDUCATION/REHABILITATION**

Chairperson: Michael Lenkowski
Room 175 Gannon Physical Education Building

Department Role and Objectives

The Department of Health Careers and Center for Health Education/Rehabilitation provides initial and lifelong education opportunities for health occupations, health promotion, and rehabilitation for individuals within the college and community.

Graduates of health occupations programs are prepared to function as beginning practitioners in their specialty. Their participation assists the health care delivery system in providing safe, effective health care.

Credentialed health professionals are provided continuing education to update knowledge, learn new skills, or retrain for reentry into the health care delivery system.

Individuals in the community are provided educational opportunities to learn health promotion, disease prevention, and rehabilitation for lifelong physical well-being.

The department continually monitors trends and changes in health care technology, advances in medical science, and changes in the health care delivery system so that it can respond with appropriate courses and programs in a timely manner.

Programs of Study

The Department currently offers programs* leading to the Associate Degree in Applied Science with major emphasis in:

NUR: Nursing (Career Ladder P.N.-A.D.N.)
DH & DHA: Dental Hygiene
DA & DHA: Dental Assistant
RXT: Radiation Therapy Technology
RXT: Radiologic Technology
RT & RTA: Respiratory Therapy Technology
ESA: Advanced Emergency Medical Technology (Paramedic)

And one-year programs leading to the Certificate in:

NUR: Practical Nursing
DA & DHA: Dental Assistant
RT: Respiratory Therapy Technician
NMT: Nuclear Medicine Technology
ST: Surgical Technician
EMT: Emergency Medical Technician
MST: Medical Sonography (Ultrasound) Technology (Starts Fall 1987)
RST: Radiation Therapy
MA: Medical Assistant

And one or two term programs leading to the Certificate of Achievement:

DBA: Dental Business Assistant
CHC: Ward Secretary
HC: Psychiatric Technician
HC: Pharmacy Technician
HC: Central Supply Technician
HC: Dental Insurance Billing
HC: Home Health Aide
HC: Hospital Food Service Supervisor/Dietary Assistant
HC: Phlebotomy Technician
HC: Aide for Developmentally Disabled

*The length of these programs varies from three to nine quarter terms in order to meet curriculum, clinical practice, and other requirements established by professional accrediting agencies and government licensing agencies. Most programs also require more than the minimum ninety quarter term credits for graduation. Because Health Careers programs are designed to assist the student in achieving eligibility to write Licensing or National Certification Examinations, and meeting minimum standards of safety in practice in the respective field, specific admission requirements have been established for each program. Applicants are expected to satisfy requirements for the College as well as for the individual program. Graduates may not be eligible for licensing examinations unless all requirements are met.

All programs conducted in the Department are subject to criteria and minimum education standards of government licensing agencies and/or professional accrediting agencies. The following agencies have either granted full approval and/or full accreditation or are currently in process:

American Medical Association Committee on Allied Health and Accreditation, and the respective Joint Review Committees on accreditation of programs in Radiologic Technology, Nuclear Medicine Technology, Radiation Therapy, and Medical Diagnostic Sonography

American Dental Association, Commission on Dental Accreditation

National League for Nursing, Council of Associate Degree Programs in Nursing

Association of Surgical Technologists

Michigan Board of Nursing

Michigan Board of Dentistry

Michigan Department of Public Health, Division of Emergency Medical Services

American Association of Medical Assistants

In addition to health occupations programs, the department offers courses and programs in Health Education for healthy living, Health Promotion Services, and Adaptive Rehabilitation Education. Fitness testing, exercise prescription and a variety of opportunities for physical exercise and health education is available to students interested in improving their physical well-being.

Rehabilitation exercise for persons with cardiac conditions is available to those persons referred by their physicians. Emphasis is placed on a return to optimum levels of physical activity for those with cardiac, neurological or other chronic conditions.

Audio-Visual/Patient Care/Practice Laboratory

The Department of Health Careers has developed a series of audio-visual study units which have been designed to replace some traditional teaching methods, and others which supplement or enhance classroom and laboratory instruction. Study units include color slide films or filmstrips, audio-tapes and video-tapes. These study units have been developed for the audio-visual laboratory with all faculty participating to assure effectiveness and pertinence to respective curricula.

Development of additional study units is a continuing process in the department, and as units are completed they will be utilized in the respective programs and courses.

Students in all programs receive an orientation in the use of audio-visual laboratory equipment, and staff assistance.

Other laboratories used in conjunction with A.V. Materials provide hospital, medical and dental equipment and materials for student practice and skill development.

An increasing number of courses involve computer assisted instruction. Students applying for admission to health careers programs or courses are encouraged to inquire whether computer use is included. At present, students are oriented to computer use in those courses where it is required. Other courses in computer use are offered in the Business Division.

New Programs, Curricula, and Courses

In addition to the programs and courses offered currently, the Department of Health Careers will continue to review and respond to community needs, developments in computerization, and high technology. As the need is determined, new courses and/or new programs will be developed and offered.

The growing use of computers in relation to x-ray and laboratory procedures, laser beam surgery, miniaturization, and artificial organ replacements will require revisions of current curriculums, or the development of new technical programs. Therefore, prospective students are encouraged to contact the Department in addition to their review of the catalog.

Dental Hygiene Program

Program Director: Sally Deck, R.D.H., M.S.
Room 007 Arts & Sciences Building

Lansing Community College offers a two-year* dental hygiene program. Upon successful completion of the program an Associate Degree is awarded, and the graduate is eligible for the licensing examination in dental hygiene administered by the Michigan Board of Dentistry. Following graduation and successful completion of the examination for licensure, the dental hygienist

is prepared to function as a member of the dental health team in the state of Michigan.

The Dental Hygiene Program is accredited by the Commission on Dental Accreditation, a specialized accrediting body recognized by the Council on Postsecondary Accreditation and by the United States Department of Education.

Admission qualifications and basic curriculum are carefully designed to assist the graduate in meeting the responsibilities of the dental hygienist's professional role.

Admission requirements for each of these dental assistant programs and information about each career option/program may be obtained from the Dental Advisor at the Dental Auxiliary Programs Office, 007 A&S Bldg.

*Prerequisite courses generally require three additional terms prior to the six-term curriculum for Dental Hygiene.

Dental Assistant Program

Program Director: Sally Deck, R.D.H., M.S.
Room 007 Arts & Sciences Building

This is a two-year career ladder program. The first year combines basic dental assistant courses and science courses with minimal clinical experience. Upon completing the first year program, the college grants a Certificate and the student may apply for the second year program.

The second year program includes advanced dental assistant courses, comprehensive clinical experience and expanded dental assistant procedures. Upon completing both years, the graduate earns an Associate Degree from the college and is eligible for the national certifying exam administered by the Dental Assisting National Board and the licensing exam administered by the Michigan Board of Dentistry.

The career ladder program prepares one to function first as a Chairside Dental Assistant and then as a Registered Dental Assistant with the dental health team. The Dental Assistant Program (two year) is accredited by the Commission on Dental Accreditation, a specialized accrediting body recognized by the Council on Postsecondary Accreditation and by the United States Department of Education.

The college also provides a three course Dental Business Assistant program for persons interested in performing receptionist and office manager duties for the dental office.

Admission requirements for each of these dental assistant programs and information about each career option/program may be obtained from the Dental Advisor at the Dental Auxiliary Programs Office, 007 A&S Bldg.

Associate Degree Program in Radiologic Technology

Program Director: Ronald Griffith
Room 175 Gannon-Physical Education Building

The Associate Degree Program in Radiologic Technology at Lansing Community College is approved by the American Medical Association's Committee on Allied Health Education and Accreditation. Graduates are eligible for the Associate Degree in Applied Science and are eligible to write the Registry examination as given by the American Registry of Radiologic Technologists, entitling them to the privilege of carrying the insignia initials, R.T.(R).

The two-year (24 continuous months) curriculum includes selected liberal arts and science courses which provide the basis for an in-depth consideration of theory and clinical applications in Radiologic Technology. The students are first evaluated on their performance in an examination at the College laboratory before they complete their assignments at one of the five affiliate and cooperating institutions: Ingham Medical Center, Lansing General Osteopathic Hospital, Edward W. Sparrow Hospital, and St. Lawrence Hospital, all of Lansing, Michigan, and The Memorial Hospital, Owosso, Michigan.

Interested students are urged to contact the Admissions Counselor for Health Careers, Admissions Office, for specific requirements for program admission.

Associate Degree Program in Radiation Therapy Technology

Program Director: Ronald Griffith
Room 175 Gannon-Physical Education Building

The Associate Degree Program in Radiation Therapy Technology at Lansing Community College is approved by the American Medical Association's Committee on Allied Health Education and Accreditation. Graduates are eligible for the Associate Degree in Applied Science and are eligible to write the Registry examination as given by the American Registry of Radiologic Technologists, entitling them to the privilege of carrying the insignia initials, R.T.(T).

The program is five terms in length and is open to those persons who are graduates of CAHEA approved programs in Radiologic Technology. Because of the structure of the program, individuals with questions should contact the Department of Health Careers.

Associate Degree Program in Respiratory Therapy

Program Director: Jerry Rocho
Room 175 Gannon-Physical Education Building

The Lansing Community College Department of Health Careers offers a two-year associate degree program designed to prepare therapist level personnel, and a one-year certificate program designed to train technician-level personnel. Both programs involve classes in the liberal arts and sciences, general health career courses, and specific courses in respiratory therapy. The respiratory therapy courses involve classroom lectures, campus laboratory practice and extensive scheduled hospital practice.

Upon successful completion of seven terms* in the curriculum for the associate degree program, the student is awarded an Associate Degree in Applied Science, with a depicted specialty in respiratory therapy. After completing required work experience in respiratory therapy, an Associate Degree graduate becomes eligible to take the written and clinical simulation National Registry Examination administered by the National Board for Respiratory Care.

Upon successful completion of four terms in the curriculum for the Certificate program, the student is awarded a Certificate in Respiratory Therapy. A certificate program graduate is eligible to take the National Certification Examination administered by the National Board for Respiratory Care. Also, certificate program graduates are eligible to apply for readmission to the second year of the Associate Degree program after completing at least nine months of post graduate work experience in respiratory therapy.

Respiratory Therapy admissions are limited due to the small number of students who can be effectively trained in equipment and procedures on campus and in supervised hospital clinical practice.

Prospective applicants should obtain detailed admissions information and requirements from the Admissions Counselor for Health Careers, Admissions Office. *Prerequisite courses generally require two or three additional terms prior to the seven-term clinical Respiratory Therapist sequence.

Continuing Health Careers Programs

Program Director: Carol Phelan

Room 175 Gannon-Physical Education Building

The Continuing Health Career Department offers courses, workshops and seminars in all health disciplines to graduates of basic programs to update their skills and knowledge obtained in basic programs, and to enable them to acquire the new skills and additional knowledge necessary for expanding their roles, or for assuming new roles. Because these new programs are being developed continuously, please contact the department for periodic updates regarding new offerings.

Community Health Service Programs

Program Director: Carol Phelan

Room 175 Gannon-Physical Education Building

Programs which meet a need in the community for training technicians in certain vocational areas are also offered. These technicians currently include the ward secretary, nurse health aide, central supply technician, pharmacy technician, aide for developmentally disabled, psychiatric technician, cardiac technician, phlebotomy technician, dietary assistant and medical insurance billing. Also, a series of courses and seminars are offered, in coordination with the Center for Aging Education, for the family in-home care giver.

Emergency Medical Services Programs

Program Director: Rexine A. Finn

Room 175 Gannon-Physical Education Building

The Department of Health Careers offers programs for the training of Basic Emergency Medical Technicians (EMT), EMT Specialist, and the Advanced Specialist EMT (Paramedic). Also, first aid courses, CPR seminars, and continuing education activities are offered for all EMS personnel.

The Basic EMT program is approved by the EMS Division of Michigan Department of Public Health and its curriculum exceeds the nationally recommended D.O.T. curriculum. Upon successful completion of a program the student is eligible to take the State of Michigan written and practical exam.

The three term Basic EMT Program includes the Basic EMT course and a series of other courses designed to prepare the student in all aspects of basic emergency medical technology including physical assessment, anatomy, terminology, extrication, communications, ambulance driving, pharmacology, and an introduction to the Emergency Medical Services system. Students may attend on a part time or full time basis. The program is intended to prepare students for the Advanced EMT (Paramedic) Program and its curriculum constitutes that which is required for the first year of the program leading to the Associate Degree in Emergency Medical Services.

An intermediate level of EMT called the EMT Specialist is available in a series of 2 courses. It is approved by the EMS Division of Michigan Department of Public Health and prepares the student for the state certification examination.

The Advanced EMT (Paramedic) Program is three terms in length and constitutes the courses of the second year of the Associate Degree Program. It is approved by the EMS Division of Michigan Department of Public Health and requires attendance on a part-time or full time basis. Following successful completion of this program the students are eligible to take the state examination for licensure.

All programs consist of classroom and clinical instruction by registered nurses, paramedics, EMT's and physicians in cooperation with local hospitals and EMS agencies. A training ambulance is available for simulations and provides a realistic atmosphere for learning.

Surgical Technology Program

Program Director: Donna Price

Room 175 Gannon-Physical Education Building

Upon completion of a nine month (3 terms) program in surgical technology, the student will have earned a certificate and will be eligible for certification by the Association of Surgical Technologists.

The surgical technologist is employed in the hospital as part of the surgical team. Duties include preparing and positioning patients for surgical procedures, operating surgical equipment and directly assisting the surgeon by providing instruments. The surgical technologist must be able to work well under stress and be able to communicate effectively with other members of the surgical team.

Applicants to the program are required to meet not only the admission requirements of the college but those established for the Surgical Technology Program. Information regarding requirements for program admission may be obtained from the Admissions Counselor for Health Careers, Admissions Office.

Medical Assistant Program

Program Director: Donna Price

Room 175 Gannon-Physical Education Building

Medical Assisting is a four term certificate program that begins every fall term. Upon successful completion of the program and one year of work experience, graduates are eligible to take the certification examination offered by the American Association of Medical Assistants.

Applicants to the program are required to meet the admission requirements of the college and the prerequisite course requirements established by the program. The curriculum includes general health career courses and specific courses pertinent to Medical Assisting. Clinical experience is completed in a physician's office or a health care institution. Individuals with questions should contact the Department of Health Careers.

Practical Nurse-Associate Degree Nursing Program (Career Ladder in Nursing)

Program Director: Patricia Lambert

Room 175 Gannon-Physical Education Building

The Nursing Program is a special curriculum which builds on previous learning and experience. All qualified students will be admitted into the first year of the Nursing Program. Upon successful completion of required courses students may exit after the first year and are eligible to take the Practical Nurse National Council Licensing Examination (NCLEX-PN).

Qualified students will be admitted into the second year of the program to complete the requirements of an Associate Degree in Nursing. After successful completion of required courses students will be eligible to take the Registered Nurse National Council Licensing Examinations.

Courses in the behavioral sciences, biological sciences, and the humanities provide an academic background of scientific principles and communication skills on which to base client care. Theory content, simulated laboratory experiences, and clinical laboratory experiences are provided at the college and/or in area hospitals and nursing homes.

Student learning experiences are planned to progress from simple to complex client care problems. Emphasis is placed on use of the nursing process, development of nursing skills, and development of communication skills. The concepts of applied pharmacology, applied nutrition, common health problems, health team, cultural diversity, and human sexuality are also integrated throughout the curriculum.

Upon completion of the first year of the program the graduate will have received theory and clinical experience in Nursing Foundations, Medical Surgical Nursing, Maternity Nursing, Nursing of Children, and Practical Nurse Role.

The student who completes the Department of Health Careers criteria for practical nursing students will be eligible for certification.

Licensed practical nurses may apply for advanced standing to the Associate Degree Nursing Program.

Upon completion of the second year of the program the graduate will have received theory and clinical experience in Nursing Foundations, Medical Surgical Nursing, Maternity Nursing, Nursing of Children, Psychiatric Nursing, Beginning Nursing Managerial Skills, and Associate Degree Nursing Role.

The student who completes the Associate Degree Nursing program and college requirements will be eligible to graduate with an Associate Degree in Science—Nursing major.

The Associate Degree Nursing program is approved by the Michigan Board of Nursing and is accredited by the National League for Nursing.

Applicants to the Career Ladder Program are required to meet admission requirements established by the College and Nursing Department. Applicants are admitted to the program on a first-qualified, first-served basis.

Adaptive Rehabilitation and Health Education Program

Program Director: Rosalie Walker

Room 175 Gannon-Physical Education Building

The Department of Health Careers and Center for Health Education/Rehabilitation offers an Adaptive Rehabilitation and Health Education Program. A significant portion of the Program includes continuous aerobic exercise classes which are conducted under the guidance of a physician for students needing health improvement. Adaptive rehabilitation is directed at students (and their spouses) with heart disease, neurological disorders, or chronic diseases.

Anyone wishing to increase fitness and decrease the risk factors which might cause disease is also welcome to participate. As with rehabilitation, preventative health education emphasizes aerobic exercise, proper nutrition, stress reduction, and re-assessment of individual life styles.

COURSE DESCRIPTIONS

Nursing (Career Ladder P.N.-A.D.N.) (NUR)
Department of Health Careers and Center
for Health Education/Rehabilitation
Division of Technology & Applied Sciences

NUR 121 Introduction to Nursing 7(4.5-7.5)

Prerequisite: Admission to the program. Introduces biophysical and psychosocial needs of humans. Use of the nursing process to facilitate client adaptation to basic human need deficits is emphasized.

NUR 122 Introduction to Nursing Role 1(1-0)

Prerequisite: Admission to the program. Introduces the nursing roles and functions in practice settings; the health care system; and ethical/legal aspects of nursing practice.

NUR 123 Nursing Care Adult I 8(5-9)

Prerequisite: NUR 121. Completes the basic human needs and begins study of problems in the integumentary, special senses, renal, and reproductive systems. Emphasizes the use of the nursing process to facilitate client adaptation to system problems.

NUR 124 Nursing Care Adult II 10(6-12)

Prerequisite: NUR 123. Completes study of problems in the hematologic, musculoskeletal, cardiovascular, respiratory, neurological, and endocrine systems. The use of the nursing process to facilitate client adaptation to system problems is emphasized.

NUR 125 Nursing Care Child I 5(3-6)

Prerequisite: NUR 124 and PSY 205. Introduces the common health problems of children. Use of nursing process to facilitate the child's adaptation to health problems emphasized.

NUR 126 Maternity Nursing I 4.5(3-4.5)

Prerequisite: NUR 124 and PSY 205. Introduces the adaptive needs and responses of the maternity client, the neonate, and the family during child-bearing. The use of the nursing process to facilitate adaptation of all family members in the maternity and perinatal cycle emphasized.

NUR 127 Practical Nurse Role 0.5(1.5-0)

Prerequisite: NUR 124. Examines the role of the practical nurse; ethical and legal dimensions of practice; professional organizations; role transition; job preparation; and history and trends in practical nursing. Required for those taking the Practical Nurse-National Council/Licensing Examination.

NUR 129 Pharmacology 3(3-0)

Prerequisite: NUR 121 or NUR 123 concurrently. Introduces the student to basic aspects of pharmacology. Various drug categories are discussed as well as nursing responsibilities that are associated with medication administration.

NUR 220 Transition Course 2(2-0)

Prerequisite: Admission to ADN program. Introduces the returning Licensed Practical Nurse (LPN) student to the nursing process, PDR charting, role transition, and curriculum concepts. Assessment and evaluation of nursing skills will also be done.

NUR 221 Psychiatric Nursing 5(3.5-4.5)

Prerequisite: Admission to ADN program. Introduces psychiatric-mental health concepts. Development of therapeutic nurse-client relationships is emphasized.

NUR 222 Nursing Care Adult II 10(6-12)

Prerequisite: NUR 221, MIC 203. Introduces the adaptation problems associated with fluid and electrolyte/acid-base imbalance, shock, GAS-LAS imbalance, and chronic illness. Use of the nursing process to facilitate client adaptation to clinical problems emphasized.

NUR 223 Nursing Care Child II 2(2-0)

Prerequisite: NUR 125, NUR 126, CEM 165. Introduces the special adaptation problems in children. The nursing process will be used in observational experiences to help solve client problems.

NUR 224 Maternity Nursing II 2(2-0)

Prerequisite: NUR 125, NUR 126, CEM 165. Introduces the high risk maternity and neonate client. The nursing process will be used in observational experiences to help solve client problems.

NUR 225 Beginning Nursing Management Skills 6(1.8-12.6)

Prerequisite: NUR 222. Using beginning management skills to provide direct

nursing care through use of the nursing process, as well as to delegate and supervise ancillary personnel in giving direct nursing care to clients.

NUR 226 Associate Degree Nurse Role 0.5(5-0)

Prerequisite: NUR 222, NUR 225. Examines the role of the Associate Degree Nurse (ADN); ethical and legal dimensions of practice; professional organizations; history and trends of Nursing; role transition; and job preparation.

Continuing Health Careers (CHC)
Department of Health Careers and Center
for Health Education/Rehabilitation
Division of Technology & Applied Sciences

CHC 100 R.N. Refresher 12(7-12)

Prerequisite: Department approval. For the inactive R.N. and L.P.N. who would like to reenter active practice. Includes theory and practice in nursing care, pharmacology, professional practices and new concepts of delivering health care. A clinical component is included.

CHC 101 Suicide Seminar 0.5(6-0)

Seminar designed for health care professionals and paraprofessionals; security and custody professionals. Includes techniques necessary to recognize suicide potential, assess suicidal lethality and prevent suicide.

CHC 102 Pharmacology 6(6-0)

Primarily for the Licensed Practical Nurse, but a useful refresher for the inactive Registered Nurse. Includes dosage calculations, drug administration, systemic approach and pharmacological actions, reactions and untoward effects, IV solution preparation, hyperalimentation, body fluid maintenance, and pH homeostasis. Known significant drug-drug, drug-food, and drug-laboratory interactions will be covered. This course is NAPNES approved. A minimum grade of 2.5 is required for a certificate.

CHC 103 Psychiatric Technician Update 0.5(6-0)

Seminar designed for health care professionals and paraprofessionals to provide theories, information and hands on skills concerning individuals with developmental disabilities (mental retardation). The material presented will include: definitions, characteristics, current theories, problem areas, interventions and family involvement.

CHC 106 Cardiac Arrhythmia Interpretation 3.5(3-1)

This is a basic level course designed for practicing RN's, but also open to other interested health professionals. Emphasis will be placed on the identification and treatment of major and/or lethal arrhythmias. Discussion of anatomy and physiology of the cardiovascular system will serve as a basis for analyzing the hemodynamic changes of arrhythmias. Students will have opportunities to identify major and/or lethal arrhythmias both on rhythm strips and on a monitor. Cardiac drugs commonly seen will be studied in relationship to their use with arrhythmias.

CHC 109 Oral Radiography for Dental Auxiliary 3(2-2)

Upon completion of this course the dental auxiliary will have the knowledge and skills needed to produce a full mouth series of intraoral radiographs of diagnostic quality. Emphasis will be on the use of parallel periapical technique. The course content will include the production and emission of x-rays, the effects of factor variation on the image, radiation properties, radiation safety measures, processing procedures, mounting radiographs, evaluation and interpretation of radiographs, and types and uses of extraoral exposures. Individualized laboratory sessions provide student practice in exposing, processing, mounting and evaluating radiographs.

CHC 113 Physical Assessment Update 1(11-0)

Short, intensive workshop for nurses who have already completed the pediatric or adult physical assessment classes. Students will use this to update, review and clarify skills and information previously learned, but partially forgotten.

CHC 114 Physical Assessment 3.5(3-1)

Expand the skills of the RN and LPN in data collection evaluation and decision-making regarding the physical status of patients. Lectures and supervised practice sessions with live models. Useful for nurses in any area of clinical practice. Includes the study of each major body system. Practice in physical exam skills and equipment relative to each system.

CHC 115 Ostomy Care Allied Health 1(1-0)

For nurses and allied health professionals involved in the care of patients who have an ostomy or abdominal stoma. Includes equipment and suggestions for patient care, rehabilitation, and patient teaching.

- CHC 122 R.N. Respiratory Therapy Seminar 3(3-0)**
Update the practicing Respiratory Therapy Technician or Therapist in basic science and therapy principles. Stresses fundamental aspects of theory and clinical applications of Respiratory Therapy. Examination questions similar to Certification and Registry Examination questions will be used extensively for purposes of self and course assessment.
- CHC 126 Advanced Cardiac Nursing Seminar 3(3-0)**
For practicing RN's with a minimum of one year experience in critical care or cardiovascular nursing. Must also have a good understanding of cardiovascular anatomy and physiology. New developments in the nursing and medical management of cardiac disease or dysfunction are explored in detail, including concepts of stress, advanced cardiovascular assessment, diagnostic advances in cardiovascular disease, nursing management, management of cardiac trauma and surgical treatment.
- CHC 128 Cardiac Nursing Problems 3(3-0)**
An introductory level course designed for RN's, but also open to LPN's and other health professionals. To equip nurses with knowledge base necessary to provide safe nursing care for the acutely ill and convalescent cardiac patients including concepts applicable to the rehabilitation process. Cardiovascular anatomy and physiology will serve as a basis for analyzing problems of heart disease and determining nursing management. Patient needs and pharmacology of cardiac drugs will be studied, in addition to the concepts and use of CPR, pacemaker, central venous pressure and Swan-Ganz monitoring.
- CHC 134 Neurologic Assessment for the Nurse 1(1-0)**
Acquaint the practicing nurse with the basic neurologic exam. Primary focus is on the application of specific parts of the exam to patients with a variety of clinical problems. Includes sensory exam, motor and cerebellar exam, testing of reflexes, examination of cranial nerves and selected signs of neuropathology. Supervised practice sessions.
- CHC 181 Hemodynamic Monitoring 2(2-0)**
For nurses and health professionals working in special care settings where various modes of hemodynamic monitoring are employed. Different pressure monitoring systems are discussed. Detect abnormal wave forms as well as potential problems in the pressure modalities. Practice with pressure tracings and to examine and handle pressure monitoring equipment.
- CHC 182 Acute Trauma Nursing 2(2-0)**
For nurses, paramedics, emergency service technicians and other health care professionals. Expand knowledge of assessment and management of selected types of acute trauma. Lectures, case study situations, and "hands-on" practice sessions assist the understanding of the evaluation and immediate treatment of acute trauma. Head and neck injuries, chest trauma, major abdominal trauma, and the complicated multiple trauma patient included.
- CHC 184 Medical Surgical Nursing Seminar 2(2-0)**
First in a series for nurses interested in medical-surgical nursing. Types of patient data and its application to patient care examined. Lectures, demonstrations and practice sessions to develop skills in lab and x-ray interpretation; patient interviewing, and "informed observation."
- CHC 185 Laboratory Tests for Nurses 0.75(8-0)**
For nurses in any area of clinical practice. Explanations of specific lab tests, collection and handling of specimens, interpretation of laboratory test values, and application of lab data to nursing practice. Mock lab reports and case study situations to assist the student's understanding and application of laboratory data.
- CHC 186 Reyes Syndrome Nurses-Doctors 0.5(6-0)**
For health professionals interested in updating their knowledge of the incidence, symptomatology and treatment approaches to Reyes Syndrome. Regions in Michigan are compared and seminar participants learn about their resources.
- CHC 188 Neuropathology for Nurses 1(1-0)**
For nurses interested in learning more about specific types of pathologic conditions frequently encountered. Mechanics of increased intracranial pressure and means of monitoring ICP.
- CHC 190 Pharmacology Math 1(11-0)**
A five week seminar designed for the RN, LPN or student in a nursing curriculum. The course will include a basic math review and will familiarize the student in working with drug dosages, IV calculations and pediatric dosages.
- CHC 192 Fetal Monitoring 2(2-0)**
To update and explore fetal-maternal monitoring instrumentation and clinical application in both the antepartum and intrapartum period. Integration of physiological principles and variables affecting fetal heart rate patterns emphasized. Demonstration and practice reading monitor records enable application of pattern identification. Practice application of external and internal transducers is included.
- CHC 193 Introduction to Cardiac Interpretation 3(3-0)**
For technicians, EMT's, AEMT's and non-critical care nurses. Emphasis on identification and immediate treatment of major and lethal arrhythmias. Signs of cardiac pathology. Cardiac drugs discussed in relation to each arrhythmia. How to monitor patients and to obtain a XII lead EKG.
- CHC 194 Mental Health Nursing Seminar 2(2-0)**
A seminar for psychiatric and emergency department nurses, paramedics, EMT's, policemen and interested health professionals. Specific means of dealing with people in emotional crisis from "talking down" to physical restraint. Demonstrations and practice sessions included.
- CHC 195 Effective Interactions and Problem Solving Techniques 1(1-0)**
A seminar for nurses and other health professionals in any work setting, as well as those currently inactive. Stresses the application of assertive communication skills in typical situations encountered in nursing and medical practice. Identify personality and temperament styles and learn skills of empathic listening; conflict resolution; values clarification; and confrontation skills. Real and theoretical work situations to assist in effective problem solving.
- CHC 196 Pediatric Nursing Diabetes 2(2-0)**
For nurses working with children in any health care setting. Enhance understanding of diabetes, its management and associated problems. Special considerations from infancy to adolescence.
- CHC 198 Geriatric Nursing Seminar 1(1-0)**
Designed specifically for nurses practicing in the field of geriatrics. Problems relating to administering care to the geriatric patient.
- CHC 200 Managing Aggression Seminar 2(22-0)**
A course for health professionals who face a real possibility of physical assault or aggression in their work. Course content covers recognition of specific cues to impending aggressive outbursts, and management of an aggressive behavior in a therapeutic way that de-escalates or defuses the situation. Demonstrations, simulations and supervised practice sessions are used to teach maneuvers, strategies and awareness.
- CHC 201 Assertiveness Workshop for Nurses 2(2-0)**
Application of assertiveness in typical situations encountered in nursing practice. Identification of personality/temperament styles; empathic listening; conflict resolution; values clarification; and confrontation skills.
- CHC 202 Women's Health Care Seminar 1(1-0)**
Increase awareness of significant health issues affecting women. The social, economic and political factors influencing health care delivery. Emphasis on the rights and alternatives to health care available to women.
- CHC 203 Psychiatric Nursing Seminar 3(3-0)**
Designed for nurses interested in mental health care. A series of weekly classes dealing with a wide range of topics and issues currently of interest to nurses in this field.
- CHC 204 Advanced Cardio-Vascular Assessment for Nurses 2(2-0)**
An advanced level for nurses with a basic knowledge of the heart and great vessels and the peripheral vascular system. Emphasis on distinguishing abnormal heart sounds, physical exam of cardiovascular system, and clinical signs of pathology.
- CHC 205 Intravenous Therapy 2(2-0)**
Designed to meet the unique management needs of the professional nurse. The management skills apply to the nurse managing direct patient care or the nurse managing a staff. Theories of management skills discussed as background for a more intense emphasis on the daily application of specific management practices.
- CHC 206 RN IV Therapy 0.5(6-0)**
Up-to-date information on intravenous technique, solutions, and intravenous medications. Various types of equipment used and hands-on experience included.
- CHC 208 Medical Surgical Nursing Seminar II 3(3-0)**
Designed for the generalist nurse. Includes understanding laboratory data; history-taking and interviewing skills; assertiveness and problem-solving techniques for more effective nursing practice; nursing interventions in emotional crises; and renal pathology.

- CHC 209 First Aid for Nurses** 1(1-0)
Designed for any nurse who needs specific instruction and practice in first aid skills to deal effectively with common emergency situations. Demonstration and practice sessions are utilized in learning to deal with typical crisis situations such as management of fractures, bleeding, what to do at the scene of an accident, rapid assessment of the accident victim and more.
- CHC 210 Pharmacology Math for Nurses** 0.5(6-0)
Designed for all nurses and students in nursing to acquaint them with the mathematics used in pharmacology. Topics covered are drug dosages, IV calculations and pediatric dosages.
- CHC 211 Principles of Oncology Nursing** 4(4-0)
Introductory course presents important physiological and psychological concepts related to the nursing care of patients with cancer. Course content includes diagnostic processes, pathophysiology of cancer, oncologic complications, oncologic emergencies, principles of treatment, chemotherapy, radiation therapy and bereavement.
- CHC 213 Basic Psychiatric Tech** 5(4-2.2)
Course designed to prepare an individual to function as a member of the mental health care team. Concepts covered are personality development, identification of maladaptive behavior patterns, therapeutic interventions. A clinical component is included. On completion of the course with a 2.5 or better a certificate is awarded.
- CHC 214 Respiratory Pathophysiology for the Respiratory Therapist** 3(3-0)
Course designed to provide the practicing Respiratory Therapist with an update on pathogenesis, diagnosis, and therapy of commonly encountered pulmonary disorders. Topics covered include: asthma, emphysema, oxygen therapy, ARDS, restrictive lung disease and rehabilitation therapy.
- CHC 215 Pediatric Physical Assessment** 3(3-0)
Designed for the active RN or LPN. Gathering information about the physical status of infants and children. Stresses the use of the four basic skills of inspection, palpation, percussion and auscultation in the examination of the major body systems and regions. Relevant information about normal growth and development is integrated throughout the course. Improve abilities in the areas of data collection, evaluation, and decision-making.
- CHC 216 Advanced IV Therapy for Nurses** 0.5(6-0)
Seminar offering advanced intravenous therapy concepts for nurses. Topics include: pediatric IV therapy, TPN, PPN, lipid therapy, Broviac catheters, nursing assessment of advanced IV therapy and nursing implications of IV therapy.
- CHC 217 Advanced Respiratory Care** 1(1-0)
Course offering an in-depth study of pathophysiology, medical treatment and nursing care of the patient with respiratory failure. Special emphasis is placed on interpretation of arterial blood gases and specific aspects of care for patients receiving mechanical ventilation.
- CHC 218 Nursing License Update** 3(3-0)
This course is for graduates of nursing schools. It is designed for new RN graduates to update their knowledge in psychiatric, medical/surgical, pediatrics, obstetrics, pharmacology, nutrition and other pertinent information.
- CHC 219 Pediatric Nursing Respiratory Seminar** 1(1-0)
For nurses in pediatric practice who require specific information about the normal functioning of the respiratory system; respiratory pathology and nurses responsibilities in using respiratory therapy equipment.
- CHC 220 Nurses Respiratory Workshop** 1(11-0)
Workshop designed for nurses desiring information about function and dysfunction of the respiratory system. Topics include: concepts of respiratory anatomy and physiology, blood gas interpretation, physical assessment of lungs and thorax, pulmonary pathology, and chest x-ray interpretation.
- CHC 221 12 Lead EKG Workshop** 2(2-0)
For nurses and allied health professionals to expand skills in reading and interpreting full electrocardiograms. Each student must have a working understanding of basic electrocardiography and arrhythmia interpretation. Emphasis on application to nursing practice.
- CHC 222 Arrhythmia Interpretation Seminar** 1(1-0)
For registered nurses/health professionals who want to review and update their knowledge of the major arrhythmias. Each student is expected to have a working knowledge of arrhythmias. Emphasis will be placed on identification and proper treatment of the major arrhythmias. Opportunities to practice skills both on
- rhythm strips and a monitor. Appropriate drug therapy is reviewed. Not designed for individuals who have no prior knowledge or experience with arrhythmia interpretation.
- CHC 223 Pediatric Nursing Seminar** 2(2-0)
Topics of interest to pediatric nurses. Includes working with the adolescent, pediatric respiratory problems, child abuse, the chronically ill child, and other current topics.
- CHC 224 Renal Nursing Seminar** 1(1-0)
For any RN, LPN, or health care professional who desires specific information about kidney function and dysfunction. Emphasis on normal renal functions, but some deviations from normal are also included.
- CHC 225 Pharmacology Update** 3(3-0)
For nurses basic considerations of new and current drug therapy, and the mechanisms of drug actions, utilizing basic anatomy and physiology. Acquaint the nurse with the increasing complexity of clinical drug therapy and increased risk of error by emphasizing accuracy in dealing with drugs, including simple calculations that are encountered daily.
- CHC 227 New Dimensions of Nursing Practice** 0.5(6-0)
On-going series of day-long seminars designed to update nurses—both active and inactive—about topics of current interest in the health care field. New advances, new treatment approaches or political topics will be stressed.
- CHC 228 Business of Nursing** 3(3-0)
Designed to heighten the students' awareness of the relationship of nursing to the "Big Business" of health care. Principles of management and marketing are integrated throughout the course, as well as emphasis on improving style of conflict resolution; effective communication and skills needed to succeed in the business world of health care.
- CHC 229 History Taking and Interviewing for Nurses** 0.5(6-0)
Seminar exploring the common pitfalls of effective patient interviews and history taking while focusing on the means of improving patient-nurse interactions. In-class demonstrations with student practice sessions serve to reinforce effective communications.
- CHC 230 Advanced Cardiac Life Support Provider Course** 3(2-2)
For the physician, paramedic, and critical care emergency personnel to develop knowledge and skills in advanced life support. Includes arrhythmia interpretation, airway intubation, central venous and arterial lines. Supervised clinical laboratory practice sessions and specific preliminary course preparation. A Heart Association Advanced Life Support Certificate upon successful completion of the course.
- CHC 231 Advanced Cardiac Arrhythmias** 1(11-0)
This specialty course is appropriate only for the nurse or health professional with a strong, working knowledge of basic cardiac arrhythmias. Complex arrhythmias are presented with the distinguishing features of each. Students must possess the required cardiac terminology to understand this advanced course content.
- CHC 233 RN Monitoring of Pacemakers** 1(1-0)
For nurses. The normal functioning of permanent pacemakers. Focuses on functions and types of pacemakers; care of patients with permanent pacemakers, etc. Also sensing, indications for pacing, and pre-operative nursing care of patients with pacemakers. Demonstration to acquaint with pacemaker equipment, pacemaker EKG tracings, pacemaker leads and patient transmitter system.
- CHC 235 ACLS Recertification Seminar** 1(1-0)
Designed to recertify (American Heart Association Standards) those people currently possessing valid ACLS cards. Includes lectures, supervised clinical lab sessions and specific preliminary course preparation.
- CHC 237 Pain Management Seminar** 0.5(6-0)
Course designed for health professionals to learn basic techniques to assess and help the patient with pain. Emphasis is on specific pain relief measures that can be applied in all clinical settings. Effective use of medications and non-invasive methods will be discussed.
- CHC 238 Clinical Evaluation Methods** 2(2-0)
Course designed to increase the knowledge of supervisors and clinical instructors in the health care system to plan and design clinical evaluation programs; select and develop appropriate evaluation instruments and to increase skills in observation and feedback.

- CHC 241 Dental Assistant Expanded Duties 3(2-2)**
 Primarily for the certified dental assistant and on-the-job trained assistants who are interested in performing new duties. Includes lecture, demonstrations, and individualized laboratory sessions featuring: mouth mirror inspection; topical fluoride application; radiograph mounting; application and removal of rubber dam; placement and removal of intercoronal temporary fillings and crowns.
- CHC 242 Dental Emergency Procedures 2(2-0)**
 Possible office emergencies that are, or might be, life threatening. CPR segment will be eight hours in length to receive Basic Life Support Certification. Also includes cardiac, pulmonary, and medical emergencies; shock and bleeding control. Supervised practice lab sessions.
- CHC 243 Geriatric Dentistry 0.5(6-0)**
 Seminar designed to create awareness within the dental profession of the physiological, sociological and psychological aspects of aging. Discussion includes a basic understanding of oral and facial disorders in the elderly and appropriate treatment.
- CHC 245 Dental Hygiene Soft Tissue Curettage and Root Planing 1(1-0)**
 For dental hygienists only. Explore basic periodontal concepts, and refine clinical root planing skills. Introduce and certify post-graduate dental hygienists in the expanded function of soft tissue curettage. Identify the indications and contraindications of these techniques. Proper instrumentation techniques. Perform demonstrated techniques on patients. Proof of professional liability coverage required.
- CHC 246 Dental Hygiene Myotherapy 1(1-0)**
 This course is open to dental hygienists only. Myofunctional therapy explored. Abnormal swallowing habits, diagnosis and treatment results explored in depth.
- CHC 250 Patient Dental Anxiety 1(11-0)**
 This seminar will aid dental personnel in identifying patients with dental fears and/or phobias by conducting a simple screening procedure, and will demonstrate techniques for teaching patients anxiety reduction. Techniques included are: progressive relaxation, desensitization, guided imagery, biofeedback and thought control.
- CHC 251 Dental Prevention 0.5(6-0)**
 Seminar will discuss current information on preventive methods including diet and nutritional counseling, fluoride therapy, toothbrushing and flossing techniques, and the use of auxiliary aids, pit and fissure sealants, bacterial plaque, and oral disease etiology and control. The auxiliary will develop skills in planning and presenting a preventive program for individual patients, including the application of patient motivation skills.
- CHC 252 Dental Safety Seminar 0.5(6-0)**
 Seminar will create an awareness of basic factors involved in the conduct of safe dental practice, including individual safety of the dental team members and the dental patient. The topics covered are: nitrous oxide/mercury hygiene practices, radiation protection, clinical asepsis and patient histories/pharmacology.
- CHC 253 Dental Team Utilization 1(11-0)**
 A seminar including the following topics: quality with efficiency, financial planning, staffing and their roles, communications, scheduling, hygiene, and recall. The goal is to build your dental team into a skilled, motivated, professional operation with capabilities far beyond those it currently has.
- CHC 254 Dentogingival Junction 0.5(6-0)**
 Seminar designed especially for clinical dental hygienists and dental hygiene faculty. Dentogingival apparatus, the antecedents of breakdown, the processes of breakdown and loss of attachment, epithelium regeneration, clinical implications for the dental hygienist and implications for the patient are discussed.
- CHC 255 Herpes, Aids and Hepatitis 0.5(6-0)**
 Information on biological characteristics of the infecting agent, its mode of transmission, and its implication in human diseases will be presented. Topics include: what a virus is, specific virus characteristics, transmission modes, office sterilization, disinfection and prevention of cross contamination, hepatitis vaccines, and dental management of infectious patients. Also includes current findings on Acquired Immune Deficiency Syndrome—suspected cause, modes of transmission, incubation periods, signs and symptoms and other pertinent information; plus precautions needed to minimize the risk of transmission to the dental practitioner.
- CHC 257 Oral Cancer Symposium 1(11-0)**
 Designed to meet the needs of dental hygienists, assistants and dentists, to provide knowledge and expertise necessary for early oral cancer detection and team management of patients with oral cancer using a holistic approach. Content includes etiology, epidemiology, observation and detection, staging systems, treatment alternatives and modalities, prosthetic rehabilitation, continued dental health care post surgery, during and after treatment and for terminal management.
- CHC 258 RDA Utilization 0.5(6-0)**
 Seminar designed for the dentist and dental team members to create a thorough understanding of RDA utilization concepts and to create office settings that will utilize Registered Dental Assistants. Topics include: increased efficiency and productivity with RDA utilization, delegating duties to the RDA, State of Michigan Dental Practice Act regarding the RDA, rewards, benefits and appointment scheduling.
- CHC 259 RDA Update 0.5(6-0)**
 Seminar is designed especially for the Registered Dental Assistant who wishes to update themselves on new procedures that they can now legally perform in Michigan. Topics include: periodontal dressings, suture removal and pit and fissure sealants through lectures and laboratory sessions.
- CHC 260 Medical Communication Skills 0.5(6-0)**
 This course is designed for receptionists and medical office personnel with emphasis on telephone communication skills and interpersonal skills as they relate to the medical office setting.
- CHC 261 Respiratory Therapy Update 3(3-0)**
 Selected topics in respiratory care has been developed for the respiratory practitioner who is in the certification entry level process, offering information in respiratory therapy pharmacology, physiology of respiration, oxygen transport and basic acid base balances. Principles of ventilatory care monitoring and adjunctive modes of ventilation will also be covered. Experience in respiratory care is necessary to apply concepts presented.
- CHC 262 Pulmonary Rehabilitation Tech 1(11-0)**
 One day seminar designed to give the health professional a specific plan of action in developing a pulmonary rehabilitation program for the COPD patient, including discussion of nutrition, breathing retraining, bronchial hygiene and patient education.
- CHC 263 Pediatric Respiratory Care 1(11-0)**
 Course for all respiratory therapists and nurses that care for infants and children with respiratory problems, including discussion of anatomy of pediatric airway; working with hospitalized children; asthma—diagnosis, pathology, treatment; laryngeal-tracheal bronchitis—diagnosis, pathology, treatment; cystic fibrosis—diagnosis, pathology, treatment; care of the pediatric ventilator patient; sleep apnea in children—diagnosis, pathology, treatment, prognosis.
- CHC 264 Neonatal Respiratory Care 2(2-0)**
 Course geared to the respiratory therapist and registered nurse, presenting pathophysiology of congenital heart defects, RDA, IDM and other disease states of neonates. Management of the patient on a ventilator will be included.
- CHC 265 Geriatric Assessment 2(2-0)**
 Two day seminar is designed for nurses responsible for the physical and psychosocial assessment of geriatric clients and the management of related patient care problems. Includes interaction with several guest speakers who represent expertise in specific topical areas. It is strongly recommended that participants have had an introductory course in physical assessment.
- CHC 267 Therapeutic Communication for the Health Professional 1(11-0)**
 This course is designed for nurses and health professionals in any setting. Emphasis is on application of communication theory to practice in health care. Communication techniques useful in everyday interactions as well as crisis and difficult situations are included. Videotape simulations; film clips; slides; structured role playing and a written assignment are utilized to enhance the student's learning in this fast-paced course.
- CHC 270 Computers for Health Care Professionals 2(2-0)**
 The focus of this two-day seminar is to orient the health care professional to computer systems related to health care delivery services. Seminar content includes computer history, computer languages, input and output devices, applications of computers in medicine and spreadsheets. Small group sessions and hands-on practice sessions will be provided.
- CHC 271 Computers for Health Care Professionals II 0.5(7-0)**
 The seminar will provide the health professional with knowledge of computer applications in medicine. Topics include: CAI, critical care monitoring, advanced radiology techniques and dental office applications.

- CHC 275 Management of the Handicapped Patient** 0.5(7-0)
Prerequisite: health care professional. Seminar for health professionals will provide: an increased awareness of the variety of handicaps and how these affect individuals; alternate methods of communicating with individuals who have speech/hearing handicaps; and information to enhance the sensitivity in the delivery of care to a patient with a handicap. Participants will be given an opportunity to deal with individuals with specific handicaps.
- CHC 276 Respiratory Diseases Update: Current Therapy** 1(8-0)
This seminar focuses on four diseases that are of major concern currently. Discussion of anatomy and physiology, clinical presentation and course, lab tests and other diagnostic procedures will be discussed as they relate to SIDS, BPD, Legionnaires Disease and AIDS. An X-ray lab with case history presentation will also be made available.
- CHC 277 Respiratory Electrolytes for Respiratory Therapists; Fluids and Electrolytes: Effects on Ventilation** 1(8-0)
This course is designed for respiratory therapists and nurses. The importance of fluids and electrolytes on ventilation and respiration will be discussed. Factors that affect the pulmonary and renal compensatory mechanisms, blood levels of cations and anions and acid/base balance will also be discussed. Three clinical conditions affecting fluids and electrolytes will be presented.
- CHC 278 Techniques and Applications of Invasive and Noninvasive Cardiology for Respiratory Therapists** 1(8-0)
Intended for respiratory therapists, this course would also be of interest to nurses and other allied health professionals who desire a better understanding of invasive and noninvasive cardiology. Beginning with anatomy and physiology, this course will include basic bedside monitoring and explore the scope of state of the art diagnostic procedures. Application of test results will be discussed.
- CHC 280 TMJ Dysfunction** 0.5(6-0)
Detection and management of the TMJ patient. Includes TMJ anatomy and physiology, symptoms of the TMJ syndrome, muscle patterns, oral and facial examination for patients with mandibular dysfunctions, traumatic occlusion and bruxism. Radiographs and patient demonstrations.
- CHC 283 Intraoral Photography** 1(1-0)
Types of clinical camera systems; handling and care of camera systems and support equipment; composition of a series of intraoral photographs, with special shots and evaluation criteria. Exploration of future ideas discussed.
- CHC 284 Career Alternatives for the Dental Hygienist** 0.5(6-0)
Explores the career options open to dental hygienists. Includes burn-out symptoms and relief, and career areas such as sales, marketing, overseas, administration, management, consultants, supply house personnel and public health.
- CHC 285 Nutrition Symposium for Dental Auxiliaries** 1(11-0)
A new approach to nutrition, concentrating on specific area of the science of nutrition for in-depth information. Includes biochemistry and immunology reviews; trace elements relating to periodontal disease; vitamins and minerals (including fluoride as an essential nutrient); the influence of nutrition on fetal, teen, and expectant mothers' health; and nutritional considerations and/or common treatments for special groups such as hyperactive children, diabetics, and low income persons.
- CHC 286 Dental Materials Manipulation for Dental Assistants** 1(1-0)
Physical properties and manipulation of dental materials used in the dental office by auxiliaries. Includes amalgam, impression materials, composites, gold, porcelains, cements, liners, varnishes, waxes and removable prosthodontic appliances.
- CHC 287 New Products and Instruments for the Dental Auxiliary** 0.5(6-0)
Introduces new dental products and instruments to dental hygienists, dental assistants and dentists.
- CHC 288 Dental Hygiene Refresher** 2(2-0)
Comprehensive refresher course for the dental hygienist who wishes to return to active practice. Emphasis on individual instruction.
- CHC 290 Nutrition Issues** 2(2-0)
Current nutrition issues of health concern to health professionals. Includes sugar, fats and their relation to cardiovascular diseases, vitamin and mineral supplements, weight control and fad diets. Also salt and hypertension, fiber, protein foods and vegetarian diets. Food additives, "health" foods, changing nutritional needs throughout life.
- CHC 291 Dental Insurance Billing Update** 0.5(6-0)
How to set up the insurance aspect of the dental office. Major emphasis on how to proceed effectively and efficiently with the processing of dental claims.
- CHC 292 Advanced Procedures for the Dental Hygienist I** 1(1-0)
For the licensed dental hygienist. Refresher in advanced procedures: isolation techniques for pit and fissure sealants; nitrous oxide delivery; polishing amalgams and removing overhangs; mixing, placing and removing of periodontal dressing; the control of hypersensitive teeth; and head and neck examinations. Practice procedures in a clinical setting, with individualized laboratory instruction and supervision.
- CHC 293 Disinfection/Sterilization** 0.5(6-0)
Infectious agents or groups of agents transmissible to the patient and personnel in the dental operator, routes, survival on surfaces at 250 and incubation periods. Viral hepatitis B discussed with conditions and effectiveness for physical methods of sterilization. Sterilization monitoring and verification. Asepsis procedures of dental instruments.
- CHC 294 The Dental Auxiliary in a Specialty Office** 0.5(6-0)
Acquaint the dental auxiliary with the seven dental specialties: periodontics, endodontics, oral maxillofacial surgery, pedodontics, prosthodontics, orthodontics, and general dentistry. Emphasis on defining the duties and responsibilities of the auxiliary in each area.
- CHC 295 Public Health Dentistry** 1(1-0)
Includes visits to various community and public health settings to give experience in working with special population groups. Supplemented by lectures to provide a working knowledge of the interrelationships between the clinical and community aspects of dental health.
- CHC 296 Dental Instrument Sharpening** 0.75(8-0)
Update dental auxiliaries on the advantages and characteristics of sharp cutting edges on dental instruments and to increase their skill in sharpening instruments. Includes hand cutting instruments, scalers, curets (their working end characteristics and use); methods for sharpening; recognizing and testing for dull instruments; types of sharpening stones and their care.
- CHC 297 Dental Clinical Oral Pathology** 1(1-0)
A basic update of clinical oral pathology for the dental practitioner (DPS, RDH, RDA, CDA). A clinical pathologic conference in which clinical cases will be presented with the aid of kodachromes. Includes case histories, signs, symptoms, laboratory values and radiographic surveys allowing the practitioner to formulate a different diagnosis. The treatment modalities requisite for the amelioration of the disease entity plus possible referral to other health care specialists will be addressed.
- CHC 298 Dental Stress Management** 1(11-0)
Seminar will provide dental hygienists an understanding of what stress is, where it comes from and what it can do to us physically, emotionally, intellectually, socially and spiritually. It will help assess personal sources of stress on the job and current responses to stressful situations. A variety of stress management techniques and guidelines for improving stress management in the dental office will be offered using a holistic living approach.
- CHC 299 ACLS Instructors Course** 3(33-0)
Prerequisite: Current BCLS and ACLS Certification. A course to educate and train Advance Cardiac Life Support instructors. Topics include: introduction to advanced life support, adjuncts for airway breathing, monitoring, defibrillation and cardioversion, intravenous techniques, essential drugs, useful drugs, acid base balance, sudden cardiac death, myocardial infarction and medical legal aspects. Performance stations are included.
- Dental Assistant (DA)**
Department of Health Careers and Center
for Health Education/Rehabilitation
Division of Technology & Applied Sciences
- DA 110 Dental Assistant Seminar** 2(1.5-5)
Prerequisite: Admission to program. Lectures, worksheet activities and self-instruction are utilized to prepare the student in dental/medical terminology. Information and concepts will be discussed regarding the Dental Team, Michigan Dental Law professional organization, dental specialty practices and dental history.
- DHA 110 Oral Health Practices** 4(2-4)
Prerequisite: Admission to program. Introduction to dental operator, aseptic techniques, caries and periodontal disease processes and oral hygiene procedures to prevent diseases. Small group laboratory instruction allows the student to learn through investigation, involvement, and application. Each student will become successful in maintaining their own good oral health.

- DHA 111 Oral Anatomy I** 4(2-4)
Prerequisite: Admission to program. Study of dental nomenclature, anatomic form, gross structure and function of human primary and permanent teeth, through lecture, laboratory and AVT sessions. Small group laboratory practice includes identification of natural extracted teeth and the reproduction of tooth forms to emphasize morphology and functional relationships.
- DHA 112 Dental Instruments & Equipment** 3(2-2)
Prerequisite: Admission to program. Through lecture and practical experience the student will be introduced to dental procedures, use and maintenance of dental instruments and equipment, and chairside assisting procedures. Practical learning activities are supervised by instructors in small group settings.
- DA 120 Introduction to Clinical Dental Assisting** 5(3-4)
Prerequisite: DHA 110, 111, 112. Through lecture and simulated clinical experience the student will be introduced to dental procedures; four-handed chairside assisting, preparation of chairside dental materials, charting, management of clinical records and taking and recording vital signs.
- DA 121 Oral Anatomy II** 3(2-2)
Prerequisite: DHA 111. A basic anatomical study of the head and neck regions including the skeletal, muscular, circulatory, lymphatic and nervous systems. Lectures, small group laboratory and AVT sessions are utilized.
- DA 122 Oral Histology, Embryology and Pathology** 2(2-0)
Prerequisite: DHA 111. This course first presents a study of the microscopic anatomy of human tissue with emphasis on the embryologic development of the face and the hard and soft tissues of the oral cavity. This is followed by a study of diseases effecting the oral region including diseases of teeth and supporting structures, developmental disturbances, oral infection, injuries, and neoplasms.
- DA 130 Clinical Dental Assisting I** 7(1-12)
Prerequisite: DA 120. Practice four-handed chairside dental assisting procedures with emphasis on general restorative procedures (i.e., amalgams, composites). Seminar sessions are planned to correlate clinic practice and procedure information with private practice and field participation.
- DA 131 Ethics and Jurisprudence** 2(2-0)
Prerequisite: DA 110, 120. A discussion of interviewing techniques, employment opportunities, insurance protection, continuing education, law and professional ethics as it relates to dental assisting and dentistry.
- DHA 131 Dental Radiography** 5(3-4)
Prerequisite: DHA 111 and DA/DH 121. Lectures discuss production and emission of dental x-radiation, indications for exposure, techniques of exposure, processing, evaluation and interpretation of dental radiographs. Individualized laboratory sessions provide students practice in exposing, processing, mounting and evaluating radiographs.
- DA 210 Clinical Dental Assisting II** 7(1.5-11)
Prerequisite: Admission to DA II. A continuation of DA 130 offering evaluation and practice in dental radiography and four-handed chairside dental assisting, emphasizing general restorative procedures. Seminar sessions are planned to correlate clinic practice and procedure information with private practice and field experience participation.
- DA 211 Dental Materials** 4(2-4)
Prerequisite: Admission to DA II. Lecture and laboratory sessions will address the selection, manipulation and evaluation of materials used in dentistry. Laboratory activities emphasize materials prepared by the dental assistant.
- DA 212 Dental Office Management** 3(2-2)
Prerequisite: Admission to program. Lectures and worksheet activities are utilized to prepare the student in office procedures relating to appointment management, recall systems, correspondence, telephone technics, record keeping, pre-paid dental care plans and dental payment plans and inventory control.
- DA 220 Clinical Dental Assisting III** 7(2-10)
Prerequisite: DA 210 and DA 211. Continuation of chairside dental assisting techniques with emphasis on the duties and responsibilities of the dental assistant in dental specialty functions.
- DA 221 Registered Dental Assistant Procedures** 4(2-4)
Prerequisite: DA 210 and DA 211. Lecture sessions teach intro-oral functions delegated only to the licensed Registered Dental Assistant in the State of Michigan. Laboratory time is emphasized and field experience assignments arranged to provide clinical application of those techniques that are supportive to the dentist.
- DHA 121 Pharmacology** 2(2-0)
Prerequisite: Admission to DA II/DH program. A study of the administration, use, action, and effect of commonly used drugs on the human body. Emphasis on practical evaluation of drugs being taken by dental patients and their effect on dental treatment.
- DA 230 Clinical Dental Assisting IV** 11(1-20)
Prerequisite: DA 220 and DA 221. Continuation of DA 220 offering additional practice in four-handed chairside dental assisting procedures, with emphasis on RDA functions. Seminar sessions discuss field experience procedures and student's progress.
- DHA 132 Nutrition and Oral Health** 2(2-0)
Prerequisite: DHA 110. Series of lectures discuss the identification, function, metabolism and sources of specific nutrients required for normal growth and development. Application of principles to the individual's needs and to the concerns of the dental auxiliary providing nutritional and diet information to patients emphasized.
- Dental Business Assistant (DBA)**
Department of Health Careers and Center
for Health Education/Rehabilitation
Division of Technology & Applied Sciences
- DBA 001 Dental Anatomy** 3(2-2)
Prerequisite: Admission to program. Introduction to the soft and hard tissues of the oral cavity, dental specialties, and oral health practices. Laboratory sessions assist the student in identifying dental anatomy structures and learning procedures effective in promoting good oral hygiene.
- DBA 002 General Dental Procedures** 3(1.5-3)
Prerequisite: DBA 001. A basic identification of instruments, sterilization and disinfection procedures, processing and mounting dental radiographs, and description of dental team members are subjects studied and practiced in laboratory sessions.
- DBA 003 Dental Office Methods** 4(2-6)
Prerequisite: DBA 001 and typing. An introduction to dental office management as it relates to appointment control, recall systems, collections, telephone techniques, record keeping, inventory, and third party payment plans (insurance). Class time is provided to allow participation in simulated exercises for these procedures. Each student will complete 40 hours of on-site experience in a dental office.
- Dental Hygiene (DH)**
Department of Health Careers and Center
for Health Education/Rehabilitation
Division of Technology & Applied Sciences
- DH 110 Dental Hygiene Seminar** 2(2-0)
Prerequisite: Admission to program. Lectures, worksheets, and self-instruction are utilized to prepare the student in dental/medical terminology. The student also receives an overview of dental history, basic dental law, the dental health team, professional organizations, professionalism and a code of ethics.
- DH 111 Oral Histology and Embryology** 2(2-0)
Prerequisite: Admission to program. This course presents a study of the embryology and microscopic anatomy of human tissues with emphasis on formation of the face, oral cavity, and dental structures.
- DHA 110 Oral Health Practices** 4(2-4)
Prerequisite: Admission to program. Introduction to dental operator, aseptic techniques, caries and periodontal disease processes and oral hygiene procedures to prevent diseases. Small group laboratory instruction allows the student to learn through investigation, involvement, and application. Each student will become successful in maintaining their own good oral health.
- DHA 111 Oral Anatomy I** 4(2-4)
Prerequisite: Admission to program. Study of dental nomenclature, anatomic form, gross structure and function of human primary and permanent teeth, through lecture, laboratory and AVT sessions. Small group laboratory practice includes identification of natural extracted teeth and the reproduction of tooth forms to emphasize morphology and functional relationships.
- DHA 112 Dental Instruments & Equipment** 3(2-2)
Prerequisite: Admission to program. Through lecture and practical experience the student will be introduced to dental procedures, use and maintenance

of dental instruments and equipment, and chairside assisting procedures. Practical learning activities are supervised by instructors in small group settings.

DH 120 Introduction to Clinical Dental Hygiene 7(3-8)

Prerequisite: DHA 110, 111, 112. Introduction to selection and application of prophylaxis instruments, taking medical and dental histories, and performing oral examinations. Small group clinic instruction includes implementation of procedures on student partners.

DH 121 Oral Anatomy II 3(2-2)

Prerequisite: DHA 111. Descriptive anatomical study of the head and neck regions including skeletal, muscular, circulatory, lymphatic and nervous systems through lectures, small group laboratory and AVT session. Anatomical structures related to clinical dental hygiene procedures emphasized.

DH 122 General Oral Pathology 3(3-0)

Prerequisite: DHA 110, 111, DH 111. Diseases affecting the oral region including the principles of inflammation and repair, developmental disturbances, stains and accretions, diseases of the teeth and supporting structures, oral infections, oral injuries and neoplasms.

DH 123 Dental Emergency Procedures 3(2-2)

Prerequisite: DHA 111, 112. Study of dental office emergencies with emphasis on prevention, prompt recognition and effective emergency care. Laboratory instruction will provide experience in monitoring vital signs, recognizing and handling emergency situations and cardio-pulmonary resuscitation treatment.

DHA 121 Pharmacology 2(2-0)

Prerequisite: Admission to DA II/DH program. A study of the administration, use, action, and effect of commonly used drugs on the human body. Emphasis on practical evaluation of drugs being taken by dental patients and their effect on dental treatment.

DH 130 Clinical Dental Hygiene I 7(1-12)

Prerequisite: DH 120, 122. Initial clinical course offering individual instruction and clinical practice in all phases of providing basic dental hygiene services (recognition and recording of oral conditions, medical history, patient education, prophylaxis, fluoride treatment, sterilization, and desk procedures.) Seminar session introduce the clinic evaluation system, office management procedures, and intensifies oral exam observation and recording procedures.

DH 131 Dental Hygiene Procedures 3(2-2)

Prerequisite: DH 120. A continuation of didactic information and skills that will enhance performance of procedures in a clinical setting. Emphasis on treatment planning, patient home care, periodontal examination, caries detection, instrument sharpening, and clinical photography. Small group lab instruction provides application of didactic information in a clinical setting.

DHA 131 Dental Radiography 5(3-4)

Prerequisite: DHA 111 and DA/DH 121. Lectures discuss production and emission of dental x-radiation, indications for exposure, techniques of exposure, processing, evaluation, and interpretation of dental radiographs. Individualized laboratory sessions provide students practice in exposing, processing, mounting, and evaluating radiographs.

DHA 132 Nutrition and Oral Health 2(2-0)

Prerequisite: DHA 110. Series of lectures discuss the identification, function, metabolism and sources of specific nutrients required for normal growth and development. Application of principles to the individual's needs and to the concerns of the dental auxiliary providing nutritional and diet information to patients emphasized.

DH 210 Clinical Dental Hygiene II 7(1-12)

Prerequisite: DH 130. Continuation of DH 130 offering additional practice in dental hygiene clinical skills. Coordinates the periodontal patient case study and reviews preventive dental hygiene procedures and treatment planning of more complex dental needs of the patient (deep scaling, root planing, periodontal charting, nutritional counseling, intraoral photography, and use of ultrasonic scalers.)

DH 211 Advanced Dental Hygiene Procedures 4(2.5-3)

Prerequisite: DHA 122, DH 130. Study advanced clinical dental hygiene procedures with emphasis on root planing, nutritional counseling, soft tissue curettage, and ultrasonic instrumentation. Small group lab experience includes practice of these procedures on patients and/or typodonts.

DH 212 Periodontics 3(3-0)

Prerequisite: DHA 111, DH 111. Study of anatomy, physiology and histology of the periodontal tissues as it relates to the identification, etiology, prevention

and treatment of periodontal disease and occlusal disorders. Knowledge, skills and attitudes that will enhance the dental hygienist's clinical competence in treating periodontal patients are emphasized.

DH 213 Dental Health Education 2(2-0)

Prerequisite: DHA 110, DH 130. Studies will include human behavior, interpersonal relations, and communication skills relating to patient education, factors affecting patient motivation and acceptance of health care, introduction to teaching methodology for groups, and utilization of audiovisual aids for delivering oral health care.

DH 214 Clinical Oral Pathology 2(2-0)

Prerequisite: DH 130, DHA 131. Case histories are presented in which the student's objective is to formulate a differential diagnosis of an unknown oral lesion and propose a rational approach for evaluation and treatment of the patient. Lecture will include oral surgery practices and procedures.

DH 220 Clinical Dental Hygiene III 7(1-12)

Prerequisite: DH 210, 211. Practice of clinical dental hygiene procedures continued with emphasis on advanced procedures and skills. A case study presentation utilizes differential diagnosis techniques. Seminar sessions update clinical emergency procedures and support inclusion of myofunctional therapy, study models, pit and fissure sealant application with patient needs assessments.

DH 221 Dental Materials and Methods 4(2.5-3)

Prerequisite: DH 210, 211. Lecture and laboratory sessions will address the terminology, selection, manipulation and evaluation of materials used in dentistry. Laboratory activities emphasize procedures performed and materials used by the hygienist.

DH 222 Registered Dental Assistant Procedures 2(.75-2.5)

Prerequisite: DH 210, 211, 212. A special designed course for dental hygiene students wishing to learn ancillary dental hygiene procedures and those intra-oral functions delegated only to the licensed Registered Dental Assistant in the State of Michigan. Laboratory time is emphasized and field experience assignments arranged to provide clinical application of those techniques that are supportive to the dentist.

DH 223 Public Health Dentistry 2(2-0)

Prerequisite: DH 213. Through lecture and course activities the student will review scientific literature, dental epidemiology, principles of public health and health care delivery systems. Community and private systems are compared for providing dental health care.

DH 229 Testing Styles & Inventory 2(2-0)

Prerequisite: Admission to DH program. Through lecture sessions, the student will be introduced to testing techniques, test construction and item analysis. Students inventory their knowledge of dental hygiene and thorough self evaluation and planning, establish study skills while recognizing their personal study needs.

DH 230 Clinical Dental Hygiene IV 7(1-12)

Prerequisite: DH 220. Clinical sessions combine basic and advanced dental hygiene procedures with time utilization for private practice. Seminar session are planned to correlate clinic experiences with private practice. Professional and individual roles and responsibilities for total health care within the usual dental practice setting are discussed.

DH 231 Dental Specialties 4(3-4)

Prerequisite: DH 220, DHA 112. Lectures and individualized instruction include 1) dental specialists, reviewing their procedures and practices and 2) information for providing oral hygiene care for special needs patients. Students observe specialty procedures in dental specialty offices.

DH 232 Ethics and Jurisprudence 2(2-0)

Prerequisite: DH 220. A discussion of interviewing techniques, employment opportunities, insurance protection, continuing education, law and professional ethics as it relates to dental hygiene and dentistry.

DH 233 Community Practice 2(1-2)

Prerequisite: DH 213, 220, 223. Students implement a dental health education program utilizing assessment, planning, implementation and evaluation processes. Each student will observe and prepare an investigative report on a community health agency/practice.

Emergency Medical Services Technology (EMT)
Department of Health Careers and Center
for Health Education/Rehabilitation
Division of Technology & Applied Sciences

EMT 103 Extrication 2(1-2)

Designed to provide skills in light and heavy extrication. Includes backboards, power tools and extrication in emergency situations.

EMT 104 Emergency Communications and Telemetry 3(3-0)

Introduction to types, methods, and use of emergency communication. Telemetry systems defined and use discussed.

EMT 105 Ambulance Driving 3(2-2)

Designed to teach EMT safety, precision, and confidence. Upon completion, EMT's are expected to apply calculated, calm, proficient and specialized maneuvers to the techniques of good driving. Laboratory sessions in driving an emergency vehicle.

EMT 108 Emergency Pharmacology 2(2-0)

Medications frequently encountered in emergency situations; "street" drugs; medications used in emergency situations, and sterile techniques essential to assisting a paramedic, nurse or physician in administering emergency medication.

EMT 111 CPR Seminar 1(4-6)

Instruction in the basic life-saving technique of cardio-pulmonary resuscitation (CPR). Laboratory practice using both infant and adult manikins. American Heart Association Certificate upon successful completion. Required for all EMT program students but open to any person who wishes to learn CPR.

EMT 112 Basic EMT I 6(4-4)

First in a series of two courses to prepare for practice as a Basic Emergency Medical Technician. Skills and knowledge required to provide specialized care at the scene of an emergency: recognition of emergency situation, administer effective care, use equipment properly and use proper communication with emergency departments. EMT 112 and 113 are an MDPH approved Basic EMT course. Upon successful completion the student is eligible to take the State examination for licensure.

EMT 113 Basic EMT II 6(4-4)

Second of two courses to prepare for practice as a Basic Emergency Medical Technician. Skills and knowledge required to provide specialized care at the scene of an emergency: recognition of emergency situation, administer effective care, use equipment properly and use proper communication with emergency departments. EMT 112 and 113 are an MDPH approved Basic EMT course. Upon successful completion the student is eligible to take the State examination for licensure.

EMT 114 EMT Refresher 3(2-2)

Designed to provide the EMT an opportunity to meet licensure requirements. Required content includes CPR, airway management, oxygen administration, patient assessment, diagnostic signs, backboarding, spinal injuries, management of shock and MAST trousers, medical emergencies, trauma, environmental emergencies, emergency childbirth and pediatric emergencies. Successful completion of the course requires passing written and practical exams.

EMT 116 EMT Physical Assessment 3(2-2)

This course is designed for the EMT. A knowledge of anatomy and physiology is necessary to understand concepts that will be presented in physical assessment. Emphasis on history taking, patient interviews, and interpretation of patient vital signs. Collect data, interpret findings and make application to patient's condition. Physical examination, skills of inspection, percussion, auscultation and palpation will be utilized. Guidance will be given and problem solving techniques to establish priorities in assessment and history taking.

EMT 117 Psychiatric Emergencies 2(2-0)

Designed to improve psychological approach to emergency and crisis situations. Includes both psychological and communications theory. Practical application of communications techniques stressed.

EMT 120 EMT Simulations 2(0-4)

Course designed to provide practical application of basic EMT knowledge and skills. Students will be presented with realistic situations and will receive guidance from faculty in responding to the emergency appropriately.

EMT 122 Basic Emergency Care I 6(4-4)

Prerequisite: Admission to program. First of a 3 sequence course which is part of the three term Emergency Medical Technician (EMT) program. Includes

the skills necessary to provide on the spot emergency care to accident victims and victims of sudden medical emergencies. Through a combination of lectures, practical lab sessions and clinical rotations the student will utilize information presented.

EMT 123 Basic Emergency Care II 6(4-4)

Prerequisite: EMT 122. Continuation of the skills learned in EMT 122, and skills dealing with medical, environmental, pediatric emergencies, and emergency childbirth consisting of lectures, practical lab sessions, class simulations and clinical rotations.

EMT 124 Basic Emergency Care III 5(1-8)

Prerequisite: EMT 123. Emphasis will be placed on geriatric patients, water related emergencies, triage, treatment of rape and child abuse victims and treatment of patients under the influence of various illegal drugs and alcohol utilizing skills previously learned. Majority of time will be spent in various clinical locations involving direct patient contact.

Upon successful completion of this 3 term sequence the student will be certified as having successfully completed the EMT program and will be eligible to take the Michigan state licensing examination for Basic Emergency Medical Technician.

EMT 125 EMT Field Practicum 4(0-8)

Currently available only to successful candidates of the Basic EMT program, having completed EMT 122, 123, and 124. Offers the licensed EMT an opportunity to obtain actual field experience by completing a minimum of 8 hour/week "internship" at an agency which provides prehospital emergency care. The agency and faculty advisor will determine the final grade depending upon performance.

EMT 126 Emergency Medical Legal 3(3-0)

To assist the prehospital emergency care provider in making decisions based on an understanding of legal principles by familiarizing the student with legal systems, and principles pertinent to prehospital emergency care. Lawyers, judges, physicians and law enforcement officers will present course material through lectures, discussions and role playing.

EMT 150 EMS Systems I 2(2-0)

Prerequisite: Admission to program or current EMT. First of a 2 sequence series designed to provide the EMT with skills and knowledge in EMS systems operations and report writing/documentation. The EMT role is reviewed in relation with other health care providers on a local, state and national basis.

EMT 151 EMS Systems II 2(2-0)

Prerequisite: EMT 150. Continuation of EMT 150 focusing on more intense history taking, terminology, and documentation, with practice documentation on working report forms. Topics also include; job interviewing skills, employment opportunities, stress management and other systems operations.

EMT 201 EMT Specialist I 4(4-0)

Prerequisite: Admission to program. First in a 2 sequence series which prepares the Basic EMT to the level of EMT Specialist for functioning within a limited Advance Life Support System. Students will be prepared in IV therapy and airway management to include esophageal airway and endotracheal intubation. Lectures and skill preparation must be completed before clinical.

EMT 202 EMT Specialist II 4(2-4)

Prerequisite: EMT 201. Second in the series which prepares the Basic EMT to the level of the EMT Specialist for functioning within a limited Advance Life Support System. Students will receive clinical experience in IV therapy and airway management to include esophageal airway and endotracheal intubation.

EMT 203 EMT Specialist-Field Experience 2(0-4)

Elective course offering for the EMT Specialist to gain additional experience in a field assignment with paramedics.

EMT 222 EMT Skills A 2(1-2)

First in a series of two courses designed for students who are licensed Basic EMT's or have completed EMT 112-113 prior to admission to the Basic EMT Program. The courses will provide open lab and skills instruction to assure maintaining adequate skills and knowledge level for entering the 3rd term clinical course.

EMT 223 EMT Skills B 2(1-2)

Second in a series of two courses, see EMT 222 for description.

Advanced Emergency Medical Technology (ESA)
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ESA 209 Paramedic Concepts 4(4-0)

A course which provides the Paramedic with the required and elective continuing education points needed for relicensure.

ESA 221 Medical Trauma I 6(6-0)

Prerequisite: Admission to program. First in a series of three lecture courses within the paramedic curriculum which provide recognition and treatment of medical emergencies and trauma, general theory and legal implications of paramedic practice.

ESA 222 Medical Trauma II 5(5-0)

Prerequisite: Admission to program. Second in a series of three courses, see ESA 221 for description.

ESA 223 Medical Trauma III 5(5-0)

Prerequisite: Admission to program. Third in a series of three courses, see ESA 221 for description.

ESA 231 Cardiology I 2(2-0)

Prerequisite: Admission to program. All aspects of cardiology for paramedics are presented in this series of 3 courses within the paramedic curriculum.

ESA 232 Cardiology II 3(3-0)

Prerequisite: Admission to program. See ESA 231 for description.

ESA 233 Cardiology III 2(2-0)

Prerequisite: Admission to program. See ESA 231 for description.

ESA 241 Pharmacology I 1(1-0)

Prerequisite: Admission to program. Prehospital emergency drugs, dosages, methods of administration, side effects, and drug calculations are presented in this series of 3 courses within the paramedic curriculum.

ESA 242 Pharmacology II 2(2-0)

Prerequisite: Admission to program. See ESA 241 for description.

ESA 243 Pharmacology III 1(1-0)

Prerequisite: Admission to program. See ESA 241 for description.

ESA 251 Skills I 2(0-4)

Prerequisite: Admission to program. Skills labs within the paramedic program run concurrent with medical/trauma, cardiology and pharmacology to provide the opportunity to apply theory to practice with faculty guidance and evaluation.

ESA 252 Skills II 2(0-4)

Prerequisite: Admission to program. See ESA 251 for description.

ESA 253 Skills III 2(0-4)

Prerequisite: Admission to program. See ESA 251 for description.

ESA 261 Clinical I 5(0-10)

Prerequisite: Admission to program. The clinical portions of the paramedic program allows application of theory in actual situations. The students often practice in the skills labs. The clinical courses run concurrent with Medical Trauma, Cardiology, pharmacology and skills labs.

ESA 262 Clinical II 5(0-10)

Prerequisite: Admission to program. See ESA 261 for description.

ESA 263 Clinical III 5(0-10)

Prerequisite: Admission to program. See ESA 261 for description.

Emergency Medical Services (EMS)
Department of Health Careers and Center
for Health Education/Rehabilitation
Division of Technology & Applied Sciences

EMS 101 EMS Continuing Education 1 0.25(3-0)

A series of continuing education seminars for the Basic EMT, Advanced EMT (Paramedic), or EMT Specialist, designed to meet relicensure requirements. Students may elect to take as many as needed to fulfill continuing education requirements.

EMS 102 EMS Continuing Education 2 0.25(3-0)

See EMS 101 course description.

EMS 103 EMS Continuing Education 3 0.25(3-0)

See EMS 101 course description.

EMS 104 EMS Continuing Education 4 0.25(3-0)

See EMS 101 course description.

EMS 105 EMS Continuing Education 5 0.25(3-0)

See EMS 101 course description.

EMS 106 EMS Continuing Education 6 0.25(3-0)

See EMS 101 course description.

EMS 111 CPR Recertification 0.5(4-3)

Seminar in recertification for persons who hold an American Heart Association BCLS card.

Emergency Care (ER)
Department of Health Careers and Center
for Health Education/Rehabilitation
Division of Technology & Applied Sciences

ER 100 Red Cross First Aid 3(3-0)

Designed to provide skills to treat emergency situations until professional help arrives. A Red Cross Certificate issued upon successful completion.

ER 111 CPR Instructing 2(2-0)

Instruction in methods of teaching CPR. An instructor-trainer from the American Heart Association teaches the course. Students must have current BCLS certification.

ER 112 CPR Instructor's Recertification 0.5(6-0)

Instruction in current concepts of American Heart Association for recertification of instructors. Must have current BCLS card and instructor's card.

ER 222 EMT—IC Seminar 8(8-0)

Designed for persons interested in becoming an EMT Instructor Coordinator, and meets the requirements established by Michigan Department of Public Health for an EMT-IC course. Includes teaching and testing methods, lesson plan development, writing performance objectives, administration of a class, application for MDPH course approval and meeting the State requirements. Participants will be required to student teach at least one lesson in an EMT class.

Health Careers (HC)
Department of Health Careers and Center
for Health Education/Rehabilitation
Division of Technology and Applied Sciences

HC 111 Medical Insurance Billing 3(3-0)

Prerequisite: HC 113, or 6 months experience with Insurance Billing Prepare to perform medical insurance billing procedures from receiving the patient information until the payment is received. Includes how to obtain the patient information, procedure coding, H-ICDA coding plus federal, commercial and independent billing forms and procedures.

HC 113 Medical Terminology Allied Health 3(3-0)

Introduces medical terminology and the formulation of terms. Covers pronunciation guide, word elements and variations, medical word elements, body parts and function anatomically and physically, diseases, diagnoses and surgical procedures.

HC 123 Phlebotomy Technician 4(4-1)

Designed to prepare a person to function as a laboratory phlebotomist technician. Knowledge and skills necessary to obtain a blood specimen from a patient demonstrating venipuncture or micro-technique. A clinical experience is included.

HC 126 Nurse Health Aide 12(7-10)

Qualify to work in homes, acute care hospital, clinics, health care agency or long term care facility as a Home Health Aide or Nurse Aide. Includes supervised clinical experience. Attain a 2.5 grade or better to receive certificates as Nurse Aide and Home Health Aide.

HC 127 Advanced Diet Therapy 3(3-0)

In-depth study of therapeutic diets and their relationship to various disease

states. Includes modules on: analyzing medical charts for nutrition related information, effective charting, nutrition history and assessment, participation in patient care planning and effective diet instructions.

HC 128 Advanced Medical Terminology Allied Health 3(3-0)

Prerequisite: 3.0 grade or better in HC 113. Medical terms in context by applying terms to the functioning and structure of body systems. Further knowledge in specific vocational areas through intense study of body systems. Build on medical terms in HC 113.

HC 129 Home Health Aide for the Developmentally Disabled 6(5-2)

The program will prepare Respite Care Workers to care for clients who have medical care needs, in their homes. In addition to lectures the student will have supervised clinical experiences on-campus and in selected off-campus sites. Students must be a certified Home Health Aide and have a current BCLS card. A CPR seminar may be taken concurrently. A certificate will be awarded for a grade of 2.5 or better.

HC 132 Ward Secretary I 6(6-0)

Prerequisite: 3.0 grade in HC 113 (Medical Terminology). Introduce basic ward secretary skills. Include communication skills, chart forms, computers and death and dying. Clinical component included.

HC 133 Ward Secretary II 6(6-0)

Prerequisite: HC 132. Advanced ward secretary skills. Includes pharmacology, laboratory tests, transcribing physicians' orders, and job application skills. Clinical component will be included.

HC 134 Cost Effective Nutritional Management 3(3-0)

Course for dietary assistants will stress the providing of nutritional care in extended care facilities in a cost effective manner. Topics covered are: time management, nutritional assessment, menu planning and clinical audit.

HC 201 Dietary Supervisor I 6(3-6)

Entry level skills for a dietary supervisor, particularly in nursing home; or to provide credentials. Includes clinical component. Prepares an individual to take complete charge of the food service in a nursing home or related institution, under the supervision of a dietetic consultant. Will include general principles, food storage, hygiene, nutrition and balanced diet.

HC 202 Dietary Supervisor II 6(3-6)

Includes meal planning, therapeutic diets, cooking principles, cooking for large numbers, budgeting, cost accounting and purchasing. To complete a certificate from the American Dietetics Association, complete HC 201, HC 202 and HC 203.

HC 203 Dietary Supervisor III 6(3-6)

The third course designed to prepare to become a Food Service Supervisor in a hospital or nursing home. Focuses on food evaluation and management principles.

HC 205 Central Supply Technician 6(4-4)

Prepares for employment in area hospital Central Supply Departments. Duties: processing of hospital equipment, supplies and instruments for use in all hospital departments. Includes principles and practices of decontamination, cleaning, sterilization and dispensing of supplies.

HC 213 Introduction to Family Care Givers Series 0.5(6-0)

Seminar designed to allow participants to systematically look at themselves as a care giver. Topic areas include: feelings, values clarification, attitudes toward aging, decision making and community resources.

HC 214 Family Care Givers Personal Care 1(11-0)

Seminar designed to provide the student knowledge and an opportunity to gain experience in personal care skills; topics include: observation skills, transfer techniques, safety and nutrition.

HC 218 Family Care Givers Management of Diabetes 0.5(6-0)

Seminar designed to assist care givers concerned with the causes, symptoms and treatment of diabetes. Topics will include: definition and symptoms of diabetes, diabetic diet, insulin and oral medications, exercise and activity, emotional stress and community resources.

HC 231 Pharmacology of Substance Abuse 3(3-0)

Chemical and physiological nature of the substances (alcohol-hard drugs-amphetamines) which have addictive possibilities. A course in a Certificate program on Substance Abuse. Emphasis on pharmacology of substance abuse, detection, identification of physiological responses specific to various substances. Designed for the Allied Health Professional.

HC 232 OD Crisis Intervention 2(2-0)

Designed for the health worker. Focus on psychological and physiological aspects of overdose, assessment of the program, and ways to deal with on-the-spot problems. Emergency intervention measures included.

HC 235 Pharmacy Technician I 4(4-0)

First of a two course series designed to introduce the student to the skills necessary for the position of a pharmacy technician in a hospital or retail pharmacy. Topics include: pharmacy abbreviations, dosages, pharmacy distribution systems and the top 200 drugs. Students must complete the course with 2.5 grade or better to continue to HC 236.

HC 236 Pharmacy Technician II 4(4-0)

Prerequisite: HC 235. Second course is designed to prepare the student to function with knowledge and accuracy in the dispensing and control of drugs in either hospital or retail pharmacy. Topics include: familiarization with physiological effect of drugs, inventory control, and computer operations. A certificate will be awarded after successful completion with a 2.5 grade or better.

**Allied Health Careers (AHC)
Department of Health Careers and Center
for Health Education/Rehabilitation
Division of Technology & Applied Sciences**

AHC 102 Nutrition 2(2-0)

Principles of nutrition including identification of the major nutrients, metabolism, body requirements during various life stages, effects of variations of intake, and food sources of the nutrients. Some diseases for which diet plays an important role in treatment are discussed.

AHC 104 Patient Care Principles 5(3-4)

Prerequisite: Admission to Surgical Technology, Radiologic Technology or Respiratory Therapy Technology Programs. Principles of patient care are given with emphasis on Allied Health Personnel role in the health team. Includes basic patient practices with aid to emotional support.

AHC 106 Introduction to Pathology 3(3-0)

Concepts of disease processes and effect on normal structure and function of the body. General principles of pathology, rather than specific disease entities, are discussed to develop a new way of thinking about disease processes.

AHC 108 Body Systems 5(5-0)

Introductory or review course for students in allied health careers. It provides a concise survey of the human body and emphasizes the practical application of physiological concepts. It does not meet the requirements for a full anatomy or physiology course.

AHC 110 Surgical Asepsis 2(2-0)

For Surgical Technology Program. Basic course on hospital infections including definitions, pathogenic organisms and bacteria, fungi, viruses, protozoa, helminths and transmission of infectious agents. Covers sterilization and disinfection of equipment and supplies in the operating room.

AHC 212 Emergency Care 2(2-0)

Designed to prepare the student to meet emergency situations encountered as an employee and a citizen. Focus is on the knowledge needed to determine what emergency situation exists and the skills and knowledge needed to take immediate action. Content includes: cardiopulmonary resuscitation, medical emergencies, injuries, shock, hemorrhage, overdoses and poisonings, and psychological emergencies.

**Medical Assistant (MA)
Department of Health Careers and Center
for Health Education/Rehabilitation
Division of Technology & Applied Sciences**

MA 110 Medical Assistant I 4(4-0)

Prerequisite: Admission to program. Introduction to role of Medical Assistant Administrative/Clerical functions: record keeping, filing, billing, accounts, scheduling, office forms, medical records, office machines and equipment & medical transcription.

MA 111 Medical Communication 3(3-0)

Provides students with an understanding of interpersonal skills necessary to work in medical facility including verbal & non-verbal communications, listening and responding to patients and family, dealing with ill and dying patients, and empathy.

- MA 112 Microcomputers in Health** 2(0-4)
Using IBM PC's in the lab, students are given a basic understanding of the computer and software applicable to medical offices and clinics. DOS, database, word processing and health software will be used. A medical transcription assignment will be done on the word processor.
- MA 113 Medical Assistant II** 6(4-4)
This course is designed to cover a sequence of clinical duties the medical assistant will perform. The student will gain knowledge in and become adept in performing skills relating to the following topics: 1) Physical measurements, 2) health history and physical examinations, 3) infection control, 4) instrument identification, 5) health care process, 6) problem oriented medical records, 7) eye and ear injuries, 8) diagnostic and therapeutic procedures relating to radiology, and 9) stress management.
- MA 115 Medical Assistant II** 5(3-4)
This course is designed to cover both in theory and campus lab the more advanced and technical skills necessary to perform in the clinical setting. Skills and procedures covered will include surgical asepsis, orthopedic appliances, electrocardiography, medication administration, pulmonary function screening, collection and handling of specimens, and first aid.
- Surgical Technology (ST)**
Department of Health Careers and Center
for Health Education/Rehabilitation
Division of Technology & Applied Sciences
- ST 101 Introduction to Surgical Technology** 7(5-4)
Prerequisite: Admission to program. Introduction to role and function of Surgical Technologist as a member of the surgical team. Historical aspects of surgery, care and safety of the patient, medical terminology, and ethical-moral-legal responsibilities. Hospital laboratory sessions on basic skills to function in the operating room.
- ST 102 General Surgical Procedures** 6(6-0)
Prerequisite: ST 101, ST 103 concurrently. Procedures for bringing the patient to surgery, types and methods of anesthesia, positioning surgical incisions and tissue closures. Includes disease related symptoms, diagnostic procedures, preoperative and post operative care and complications.
- ST 103 Applied Operating Room Techniques I** 8(0-8)
Prerequisite: ST 101, ST 102 concurrently. Clinical session at an assigned area hospital - two full days a week. Participation in and assisting with selected surgical procedures.
- ST 104 Surgical Specialty Procedures** 6(6-0)
Prerequisite: ST 102, 103; ST 105 concurrently. Advanced and special areas of surgery: obstetrics and gynecology, thoracic, genito-urinary, ear, nose, throat, plastic, eye orthopedics, neurosurgery.
- ST 105 Applied Operating Room Techniques II** 8(0-8)
Prerequisite: ST 102, 103; ST 104 concurrently. Clinical session at an assigned hospital—two full days a week. Participate and assist in selected surgical procedures.
- ST 107 Surgical Pharmacology** 2(2-0)
Prerequisite: Admission to program. Medication frequently used in the operating room; local and general anesthetics, drugs used for surgical patients, procedures for handling in sterile and non-sterile areas, mixing and measuring medications.
- Respiratory Therapy (RT)**
Department of Health Careers and Center
for Health Education/Rehabilitation
Division of Technology & Applied Sciences
- RT 100 Orientation to Respiratory Therapy Science** 4(4-0)
Prerequisite: department approval. Covers history, and agencies associated with respiratory care; review physical and chemical principles applicable to respiratory therapy; a review of respiratory anatomy.
- RT 105 Introduction to Clinical Respiratory Therapy** 3(0-9)
Prerequisite: admission to program. This first term clinical course is designed to expose the student to the hospital environment and function, in addition to practicing and reinforcing the concepts so outlined at the campus in the RT 115 course.
- RT 115 Respiratory Therapy Techniques I** 5(4-2)
Prerequisite: department approval. Covers concepts of equipment operation and therapeutic application; procedures, purposes and indications for use, contraindications and hazards, precautions; electrocardiography (procedure); cleaning, disinfection and sterilization; compressed gas usage; regulators, flowmeters and connection systems; humidity, aerosol and oxygen administration.
- RT 102 Physiology for Respiratory Therapy** 4(4-0)
Prerequisite: RT 100. Mechanics of ventilation, pulmonary volumes and capacities, pulmonary defense mechanisms, cardiac physiology, vascular physiology, systemic and pulmonary circulation, diffusion, gas exchange and V/Q relationships, O₂ and CO₂ transport, acid-base balance, controls of ventilation, O₂ and CO₂ abnormalities, blood gas interpretation, work of breathing, respiratory/ventilatory failure.
- RT 108 Pharmacology for Respiratory Therapy** 3(3-0)
Prerequisite: RT 100. Principles and effects of medications a practicing therapist or technician will be exposed to.
- RT 111 Respiratory Therapy Techniques II** 5(4-2)
Prerequisite: RT 115. Extends procedures and equipment in RT 115. Emphasis on I.P.P.B. Therapy (principles and theory), I.P.P.B. equipment, beginning patient assessment, patient charting, mechanical aspiration of secretions, percussion, vibration and coughing, respiratory home care, incentive spirometry and breathing exercises.
- RT 101 Clinical Respiratory Therapy I** 8(0-16)
Prerequisite: RT 105. Involves more clinical instruction and more direct patient care activities. Designed for practice and re-emphasis of those concepts introduced in RT 105.
- RT 103 Respiratory Pathology and Disease** 4(4-0)
Prerequisite: RT 102. Types of pulmonary disease entities with an approach towards the classification of groups of similar diseases according to their types of dysfunction and related pathophysiology. Emphasizes obstructive pulmonary pathology, restrictive pulmonary pathology, acute inflammatory pathology, diffuse pulmonary pathology, pulmonary vascular pathology.
- RT 114 Respiratory Therapy Techniques III** 5(4-2)
Prerequisite: RT 111. Continuous Mechanical Ventilation (covering initial setup, indications, contraindications, weaning, etc.), use of mechanical ventilators (volume, time and pressure cycled) adjunctive support (PEEP, IMV, Optimal PEEP, etc.), advanced CPR, artificial airways and airway management, and thoracic suction principles.
- RT 104 Clinical Respiratory Therapy II** 8(0-16)
Prerequisite: RT 101. Re-emphasizes the principles of clinical practice discussed in RT 114. More emphasis in critical patient care areas.
- RT 116 Respiratory Therapy Techniques - Certificate** 3(3-0)
Prerequisite: RT 114. Designed to cover neonatal and pediatric physiology, pathology and ventilatory management, use of other mechanical ventilators, seeking employment, pulmonary function testing, hemodynamic monitoring, physical assessment.
- RT 106 Clinical Practicum - Certificate** 15(0-30)
Prerequisite: RT 104. Ten one-week rotations. Includes pulmonary function lab, non-invasive cardiology lab, neonatal respiratory care, and pulmonary disease rotation (including physician rounds and conferences). Other rotations involve primarily adult intensive care units, utilizing the various techniques required.
- RT 117 Respiratory Therapy Techniques - Associate Degree** 4(4-0)
Prerequisite: RT 114. A preparatory course for second year of the program. Designed to emphasize areas that will be used and discussed in clinical rotations during second year. Covers cardiovascular hemodynamic monitoring and measurement, pulmonary function testing, chest radiology and physical assessment, basic biomedical concepts and safety.
- RT 107 Clinical Practicum - Associate Degree** 6(0-16)
Prerequisite: RT 104. Designed to further refine the skills developed during first year and clinical experience and training in new areas. Observe and participate in the drawing and analysis of arterial blood for blood gas studies.
- Respiratory Therapy - Advanced (RTA)**
Department of Health Careers and Center
for Health Education/Rehabilitation
Division of Technology & Applied Sciences
- RTA 201 Advanced Respiratory Physiology and Testing** 4(0-16)
Prerequisite: RT 103; Admission to second year. Includes ventilatory control,

pulmonary ventilation, mechanics of ventilation, cardiovascular function, pulmonary circulation, ventilation, cardiovascular function, pulmonary circulation, ventilation-perfusion relationships, diffusion, gas transport, blood gases, A-B balance, fluid and electrolyte balance, pulmonary and cardiovascular development, and aging.

RTA 212 Advanced Respiratory Therapy Techniques I 4(4-0)

Prerequisite: RT 117. Use of various lung ventilators, proper approaches utilized with patients requiring Continuous Ventilatory Support. Patient management problems. Includes methods of support (and monitor) circulation and principles of neonatal ventilatory management (including physiology, pathology and related equipment).

RTA 202 Clinical Respiratory Therapy III 8(0-16)

Prerequisite: RT 107. Six 5-week rotations (total of 30 weeks over three terms). The specific rotations are blood gas analysis/pulmonary function testing, cardiovascular intensive care rotation, advanced therapeutic techniques, neonatal critical care, adult intensive care, and non-invasive cardiology.

RTA 203 Advanced Respiratory Pathology and Disease 4(4-0)

Prerequisite: RTA 201. Presentation of the many disease entities specific to the cardiorespiratory system, including treatment; various approaches to their treatment. The topics discussed are manifestations of compensation for respiratory pathology, respiratory defense mechanism, pulmonary immune mechanism, pneumonitis, pulmonary infections, adult respiratory distress syndrome, tbc. and pulmonary mycoses, pneumoconiosis, diffuse interstitial fibrosis, sarcoidosis and pulmonary collagen diseases, pulmonary neoplasm, obstructive pulmonary pathology, chronic obstructive pulmonary disease, respiratory immune disease, congenital cardiovascular pathology, acquired cardiovascular pathology, and pulmonary vascular pathology.

RTA 214 Advanced Respiratory Therapy Techniques II 4(4-0)

Prerequisite: RTA 212. Continuation of advanced techniques and types of ventilators. Includes review of basic and advanced CPR, physiology and methods associated with the support of ventilation and oxygen deficits, medical management of the C.O.P.D. patient and pulmonary rehabilitation. Exposed to type of questioning encountered on Written Registry Examination.

RTA 204 Clinical Respiratory Therapy IV 5(0-16)

Prerequisite: same as RTA 202 Clinical Respiratory Therapy III

RTA 205 Respiratory Therapy Management Skills 4(4-0)

Prerequisite: RTA 203. Responsibilities and duties of a Department Manager or Educator in Respiratory Therapy. Provides insight into the operation of a hospital, as well as respiratory therapy department.

RTA 216 Advanced Respiratory Therapy Techniques III 4(4-0)

Prerequisite: RTA 214. Heavy emphasis on medical management of CNS abnormalities, peripheral neurological dysfunction, thoracic trauma, aspiration and near drowning, burns, pulmonary vascular disease, pulmonary neoplasms and pulmonary infection and pneumonitis. Also a continuation of written review exams and practice in taking Clinical Simulation Exams, preparation for the N.B.R.C. Registry Exams.

RTA 206 Clinical Respiratory Therapy V 5(0-16)

Prerequisite: RTA 204. Continuation of clinical instruction rotation as listed for RTA 202.

**Radiologic Technology (RXT)
Department of Health Careers and Center
for Health Education/Rehabilitation
Division of Technology & Applied Sciences**

RXT 100 Introduction to X-Ray Services 3(2-2)

Prerequisite: Admission to program. Survey of the role of Radiologic Technologists in the hospital setting. Includes historical development of x-ray, ethics, medical terminology, radiation protection, and patient-staff relationships. Complementary roles of other health care professionals analyzed.

RXT 101 Clinical Seminar I 1(1-0)

Prerequisite: RXT 100, RXT 111, HC 104. Application of principles learned in previous courses. Introduction to the physical environment of the Radiology Department, the student practices interrelationships skills, basic patient care, and radiographic positioning.

RXT 111 Radiographic Positioning I 6(4-4)

Prerequisite: Admission to program. Review the structure and organs of the body. Topographic anatomy and detailed information on the positions for pediatric and adult x-ray procedures. Application in a radiographic room.

Included are the nomenclature of positioning, bones of the extremities, pelvic girdle, thorax, and basic abdominal viscera.

RXT 112 Radiographic Positioning II 8(6-4)

Prerequisite: RXT 111. Positioning of the structure and organs of the body to include both the common pediatric and adult radiographic procedures using contrast media. Topographic physiology is given with practical clinical instruction and application in a radiographic room. Includes spine, skull, general characteristics of contrast media, organs of the gastrointestinal tract, biliary tract, urinary tract, and procedures in obstetrics.

RXT 113 Radiographic Positioning III 4(3-2)

Prerequisite: RXT 112. More complex technical procedures. Includes topographic physiology, studies of sophisticated major and auxiliary equipment, opaque media, and general indications for each examination; specialized neurologic, orthopedic, dental and vascular procedures, and body section radiography. Clinical component.

RXT 121 Radiographic Exposure I 4(3-2)

Prerequisite: Admission to program. Fundamentals of radiographic exposure which are concerned with production, analysis, and recording of the image. Study devices, factors, and properties which are applicable to radiographic quality. Includes a study of basic chemistry, film apparatus, and processing techniques for both manual and automatic processing.

RXT 122 Radiographic Exposure II 4(3-2)

Prerequisite: RXT 121. Factors involved in film contrast, detail and quality application of accessory devices, capabilities limitations of radiographic equipment, technical conversion techniques, exposure technique charts, and mechanical aspects of fluoroscopy.

RXT 123 Independent Study in Radiologic Technology 2(2-0)

Prerequisite: DA, or graduate/registered technologist. Opportunity to prepare and submit a formal research paper. Advanced study in a specific area. May include patient care, positioning, physics, exposure and quality, special procedures, radiobiology, quality control, or x-ray pathology. Involves library research, laboratory experiments, questionnaires, use of audio visual lab and/or a combination. Bi-weekly meetings required to assess progress.

RXT 124 Independent Study in Radiologic Technology 3(3-0)

Prerequisite: Department approval, or graduate/registered technologist. Opportunity to prepare and submit a formal research paper. Advanced study in a specific area. May include patient care, positioning, physics, exposure and quality, special procedures, radiobiology, quality control, or x-ray pathology. Involves library research, laboratory experiments, questionnaires, use of audio visual lab and/or a combination. Bi-weekly meetings required to assess progress.

RXT 131 Radiologic Physics I 3(3-0)

Prerequisite: MTH 102 or equivalency. Principles of physics and relationship to radiology, fundamentals of ionizing and radium physics, and principles underlying the construction and operation of x-ray equipment and auxiliary devices. Includes theory for practical radiation monitoring and protection.

RXT 132 Radiologic Physics II 3(3-0)

Prerequisite: RXT 131. Study units of radiation measurement, radiation exposure and instrumentation, quality factors, such as half-layer values, and tube voltage. Specifics of x-ray generators and circuitry, filtration, x-ray beam restrictors, intensifying screens, with emphasis on patient exposure and protection.

RXT 133 Specialized Fields in Radiology 2(2-0)

Prerequisite: RXT 132. Fundamentals of radiation therapy, including types of equipment and devices, and application to disease. Introduction to radiobiology and the effects of radiation on tissue, dosimetry and treatment planning, tumor localization, port films, and treatment positions. Also, fundamentals of medical isotopes, basic instrumentation and clinical application, and basic equipment.

RXT 160 Radiologic Emergencies 2(2-0)

This course is designed to prepare the student to meet a variety of emergency situations encountered in the radiology department. The theory provided will enable the student to recognize when an emergency exists, what the situation is, and the knowledge to provide immediate action.

RXT 200 Introduction to Radiologic Pathology 2(2-0)

The disease processes most frequently encountered in the Radiology Department. Emphasizes how each disease is diagnosed radiographically and the relationship of the radiographic appearance of the disease to its anatomic, physiologic and pathologic characteristics. The etiology, treatment and resolution of each disease discussed, with an attempt to relate more recent advances in these areas.

- RXT 210 Clinical Seminar II** 2(2-0)
Prerequisite: RXT 213. Current concepts in radiology to function more effectively within the radiology department. Includes contrast media utilized, the department, advances in special procedures radiography, ultrasound, xerography, thermography, positioning and new items of equipment. Also to acquaint the student with the organization, function, supervision, and financial arrangements relative to departments of radiology, basic x-ray equipment for performing preventive maintenance, and detecting simple functioning difficulties.
- RXT 212 Clinical Practice I** 6(1-15)
Prerequisite: RXT 111, GPA 2.50 or more in major. First in a four-term sequence of clinical application in radiography theory in all phases of radiologic technology. Weekly discussion groups at each clinical facility. The course is programmed with specific performance activities. Credit is arranged for each individual term with a ratio of 1 credit hour to 3 clinical clock hours. The ratio for lecture is consistent with the 1 to 1 ratio.
- RXT 213 Clinical Practice II** 6(1-0-15)
Prerequisite: RXT 212, GPA 2.50 or more in major. Second course in a four-term sequence of clinical applications in radiography theory in all phases of radiologic technology. Weekly discussion groups at each clinical facility. The course is programmed with specific performance activities. Credit is arranged for each individual term with a ratio of 1 credit hour to 3 clinical clock hours. The ratio for lecture is consistent with the 1 to 1 ratio.
- RXT 214 Clinical Practice III** 5(1.5-0-15)
Prerequisite: RXT 213, GPA 2.50 or more in major. Third in a four-term sequence of clinical application in radiography theory in all phases of radiologic technology. Weekly discussion groups at each clinical facility. The course is programmed with specific performance activities. Credit is arranged for each individual term with a ratio of 1 credit hour to 3 clinical clock hours. The ratio for lecture is consistent with the 1 to 1 ratio.
- RXT 215 Clinical Practice IV** 9(1-0-23)
Prerequisite: RXT 214, GPA 2.50 or more in major. Fourth course in a four-term sequence of clinical application in radiography theory in all phases of radiologic technology. Weekly discussion groups at each clinical facility. The course is programmed with specific performance activities. Credit is arranged for each individual term with a ratio of 1 credit hour to 3 clinical clock hours. The ratio for lecture is consistent with the 1 to 1 ratio.
- RXT 216 Comprehensive Experience I** 9(1-0-23)
Prerequisite: RXT 215, GPA 2.50 or more in major. First in a three-term sequence of clinical application in radiography theory in all phases of radiologic technology. Formal and informal discussion groups are held weekly at each clinical facility. The course is programmed with specific performance activities. Credit is arranged for each individual term with a ratio of 1 credit hour to 3 clinical clock hours. The ratio for lecture is consistent with the 1 to 1 ratio.
- RXT 217 Comprehensive Experience II** 9(1-0-23)
Prerequisite: RXT 216, GPA 2.50 or more in major. Second in a three-term sequence of clinical application in radiography theory in all phases of radiologic technology. Formal and informal discussion groups are held weekly at each clinical facility. The course is programmed with specific performance activities. Credit is arranged for each individual term with a ratio of 1 credit hour to 3 clinical clock hours. The ratio for lecture is consistent with the 1 to 1 ratio.
- RXT 218 Comprehensive Experience III** 7(1.5-0-23)
Prerequisite: RXT 217, GPA 2.50 or more in major. Third in a three-term sequence of clinical applications in radiography theory in all phases of radiologic technology. Formal and informal discussion groups are held weekly at each clinical facility. The course is programmed with specific performance activities. Credit is arranged for each individual term with a ratio of 1 credit hour to 3 clinical clock hours. The ratio for lecture is consistent with the 1 to 1 ratio.
- RXT 219 Imaging Seminar** 2(2-0-0)
This class will provide the soon to graduate student radiographer with an update of positioning, exposure and physics knowledge. In addition, the use of a comprehensive test will assess the student level of knowledge in the aforementioned subjects.
- Radiation Therapy Technology (RXT)
Department of Health Careers and Center
for Health Education/Rehabilitation
Division of Technology & Applied Sciences**
- RXT 105 Introduction to Radiation Therapy** 4(4-0)
Prerequisite: Admission to program. Provides the student with an overview of radiation therapy and its role in medicine. Student responsibilities and benefits will be outlined. Students will be oriented to academic and administrative structure, key departments and personnel, and to the profession as a whole.
- RXT 106 Clinical Oncology Seminar** 2(2-0)
Prerequisite: RXT 105. Provides the student with the basic concepts of: diagnostic process, pathophysiology, oncologic problems, oncologic emergencies, chemotherapy protocols, agents and side effects, bereavement, psychosocial aspects of disease and specific case studies.
- RXT 205 Clinical Radiation Oncology** 4(4-0)
Prerequisite: Admission to program. Provides the student with the fundamentals of Clinical Radiation Oncology. Malignant conditions, their etiology and methods of treatment are discussed. Attention is given to patient prognosis, treatment results and the effects of combined therapies.
- RXT 221 Technical Radiation Oncology** 1(1-0)
Provides the student with the technical aspects of Radiation Therapy Technology. Modalities of treatment, the distinctive properties of each and patient set-up considerations will be discussed.
- RXT 231 Radiation Therapy Physics I** 3(3-0)
Prerequisite: admission to program. Provides the student with the basic principles and concepts of radiation protection. Methods for preventing unnecessary radiation exposure to patients, radiation workers and the public are discussed.
- RXT 232 Radiation Therapy Physics II** 4(3-2)
Prerequisite: RXT 231. Provides the student with the specifics of ionizing radiation. Details of production, interactions and types of radiation are discussed. Application to the treatment of patients is included.
- RXT 233 Radioactive Materials** 3(3-0)
Prerequisite: RXT 232, 293, 270. Provides the student with the principles of radioactivity. Medical uses of radioactive material and technical considerations of application are discussed.
- RXT 235 Clinical Dosimetry I** 4(4-0)
Prerequisite: RXT 232. Provides the student with the basic concepts of clinical dosimetry and treatment planning. Various external beam techniques, depth dose data and summation of simple isodose curves are discussed. Fundamental procedures in dose measurement and verification, as well as machine calibration are included.
- RXT 236 Clinical Dosimetry II** 3(3-0)
Prerequisite: RXT 235. This course is a continuation of RXT 235 - see course description under RXT 235.
- RXT 238 Radiation Therapy Math** 3(3-0)
Prerequisite: admission to program. Provides the student with background material in the areas of whole numbers, fractions, decimals, basic algebra, factors, factoring, equations, and those areas needed for a Radiation Therapy Technologist.
- RXT 270 Radiobiology** 2(2-0)
Prerequisite: RXT 231, 293. Provides the student with the principles of cell response to radiation. Factors which influence the effects of radiation, tissue sensitivity, and environmental factors are discussed.
- RXT 285 Clinical Experience I** 6(1-0-16)
Prerequisite: Admission to program. See description under RXT 288.
- RXT 286 Clinical Experience II** 6(1-0-24)
Prerequisite: Admission to program. See description under RXT 288.
- RXT 287 Clinical Experience III** 9(1-0-24)
Prerequisite: Admission to program. See description under RXT 288.
- RXT 288 Clinical Experience IV** 9(1-0-24)
Prerequisite: Each clinical is prerequisite to higher number. This four-term sequence of clinical application in Radiation Therapy Technology theory in all phases of Radiation Therapy Technology is designed to present the student with an environment of combining cognitive, psychomotor and effective aspects of the profession. Formal discussion groups are held weekly at the clinical facility. These courses are programmed with specific performance activities. Credit is arranged for each individual term as appropriate with a ratio of 1 credit hour to 3 clinical clock hours. The ratio for lecture or discussion group is consistent with the 1 to 1 ratio.

- RXT 293 Radiation Protection 1(1-0)**
Prerequisite: admission to program. Provides the student with a knowledge of basic physics. Fundamental principles, concepts and terminology are discussed. Basic information on radiation production, properties and characteristics is included.
- Adaptive Cardiac Rehabilitation and Health Maintenance Programs (ARC)**
Department of Health Careers and Center for Health Education/Rehabilitation
Division of Technology & Applied Sciences
- ARC 140 Adaptive Cardiac Rehabilitation 2(2-0)**
Prerequisite: Department approval. Lecture/discussion for people who are convalescing from heart attack/ surgery. Recommended for student and a close family member since lifestyles, habits, and information known to increase risks associated with heart problems are discussed.
- ARC 147 Better Food for Better Health 1(1-0)**
This informal nutrition class is designed to enable adult consumers to make informed food decisions for better health. Course materials, designed by the American Red Cross, assist the participant in developing skills needed to apply the information to their personal food habits, health needs, and lifestyles.
- ARC 150 Adaptive Physical Rehabilitation Cardiac Exercise I 3(1-5.3)**
Prerequisite: Department approval. Beginning course in the sequence of health lectures and medically monitored aerobic exercise laboratory sessions. Introduces the student to effects of appropriate (prescribed) aerobic exercises on the cardiovascular physiology. Method of exercise will be determined by the individual participant's physician and/or the program medical director.
Particular emphasis will be on development of skills for self-monitoring, assessing heart rate and early detection of clinical symptoms of complications. Lectures and group discussion arranged each term. Exercise sessions include 15 minutes early arrival for blood pressure monitoring by staff, general monitoring by staff continues until all students have departed from locker rooms. Graded Exercise Test and physicians referral required upon entry.
- ARC 151 Adaptive Physical Rehabilitation Cardiac Exercise II 4(.85-5.4)**
Prerequisite: ARC 150. Designed for continuing students who wish to participate in the health lectures and medically monitored aerobic exercise classes. The emphasis for students with cardiac problems is to further reduce the risk factors which led to their cardiovascular illness and to improve or maintain their individual fitness level. Methods and level of exercise are determined by the participants physician or by the program medical director. Monitoring by staff continues as in ARC 150. Continuing students enrolled for 13 week terms.
- ARC 164 Health Education Laboratory 1(0-3)**
An independent aerobic exercise course with supervision for use of weight machines. Optional warm-up and cool-down exercises with aerobic groups students.
- ARC 165 Fitness & Rehab Concepts for the Health Professional 3(3-0)**
Basics of exercise physiology, fitness testing and prescription, risk factors and lifestyle adaptations for allied health professionals to apply personally as role models and in patient education. Cardiac rehabilitation and adult fitness labs will be made available for application of principles. Three hours lecture per week.
- ARC 166 Caring For Your Back 1(1-0)**
Designed for individuals without pathological back problems. For those who have experienced back discomfort and want to prevent it through a combination of lectures and slow progressive exercise sessions. Students will learn ways to reduce back discomfort and prevent back injuries.
- ARC 168 Un-Smoking for Life 2(2-0)**
A lecture series is offered which strives to help individuals change the lifestyle linked with smoking. The goal is to enable the smoker to quit permanently and thereby reduce his/her associated health risks.
- ARC 169 Creative Weight Loss 2(2-0)**
Instruction in a behavioral approach to weight loss teaches students to enjoy food while maintaining control of their intake. The objective of this class is to lose weight by changing eating behaviors.
- ARC 170 Fit for Life Exercises 1(0-3)**
Designed specifically for the older person, this exercise course is aimed at reducing the debilitating effects which inactivity has upon aging. Exercises are taught for ambulatory students and for those confined to wheelchairs.
- ARC 172 Basics of Exercise Instruction 1(1-0)**
A seminar designed for those involved in teaching exercise courses. Through lecture and laboratory components the student will be given the basic knowledge necessary to teach exercise safely and effectively, and increase the awareness of potential problems in adult exercisers.
- ARC 260 Aerobics Groups I 2(1-3.54)**
A physiologically sound exercise program for middle-age and older adults. An aerobic workout complemented by stretching and strengthening exercise, aimed at improving fitness and reducing risk of debilitating illness. Arranged lectures included each term. Fitness screening required before entry.
- ARC 261 Aerobics Groups II 3(.85-3.6)**
An opportunity for continuing students to maintain and/or improve their fitness level through supervised aerobic exercise sessions and health education lecture/discussions. Emphasis is on regular, safe exercise and healthy lifestyles. Continuing students enrolled for 13 weeks.
- Adaptive Neurological Rehabilitation Program (ARN)**
Department of Health Careers and Center for Health Education/Rehabilitation
Division of Technology & Applied Sciences
- ARN 100 Living with Multiple Sclerosis 2(2-0)**
Prerequisite: Diagnosis of MS. Series of lectures/discussion groups on issues related to living with MS. Lectures include: research, current treatment, diet, exercise, stress management, family dynamics (family members are encouraged to enroll).
- ARN 145 Memory Improvement 2(2-0)**
Prerequisite: Department approval. Class focuses on memory as a process, memory loss and compensation for memory loss. Provides information and exercises in memory compensation and cueing techniques. Participants are people with neurological conditions.
- ARN 160 Physical Rehabilitation and Fitness 2(2-0)**
Prerequisite: Department approval. For persons with physical limitations who are interested in developing and maintaining an individualized exercise program to increase strength, endurance, range of motion, and mobility. Instruction and supervision are provided by physical and occupational therapy personnel. This is an ongoing class and participants may enroll at any time.
- ARN 205 Neuro Rehab Adjustment Group 1(1-0)**
Designed to assist the student and family members adapt to living with the effects of chronic neurological problems. One hour lecture per week.

TRANSPORTATION TRAINING PROGRAM

Edward Jenkins, Program Director
Fort Custer, Battle Creek, Michigan

The Transportation Training Program provides driver training for a career in the transportation industry. The program includes studies of the following subjects: accident prevention and reporting, air brake systems, communications, customer and public relations, defensive driving course, driver's daily logs, driver's responsibility in maintenance of vehicle, driver situations, fire fighting, highway regulations and laws, D.O.T. safety regulations, orientation, psycho-physical, registration, and state code.

Range instruction consists of 120 hours actual driving time in diesel rigs and 40 hours of classroom instruction. An extended road trip is taken during the final week of training. The four-week training course is conducted five days a week from 8:00 a.m. to 5:00 p.m.

The range program consists of exercises on the College driving range combined with actual road training on public highways.

Because this program is designed for qualifying for licensing, and in order to assure maximum safety practices in truck driver training, specific admission requirements have been established. Applicants must be 18 years of age before admission.

Enrollment requirements for this program include a Department of Transportation physical exam, ability to communicate in the English language, both spoken and written, and a good driving record.

Students are placed on a waiting list. Admission is first-come, first-qualified, first-served. Curriculum Code 580.

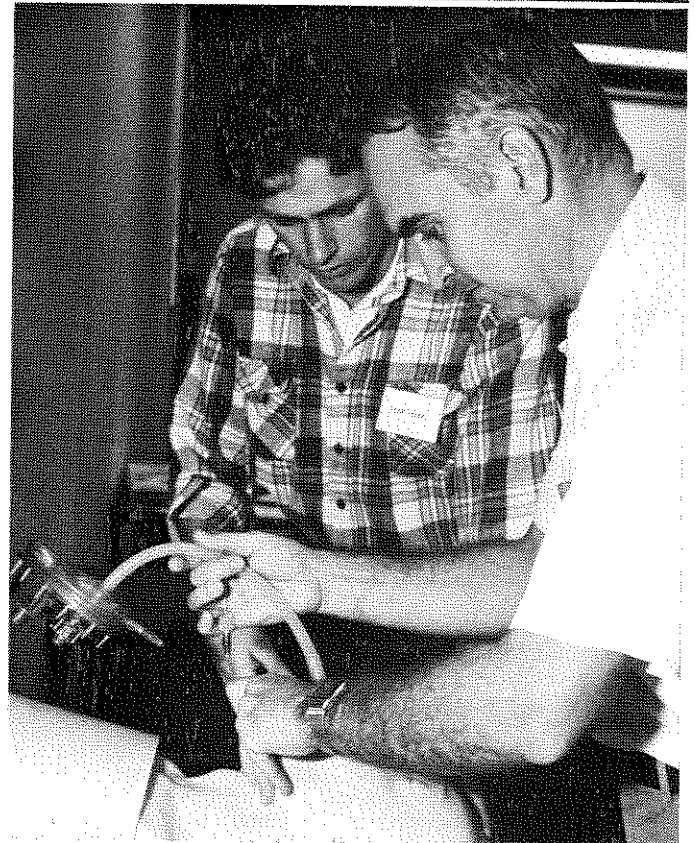
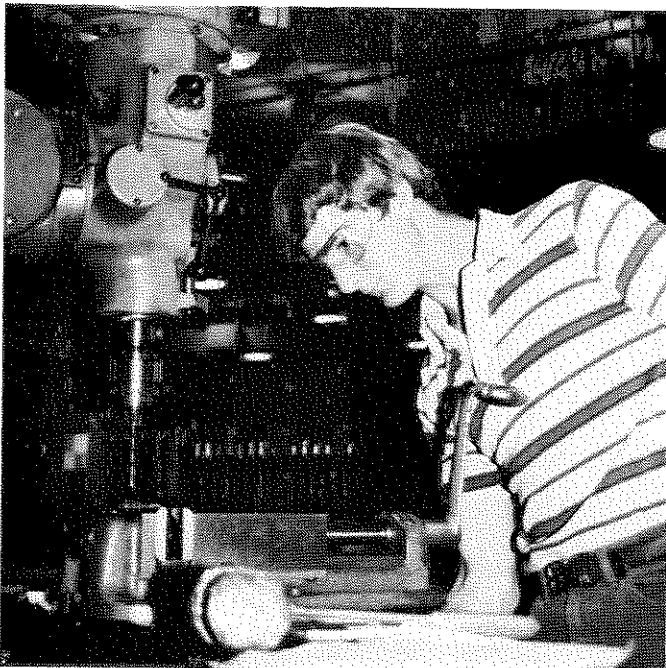
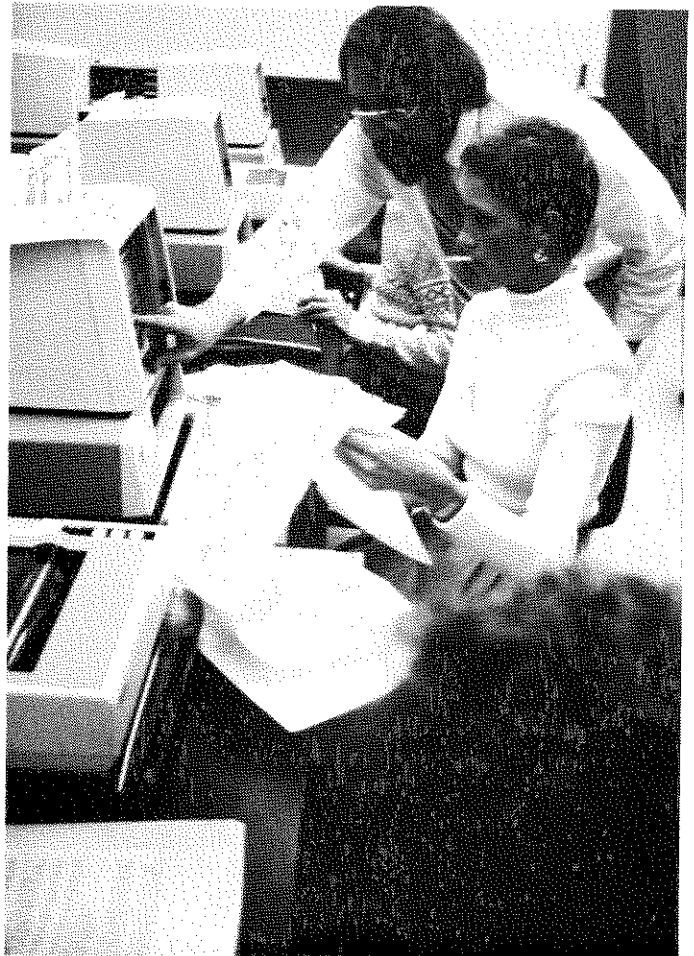
COURSE DESCRIPTIONS

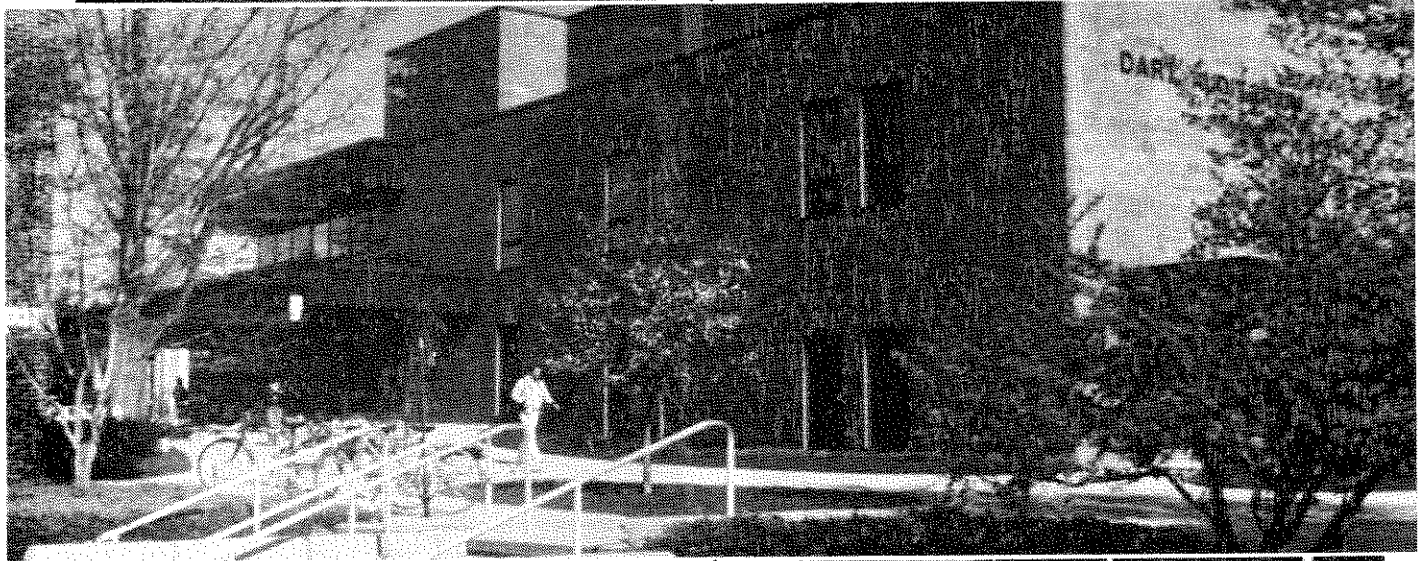
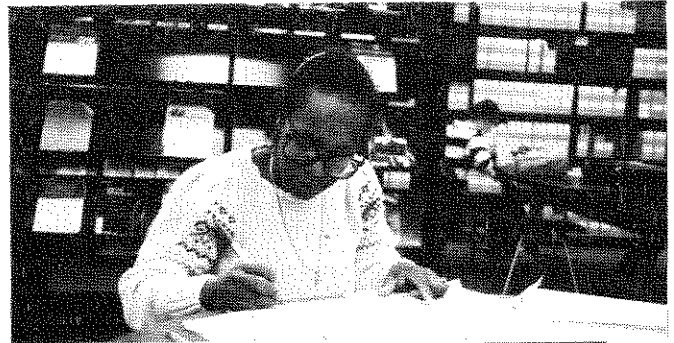
**Truck Driver Training (TT)
Transportation Training Program
Division of Technology and Applied Sciences**

TT 101 Truck Driver Training

Instruction covers a four-week period. Classes are scheduled five days a week, Monday through Friday, 8:00 a.m. - 5:00 p.m. Actual driving time is 120 hours with 40 hours of classroom instruction. An extended road trip is taken the fourth week of class. Applicants must be 18 years of age or older. Enrollment requirements include a Department of Transportation physical exam, ability to communicate in the English language, both written and spoken, tenth grade reading and comprehension, ability to compute simple fractions, and a good driving record. Applicants must know how to shift a straight stick transmission and use a clutch, before attending, as shifting a truck requires double clutching. Students are enrolled on a first-come, first-served basis. Students will be placed on a waiting list upon request.

A \$100.00 deposit is required with the application to reserve a space in a class. This deposit is refunded on cancellation if College is notified at least eighteen (18) days prior to the class starting date. 100% tuition refund (less \$100.00 deposit) if student drops during first week. Fees prorated at \$20.00 per day. Balance refunded. 50% tuition refund if student drops during second week. Fees prorated at \$20.00 per day. Balance refunded. No refunds after second week.



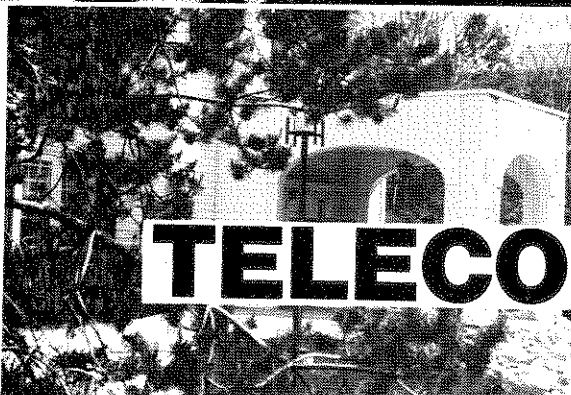




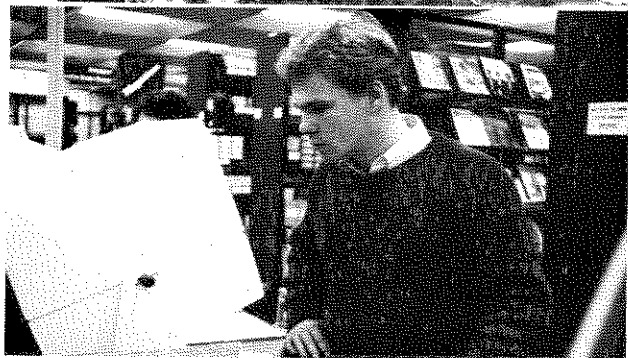
Lansing Community College



Dean James Platte



TELECOMMUNICATION & THE ARTS



Department of Library Information Services
Department of Media
Department of Performing Arts

DIVISION OF TELECOMMUNICATION AND THE ARTS

Dean James P. Platte
Room 324, Office Unit F

The Division of TeleCommunication and the Arts has two roles in supporting the mission of the College:

1. Serving the cultural, learning and information needs of students, staff and the community with library resources, current information, and media technology.
2. Instructing students in the technical skills of human expression in imagery, performance and media.

Program and Service Objectives

The program and service objectives of the Division are:

1. to acquire, produce, organize, promote and distribute materials and equipment that facilitate communication, learning and instruction.
2. to manage the circulation of print and non-print resources from libraries in each of the three unit colleges.
3. to produce faculty designed instructional media.
4. to support faculty and staff experimentation with alternative learning environments in classrooms and laboratories, or in the community through telecommunications.
5. to provide instruction and assistance to students, faculty and staff in the development of competencies in locating and using information and resources.
6. to assist students, faculty, and administrators in college communications systems, supporting community and college relations, performing arts, student activities, etc.
7. to initiate and maintain networks of resources by working with community, state and professional agencies concerned with communication and information access.
8. to schedule and produce a year-round calendar of visual and performing arts that serves the cultural interests of the community and showcases the College and the competencies of its students.
9. to conduct curricula in Photography and Filmmaking, Radio and Television, Commercial Art, Interior Design, Fine Arts, Music, Theatre and Dance.

Organization of Resources

To carry out these objectives, the Division has a staff of faculty, technicians, designers, engineers, and administrators with extensive academic and technical expertise. They combine their expertise in varying instructional and work teams that provide both state-of-the-art services and academic training. For example, in the media and information access areas, faculty and technicians may interrelate as video producers, camera persons, teachers, information specialists, computer operators, systems designers and artists. In the performing arts area, faculty and staff serve both as teachers and as directors, producers, and performing artists in musicals, ensembles, original choreography, technical theatre design and productions.

Since the Division provides diverse college-wide services and instructional programs, the facilities of the Division are to be found in almost every building on campus. Directories should be consulted for specific program or service location.

Major Programs and Services

The major services and curricula are:

Library and Information Services
Media, Audio, and TV Production Services
Commercial Art
Computer Graphics Art
Interior Design
Fine Arts
Radio and Television
Filmmaking
Photo Technology
Dance
Music
Theatre

DEPARTMENT OF LIBRARY INFORMATION SERVICES

Chairperson: Ellen Person
Room 231, Old Central Building

Library information services are offered from three campus libraries. The Arts & Sciences Library (ASL) is located in Room 253 on the north side of the second floor in the A & S Building. Old Central Library (OCL) is located in Room 232 in the northwest corner of the Old Central Building on the second floor. The Vocational-Technical Library (VTL) is in Room 210 of the Vocational-Technical Building. The hours of the three library service centers generally coincide and these hours are posted at the doors. Telephone for library open

hours information at 483-1888. All Library users must present an LCC validated ID card when checking out materials.

Resources Available

The collection of over 105,000 book and A-V titles and 1,200 periodical titles has been selected by faculty and librarians to present varied points of view and current information on subjects which support instruction. In general, each library contains those resources related to the programs centered in each building. The computer on-line catalog with terminals in all the libraries lists materials found in all LCC libraries. Twenty-five on-line catalog terminals may be searched by author, title, subject and other search approaches. Each library's terminals display information on the holdings of all three libraries where they are arranged in Library of Congress classification order. To determine where to find a particular item, users should check at a catalog terminal for location code symbols which designate a given library—OCL for the Old Central Library, ASL for the Arts & Sciences Library, and VTL for the Vocational-Technical Library. Lansing Public Library's holdings are being added to the catalog information system. Approximately 150,000 LPL records (in Dewey Decimal classification) are now accessible via the catalog terminals.

Other resources of the libraries include instructional lab circulation support; back-files of magazines, journals and newspapers, bound, unbound and on microfilm; a file of telephone directories (OCL); corporate annual reports (OCL); the Career Information Center collection including college catalogs (VTL); coin-operated copy machines; circulating recordings, audiotapes, filmstrips and slides; an OCLC computer catalog terminal to locate material which can be borrowed from over 3,000 libraries; Easy Reading Browsing (ERB) books to support developmental reading courses.

Facilities for student use in the libraries include study carrels. Students may view 16mm films and videotapes from the LCC teaching collection in the A&S Library as well as use tape and record players or sound filmstrip and slide players in the listening-viewing area. Cassette players and calculators are loaned for use in the libraries.

Services Offered

The staff of the libraries provide users their most important link to the information in LCC's library resources collection and other libraries of the community. LCC actively participates in the OCLC and other interlibrary loan programs. Students should request interloan service information from the reference staff for magazine article photocopies and books which LCC's libraries do not own. A minimum of one to two weeks is required to borrow from other libraries. Reference desks are conveniently located in all three centers, and the reference staff invite requests for assistance.

Services to faculty members include library instruction options geared toward specific assignments or overall introduction of services. Faculty are encouraged to discuss with librarians acquisitions of new materials for their curricula. Current Contents Service is offered as a current journal subject awareness opportunity. Materials are also placed "on reserve" for short period use. Librarians will also run computer-printed subject bibliographies and prepare "Focus On..." study guides relative to individual class needs. More than seventy "Focus On..." guides to subject resources and services are available.

Other services to faculty include provision of AV equipment for classroom use which may be checked out from each of the libraries. LCC-owned films and videotapes may be booked for classroom use through the libraries. Films and videotapes for faculty use can be rented from other organizations through the libraries. Please call 483-1715 or 483-1657 for details or contact library check-out desks.

Large remote computer-based banks of electronically coded information, called databases, supplement the Library's on-site collections. Using DIALOG and other database sources, the reference staff conduct online searches to pinpoint sources of information and print out complete articles or abstracts from books and periodicals. Online search service requests should be made at the reference desks.

Services for handicapped persons include special equipment and materials such as 4-track tape recorders, talking calculators, variable speech controllers, TV print-magnifiers, Perkins Braille, large print typewriters, Braille maps of the LCC campus, Braille and large-print dictionaries. The librarians will provide information about the location and use of these items.

Library Information Services offers a two-credit course, LIB 150 USING INFORMATION RESOURCES, to help students learn to find information in libraries. All students are encouraged to take the course, especially those planning to transfer to baccalaureate programs. Audio tapes, videotapes and other materials are available to assist students in independently developing library and information use skills.

Students, faculty and staff using the libraries should acquire copies of various free Library Information Services handouts so that they become familiar with the detailed aspects of services and procedures.

COURSE DESCRIPTIONS

Library (LIB)
Department of Library Information Services
Division of TeleCommunication and the Arts

LIB 150 Using Information Resources

2(2-0)

Introduction to use of library materials and services with emphasis on information and skills that will facilitate using any library.

MEDIA DEPARTMENT

Chairperson: Dale Dunham
108-B Academic and Office Facility

Services Offered

The Media Department offers many services to help faculty with classroom media and to help College departments prepare and present media materials.

Audio Services staff provide studio recording facilities and assistance to faculty and staff in preparing instructional tapes. Public address systems and location recording services are also available. From master tapes, staff make cassette and open reel duplicate tapes for classroom use.

Television Services include production assistance for instructors who wish to prepare their own instructional television programs. Television Services staff provide closed circuit television channels for classroom programming. Instructors may schedule videotapes from the College collection, view programs during commercial broadcasts or play back their own tapes. Telecourses offered over public broadcasting and cable are coordinated and supported by the Television Services staff.

Photo and Graphic Services include all forms of still photography, color and black-and-white prints, enlargements, slides, copywork, and location photography as well as printing and graphic services for instruction and other college operations.

FACILITIES AVAILABLE

Television Studio

A complete color television studio supported by full 3/4 inch editing facilities provides the opportunity for instructional based and public affairs programming to be aired on Lansing Cable Channel 33 or the LCC closed circuit distribution network. Students may gain practical experience by enrolling in television production classes and by participating in all aspects of program production.

Computer Graphics Center

The Commercial Art & Design Program offers hands-on training using professional, stand-alone systems designed for a wide range of graphic arts applications, from advertising to video production. Programming skills are not necessary. With each high-quality system, the student has access to 16.7 million colors, 256 at a time, as well as a selection of pens, paintbrushes, airbrushes, type fonts, shapes and grids. Each system can perform complex manipulation techniques such as multiple imaging, scaling, rotation, perspective and animation. Images can also be captured with a video camera for computer manipulation. Students can make copies of their work using a full-color printer, a film recorder, and/or videotape. Each student has the exclusive use of a workstation during scheduled class or lab time.

Photography Center

The Photography Center offers the students a variety of facilities and equipment. Black and white printing laboratories with a total of thirty-eight enlargers are available during open laboratory hours as well as scheduled class times. Black and white roll and sheet film processing rooms are open during operating hours. Six separate color printing rooms and automatic print processor offer the color printing student an opportunity for serious, controlled work. Processing of color reversal and negative films is available at low cost. Two studios and a variety of electronic flash and continuous lighting equipment give students practice in portrait and product photography. Densitometers, matt cutters, dry mount presses, retouching machines and equipment, normally owned only by professional studios and laboratories are available for instruction and practice. A variety of cameras, light meters, and lighting equipment may be checked out for student projects.

Motion Pictures

Film classes at LCC are conducted in small groups, and students have access to the best modern production facilities and equipment. Nearly all production is done in 16mm film. Studio and location film equipment, editing labs, sound mixing facilities, animation and processing equipment are available to students.

Radio Station

Media, Radio and Television students participate in the broadcasting operations of the campus radio stations, serving as disc jockeys, newscasters, producers, and technicians. The studios are fully equipped professional radio facilities that provide excellent operational experience at every level of program production.

Large Group Media Facilities

Media Department renders both technical and operational support to the following multi-media facilities across the campus: Dart Auditorium, Dart Media Seminar Room, Old Central Lecture Hall, Arts and Sciences Amphitheatre and Planetarium. In addition to supporting Science, Humanities, and other curricula, the Planetarium Multi-media Center provides special request programming for the community.

PROGRAMS OF STUDY

Commercial Art & Design Program

Art is a dynamic field expanding and changing with the world it serves. The Commercial Art & Design Program at Lansing Community College keeps abreast of these changes and offers courses and Associate Degrees designed to meet the needs of persons who wish to pursue careers in Commercial Art, Fine Art, Interior Design, and Computer Graphics. Each art curriculum may be completed at the student's own pace on a full- or part-time basis.

Media Technology Program

A broadbased media curriculum leading to an Associate of Applied Science Degree provides the MRT student with the practical skills necessary to pursue a professional media career. As business and industry continue to expand their use of media, more and more jobs will be available for students with such "hands-on" production experience. Offering over forty courses, the program provides specialty tracks in video production, radio broadcasting, and audio production and recording. Media professionals instruct students in both the theory and practice of media operations. Internships are encouraged and opportunity is given for gaining production experience on the College's full-time cable channel.

Photographic Technology Program

Photography is one of the most usable of today's activities, not only as an industry but as an indispensable part of other fields including research, training, and medicine. In innumerable areas, the visual recording is essential to progress. The program offers five different photographic career options. They are Commercial Photography, General/Fine Arts Photography, Photojournalism, Motion Picture Production, Photo Marketing, and Multi-image.

The Photography Program operates conventional class offerings and a Media Institute, where the student progresses through a year-long integrated study of photography.

COURSE DESCRIPTIONS

Art (ART)
Media Department
Division of TeleCommunication & the Arts

ART 101 Design I 4(2-4)

Universal principles of design, design theory and vocabulary with emphasis on composition and its application to black and white media.

ART 102 Design II 4(2-4)

Prerequisite: ART 101. Continuation of two-dimensional design principles with emphasis on color theory; color interaction; properties, principles, and qualities of color.

ART 103 Design III 4(2-4)

Prerequisite: ART 102. Line, shape, form, value, and texture in a variety of three-dimensional materials, applying principles and elements of design.

ART 110 Introduction to Computer Graphics Art 3(3-0)

A comprehensive overview of the computer graphics field through the use of videotapes, lectures, demonstrations and local field trips.

ART 111 Computer Graphics Art I 4(2-4)

Prerequisite: ART 110. A beginning course for students interested in creating artistic images with the aid of a computer. Emphasis is on hands-on training utilizing sophisticated, user-friendly artistic software. Programming skills are not necessary.

ART 112 Computer Graphics Art II 4(2-4)

Prerequisite: Art 102 & 111. A continuation of Computer Graphics Art I (ART 111) with emphasis on digitizing and manipulating images with the aid of a computer to create more sophisticated work. Students will experiment with more complex problems as skills progress.

ART 113 Computer Graphics Art III 4(2-4)

Prerequisite: ART 112. A continuation of Computer Graphics Art II (ART 112). Students will review and practice skills with increasingly complex problems, producing portfolio pieces. May be taken three terms for credit.

ART 115 Computer Graphics/Special Projects 4(0-8)

Prerequisite: Departmental Approval. Individual pursuit of special projects not included in regular course offerings. May be taken three terms for credit.

ART 130 Beginning Drawing 2(1-2)

An introductory course using a variety of materials including pencil, charcoal and ink.

- ART 131 Drawing I** 4(2-4)
Prerequisite: ART 101 recommended concurrently. A studio course using a variety of tools and methods. Introduces realism, abstraction, and stream of consciousness, using materials such as pencil, ink, and conte crayon.
- ART 132 Life Drawing** 4(2-4)
Prerequisite: ART 101. Basic concepts, approaches, and techniques involving drawing the human figure, using materials such as pencil, ink, charcoal, and conte crayon. May be taken four terms for credit.
- ART 134 Advanced Drawing** 4(2-4)
Prerequisite: Department Approval. More complex problems in still life, portraits, landscape, and figure drawing, using a variety of tools and materials in black and white and color. May be taken four terms for credit.
- ART 135 Introduction to Printmaking** 4(2-4)
Examines the various printmaking techniques, tools, and vocabulary of the printmaker. Fine art and career opportunities for printmaking are discussed.
- ART 139 Printmaking II** 4(2-4)
Prerequisite: ART 135. A continuation of basic printmaking knowledge into more advanced technical and aesthetic concerns.
- ART 140 Screen Printing I** 4(2-4)
Prerequisite: ART 135. Silkscreen printing and basic photographic silkscreen processes includes constructing a frame and making a photo-transparency.
- ART 141 Screen Printing II** 4(2-4)
Prerequisite: ART 140. Practice techniques and experimentation with more complex problems.
- ART 143 Studio Practices I** 4(2-4)
Keyline and paste-up techniques for graphic arts reproduction with emphasis on printing terminology and processes. Color separation and pagination are introduced.
- ART 144 Studio Practices II** 4(2-4)
Prerequisite: ART 143. Continuation of keyline techniques with emphasis on speed and professional accuracy. Copy preparation, paper selection, and professional finishing techniques are introduced.
- ART 145 Lettering I** 4(2-4)
Introduction to typography. Includes history of type and typesetting, type styles, identification, classification, designing typefaces for specific purposes, and type indication for layout.
- ART 146 Lettering II** 4(2-4)
Prerequisite: ART 145. Use of type in layout and graphic design with emphasis on type selection, and copyfitting.
- ART 147 Perspective Product Rendering I** 4(2-4)
Basic principles of perspective drawing utilized in product and architectural illustration; rendering in one-, two-, and three-point perspective utilizing photographs or actual products.
- ART 148 Perspective Product Rendering II** 4(2-4)
Prerequisite: ART 147. Emphasis on color rendering and practicing techniques of illustrating architectural and product subjects most often used in the graphics or visual communications industries.
- ART 150 Design/Layout I** 4(2-4)
Prerequisite: ART 145. Layout activities used in visual communications such as newspapers, brochures, and other printed matter. Includes research, conceptualization and execution of layouts from "thumbnail" to "comprehensives"; design principles, their effect on composition and organization, and the role of layout in the commercial art industry.
- ART 151 Drawing Techniques** 4(2-4)
Prerequisite: ART 132 & 147. Illustrative techniques utilized to take a preliminary pencil drawing and convert it to a "finished" ink drawing, emphasis on sound draftsmanship and variety of contemporary, realistic, illustrative black and white techniques in both solid black line and wash. Suitable for both commercial art and fine art students.
- ART 155 Art Form Development I** 4(4-0)
Survey of the fine and decorative arts including painting, sculpture and architecture of ancient and primitive cultures: Egypt, Mesopotamia, Greece, and Rome. Covers the original and contemporary affect of the art, the uniqueness of the styles and the social, psychological, and historical correlations with the styles.
- ART 156 Art Form Development II** 4(4-0)
Emphasis on the humanistic art of the Islamic, Romanesque, Gothic, Renaissance and Mannerist periods. Correlations and comparisons between specific pieces of art and historical events, artists and artistic techniques are identified and compared.
- ART 157 Art Form Development III** 4(4-0)
Surveys painting, sculpture, and architecture: seventeenth century Baroque through twentieth century Contemporary Art. Correlations and comparisons between specific pieces of art and historical events, artists and artistic techniques are identified and compared.
- ART 160 Interior Design I** 4(2-4)
Introduction to the profession of interior design, design theory, color theory, principles and elements of design used to communicate solutions to environmental interior problems; design vocabulary, differences in hue, value, and saturation levels of color as they affect human and interior environments; principles and elements of design in a composition such as space planning of various rooms and wall elevations. ART 163 Interior Design Drawing is recommended concurrently.
- ART 161 Interior Design II** 4(2-4)
Prerequisite: ART 160 and 101. Styles and materials used in designing interiors with emphasis on floor coverings, accessories, window treatments, and the effects of textiles. Includes the design and drawing techniques of various window treatments. ART 164 Interior Design Drawing II is recommended concurrently.
- ART 162 Interior Design III** 4(2-4)
Prerequisite: ART 161 and 102. Examines the relationship of human needs to interior environmental design with emphasis on use of lighting to create various atmospheres, effects, and to fulfill certain functions. Art 165 Interior Design Drawing III is recommended concurrently.
- ART 163 Interior Design Drawing I** 4(2-4)
Practice in fundamental drafting techniques used by the interior designer. Includes drafting terminology; drafting techniques in pencil and ink; kitchen and bathroom planning; principles of architectural lettering; electrical and lighting overlay techniques; interior elevations; and isometrics.
- ART 164 Interior Design Drawing II** 4(2-4)
Prerequisite: ART 163. Introduction to various media used by the interior designer, emphasis on techniques and practice in a variety of media; rendering perspectives of interior space in one- and two-point perspective, eyeball sketching, logos; different methods for reproduction of drawings.
- ART 165 Interior Design Drawing III** 4(2-4)
Prerequisite: ART 164. Focus on problem solving and practice in all media and preparation of a professional portfolio of renderings.
- ART 166 Home Decorating** 2(2-1)
Survey of general information on decorating residential buildings. Introduces and utilizes principles of interior design.
- ART 167 Antiques and Collectibles** 2(2-0)
Learn to recognize, date, and evaluate antiques and collectibles from the bases of materials, methods of construction, styles and periods.
- ART 190 Matting and Framing Techniques** 2(1-2)
Various materials and techniques for displaying and exhibiting art work, applying demonstrated techniques to matting and framing.
- ART 200 Painting I** 4(2-4)
Prerequisite: ART 102 and 131. Introduction to objective oil painting concepts in the realistic tradition; basic materials and tools; handling qualities.
- ART 201 Painting II** 4(2-4)
Prerequisite: ART 200. A continuation of Painting I (ART 200), emphasizing more advanced techniques and increasingly complex problems in oil painting. May be taken three terms for credit.
- ART 202 Portrait Painting** 4(2-4)
Prerequisite: ART 132 and 102. An introductory course in human portraiture with primary concentration on oil painting.
- ART 203 Figure Painting** 4(2-4)
Prerequisite: ART 102 and 132. An introductory course in the human figure

- using various media with primary concentration on oil painting. May be taken three terms for credit.
- ART 204 Watercolor I** 4(2-4)
Prerequisite: ART 102. Introduction to the art of transparent watercolor. Examines paper characteristics, degrees of wetness, brushes and tools, and various techniques in producing watercolor artworks.
- ART 205 Watercolor II** 4(2-4)
Prerequisite: ART 204.
- ART 206 Watercolor III** 4(2-4)
Prerequisite: ART 205
- ART 207 Advanced Watercolor** 4(2-4)
Prerequisite: ART 206. A continuation of Watercolor I (ART 204). Each emphasizes more advanced techniques and increasingly complex problems in watercolor painting. ART 207 may be taken three terms for credit.
- ART 208 Experimental Painting** 4(0-8)
Prerequisite: Department Approval. Developing and analyzing a personal approach toward painting; producing a series of canvasses of increasing complexity for preparation of a portfolio of exhibit-quality works. May be taken three terms for credit.
- ART 210 Design/Layout II** 4(2-4)
Prerequisite: ART 150. An overall view of the Media; its uses in planning campaigns; procedures for campaign building; and graphic design campaign techniques.
- ART 211 Design/Layout III** 4(2-4)
Prerequisite: ART 210. Three-dimensional commercial design, packaging and display, with emphasis on surface graphics using a variety of materials, tools, methods, and techniques.
- ART 212 Design/Layout IV** 4(2-4)
Prerequisite: ART 211. Preparation of a commercial art portfolio for presentation and job procurement, including magazine, newspaper, brochure, and corporate identification layouts.
- ART 213 Illustration I** 4(2-4)
Prerequisite: ART 151. Practice and development of skills using india ink with pen and brush, and tempera techniques; basic illustrative techniques; preparation of portfolio pieces.
- ART 214 Illustration II** 4(2-4)
Prerequisite: ART 213 and 102. Full color exercises in tempera; introduction to acrylic techniques; stylized drawing expressions and design-oriented compositions.
- ART 215 Illustration III** 4(2-4)
Prerequisite: ART 214. Portfolio preparation to include full color illustration in either tempera, acrylic, dyes, or mixed media; black and white ink renderings in pen and brush; wash drawings; and scratch board drawings.
- ART 216 Cartoon Drawing I** 4(2-4)
Prerequisite: ART 132. Focus on strong, stylized drawing, dramatic exaggerated action, simple but imaginative characterizations, and uncluttered ink rendering techniques. Exercises in pencil, fibertipped pen, and brush and pen ink.
- ART 217 Cartoon Drawing II** 4(2-4)
Prerequisite: ART 216. Cartoon illustrations from simple spots to complex compositions and comic strip panels, slide film cartoon art in full color; album covers and greeting cards.
- ART 218 Fashion Illustration I** 4(2-4)
Prerequisite: ART 132. Fashion illustration utilizing black and white line and wash technique, emphasizing use of pen and ink.
- ART 219 Fashion Illustration II** 4(2-4)
Prerequisite: ART 218. Fashion illustration using brush, markers, soft pencil, chalk, white ink, and paint.
- ART 220 Fashion Illustration III** 4(2-4)
Prerequisite: ART 219. Introduction of watercolors, pastels and crayons; preparation of a portfolio of sample pieces for presentation and job procurement.
- ART 221 Airbrush Techniques I** 4(2-4)
Introduction to the operation and techniques of the airbrush in shading and creating textures in both black and white and color.
- ART 222 Airbrush Techniques II** 4(2-4)
Prerequisite: ART 221. Focuses on more complex airbrushing problems; work on areas of specialization.
- ART 226 Introduction to Scientific Illustration** 4(2-4)
Prerequisite: ART 132. Introduction to medical and scientific illustration. Includes realistic drawing from anatomical models and specimens and the visual presentation of abstract scientific information.
- ART 228 Introduction to Animal Illustration** 4(2-4)
Prerequisite: ART 151. Introduction to animal illustration includes realistic drawing from mounted specimens and live animals.
- ART 229 Animal Illustration II** 4(2-4)
Prerequisite: ART 228. A continuation of Introduction to Animal Illustration (ART 228). Students will practice techniques and experiment with more complex problems as skills progress.
- ART 230 Interior Design IV** 4(2-4)
Prerequisite: ART 162 and 163. Emphasizes the architectural aspects of interior design, focusing on building materials, energy efficiency, building codes, efficient utilization of space, and alternative housing design.
- ART 231 Interior Design V** 4(2-4)
Prerequisite: ART 230 and 164. Emphasizes contract design. Includes designing commercial interiors integrating client's needs and the socio-psychological aspects of the environment; estimating and specifying a contract interior.
- ART 232 Interior Design VI** 4(2-4)
Prerequisite: ART 231 and 165. Examines the fundamentals of the interior design business process: design responsibilities in the profession, incorporation of design ethics in the professional practice. Emphasis on problem-solving situations simulating designer-client roles.
- ART 233 Interior Design/Textiles** 4(2-4)
Prerequisite: ART 161 and 102. Examines the fundamentals of textiles, their characteristics and identification, fabric weaves and uses, basic fiber weaves, currently used complex weaves, natural fibers, and man-made fibers.
- ART 234 History of Decorative Arts I** 4(4-0)
Prerequisite: ART 161. A survey of the history of decorative art periods including furniture, architecture, textiles and accessories, covering periods from Ancient through Renaissance and relating to modern day environments.
- ART 235 Interior Design Workroom Practices I** 4(2-4)
Prerequisite: ART 162 and MTH 008. Examines studio workroom methods and techniques of floor, wall and window coverings, and the diagram methods used to enable the designer to communicate the design concept to the workroom person.
- ART 236 Interior Design Workroom Practices II** 4(2-4)
Prerequisite: ART 235. Emphasizes cost estimating for a total job, installation techniques for window treatments and wall coverings, and workroom procedures.
- ART 237 Interior Design Sources** 4(2-4)
Prerequisite: ART 235. Examines specific resources used in the current design industry and the setting up of a source file for client presentation.
- ART 239 History of Decorative Arts II** 4(4-0)
Prerequisite: ART 234. Emphasis on the Baroque to Modern periods, and an examination of preservation principles.
- ART 240 Interior Design Business Practices** 4(2-4)
Prerequisite: ART 235. Examines how to facilitate introduction, how to proceed on jobs, recommendation for jobs, when to close them, actual set-ups, estimates, purchase orders, and invoicing.
- ART 256 Advanced Screen Printing** 4(2-4)
Prerequisite: ART 141. Review and practice; producing portfolio pieces. May be taken three terms for credit.

ART 260 Basic Art For Elementary Teachers 4(2-4)

Especially for elementary school teachers responsible for the student art experience. Emphasis on developing a greater art appreciation, awareness of art forms, and competency, working with a variety of art media. Covers the creative and mental growth of children and their needs in an art situation.

ART 272 Printmaking Independent Study 4(0-8)**ART 274 Commercial Art Independent Study 4(0-8)****ART 276 Art Independent Study 4(0-8)**

Prerequisite: department approval. Individual pursuit of special projects not incorporated in regular course offerings.

ART 278 Commercial Art Internship 8(0-16)**ART 279 Interior Design Internship 8(0-16)****ART 281 Art Internship 8(0-16)**

Prerequisite: department approval. An off-campus field study. Students will gain pre-career experience by working in a studio environment under the supervision of a professional artist/designer. Regularly scheduled progress reports will be given and discussed with supervising faculty member.

Art Workshop (ARW)**Media Department****Division of TeleCommunication and the Arts****ARW 121 Improving Office Spaces 3(2-1)**

A survey of general information on designing office environments. Includes color coordination, lighting and furniture selection with emphasis on space planning.

ARW 125 Designing Window Displays 2(1-2)

Survey of general information on designing retail window displays. Introduces and utilizes principles of design.

ARW 131 Computer Graphics Workshop 2(1-1)

A condensed hands-on introduction to computer graphics utilizing sophisticated, user-friendly artistic software. Programming skills are not necessary.

ARW 141 Watercolor Workshop 2(1-2)

A condensed learning experience introducing the student the art of transparent watercolor. Emphasis on the use of different papers, degrees of wetness, tools and techniques. Students will progress to more complex problems as ability develops.

ARW 142 Oil Painting Workshop 2(1-2)

A condensed learning experience introducing the student to the art of traditional oil painting. Emphasis on color and composition, tools and techniques. Students will progress to more complex problems as ability develops.

ARW 144 Acrylic Painting Workshop 2(1-2)

A condensed learning experience introducing the student to the art of acrylic painting. Emphasis on color theory, tools and techniques. Students will progress to more complex problems as ability develops.

ARW 145 Landscape Painting and Drawing 2(1-2)

Emphasis on the use of color, perspective and compositional strategies of the landscape. Most sessions spent in the field. All media welcome.

ARW 181 Painting/Drawing Life Workshop 3(0-6)

Prerequisite: Art 132 and 200. An intense workshop combining painting and life drawing. Students will work independently and progress to more complex problems as ability develops.

ARW 200 Hand Made Paper 2(1-2)

A condensed learning experience introducing the student to the art of hand made paper. Emphasis on pulpmaking and casting techniques. Students will progress to more complex problems as ability develops.

ARW 221 Calligraphy 2(1-2)

A workshop designed to introduce the student the art of fine writing using italic pens. Emphasis on hand lettering; surveying different styles and scripts used in early manuscripts; and adaptation to modern use.

ARW 222 Advanced Calligraphy 2(1-2)

Prerequisite: ARW 221. A continuation of Calligraphy (ARW 221), emphasizing

a variety of tools, materials and techniques. Students will progress to more complex problems and experiment with aesthetic expression as skills progress.

Media Technology (MRT)**Media Department****Division of TeleCommunication and the Arts****MRT 110 Consumer Audio 2(2-0)**

Provides an overview of the audio industry; introduces common audio terms used with home stereo systems; examines equipment specifications, function, and home stereo setup.

MRT 112 Media Materials I 4(4-0)

Introduction to graphic processes: graphic photography, screenprinting, letterpress, typography, mounting, laminating, and their application to media materials.

MRT 114 Media Materials II 4(4-0)

Prerequisite: MRT 112 or department approval. In a workshop atmosphere, students use MRT 112 skills to meet specific needs of selected college productions or group projects.

MRT 116 Fundamentals of Media Production 4(4-0)

Shows integrated usage of film, photography, television, graphics, and other audio-visual arts; selection of the best media for a given communication problem or design.

MRT 118 Multi-Media Workshop II 4(4-0)

Prerequisite: MRT 116 or department approval. Continuation of MRT 116 with emphasis on specific student projects.

MRT 120 Audio Production I 4(4-0)

Covers the basics of audio recording techniques: audio mixing, tape editing, and microphone practices applicable to media production and live performance.

MRT 125 Audio Production II 4(4-0)

Prerequisite: MRT 120. Introduces professional audio equipment and techniques used to produce radio commercials and sound tracks for other media; explores methods of recording narration and sound effects; also, techniques for selecting music beds, timing mixes, and production mixing.

MRT 130 Introduction to Broadcasting 4(4-0)

Analyzes the nature, origin, function, and development of television and radio.

MRT 132 Fundamentals of Radio 4(4-0)

Survey of the radio broadcast industry: careers, qualifications, responsibilities, station operations. Introduces basic studio production and on-air presentations.

MRT 134 Radio Production 4(4-0)

Prerequisite: MRT 132. Continuation of MRT 132. Studio equipment and techniques used in radio production for recorded and live presentation. Students produce radio programs, commercials and public service announcements.

MRT 136 Radio Performance 4(4-0)

Prerequisite: MRT 134. Continuation of MRT 134. Studio production principles for radio broadcast on air. Commercial, news, on-air skills practiced in class and during lab exercises. Simulation and critique of actual on-air performance.

MRT 140 Cable Television and Other New Technology 4(4-0)

Provides overview of the cable television industry and changing telecommunication technologies. Use of lectures, discussions, field trips, guest experts, films, and video tapes to analyze broadband communications issues.

MRT 145 Broadcast News I 4(4-0)

Survey of the broadcast news industry, including practical exercises in news-writing and presentation.

MRT 148 Broadcast News II 4(4-0)

Prerequisite: MRT 145 or department approval. A continuation of Broadcast News I with more emphasis on newswriting and presentation. Typing skills necessary.

MRT 150 Fundamentals of Television 4(4-0)

Analyzes components of effective visual communication. Stresses pre-production work such as scriptwriting, storyboarding, light plot, and floor plan design, as well as graphic card preparation. Provides some "hands-on" studio experience.

MRT 152 Television Production I	4(4-0)	MRT 234 Radio Workshop	5(5-0)
Prerequisite: MRT 150 or department approval. Offers extended access to TV production equipment and facilities. Practice exercises involve students in all crew responsibilities. Emphasis on practical application of theoretical framework provided in MRT 150. Graded exercises.		Prerequisite: MRT 132 or Department approval. Advanced operations in production and management of the student-operated radio stations.	
MRT 155 Television Production II	4(4-0)	MRT 235 Audio Recording III	4(4-0)
Prerequisite: MRT 152 or department approval. A more vigorous application of skills learned in MRT 152. Student will also participate in individual projects.		Prerequisite: MRT 225. Provides additional hands-on experience to refine technical and creative recording skills.	
MRT 158 Television Production III	4(4-0)	MRT 242 Radio Practicum	2(2-0)
Prerequisite: MRT 155 or department approval. A vigorous application of studio based video production skills learned in MRT 155, emphasizing pre-production and production techniques.		Prerequisite: Department approval. Practical experience in radio studio operations. Students work in staff positions at campus radio stations, WLCC and WLCR. Varied assignments, including disc jockey, newscaster, production specialist, scriptwriter, shift manager, and related jobs.	
MRT 160 Radio-Television Copywriting	4(4-0)	MRT 244 Audio Practicum	2(0-5)
Planning, preparing, and writing basic script materials for radio and television production. Emphasis on practical copy needs of broadcasting stations, such as commercial messages, station continuity, promotion, and public service announcements.		Practical experience in audio production and recording techniques. Students work on assigned audio projects, which vary according to production schedules.	
MRT 165 News and Public Affairs Writing	4(4-0)	MRT 246 TV Practicum	2(0-4)
Basic writing techniques and formats utilized in preparing scripts for radio newscast and public affairs programs.		Prerequisite: Department approval. Practical experience in television studio operation. Students work on assigned video projects, which vary according to production schedules.	
MRT 170 Audio Systems Maintenance	4(4-0)	MRT 250 Electronic Field Production I	4(4-0)
Prerequisite: MRT 120, MRT 220, OR MRT 218. Hands-on experience in troubleshooting and routine maintenance of audio recording, production, and audio systems equipment. Practice in techniques for interconnecting audio devices, basic tape recorder alignment.		Prerequisite: MRT 152. Remote video production emphasizing equipment operation, single camera shooting styles, and basic video editing.	
MRT 180 Telecommunications Technology and Society	4(4-0)	MRT 251 Electronic Field Production II	4(4-0)
Study of the interrelationship between media and society.		Prerequisite: MRT 250. A more vigorous application of skills learned in Electronic Field Production I, emphasizing individual remote projects. Computer controlled editing stressed.	
MRT 200 Electronic Graphics for Video	3(3-0)	MRT 252 TV Producer-Director	4(4-0)
Production of graphic materials for TV and motion pictures; the use of graphics in titling, electronic keying, and achieving artistic effect. Includes aspect ratios, color relationships, and electronic videofont.		Prerequisite: MRT 155. A refinement of the two fundamental jobs of producer and director, as experienced in MRT 155. More advanced assignments in preparing budget, scripts, casting, rehearsal, and production.	
MRT 210 Broadcast Sales I	4(4-0)	MRT 255 Television Lighting	4(4-0)
Covers methods and specialized skills employed in selling radio and television advertising and air time.		Prerequisite: MRT 152. Theory and practice of lighting for television.	
MRT 212 Broadcast Sales II	4(4-0)	MRT 260 The Social Impact of Television	4(4-0)
A continuation of Broadcast Sales I.		Study of the effects of television on society. Critically explores such issues as violence, sexuality, children, advertising, stereotypes, and others.	
MRT 215 Radio Program Director	4(4-0)	MRT 275 Documentary Television in the U.S.	4(4-0)
Prerequisite: MRT 132. Covers radio station operation from management's perspective; FCC rules and other legal considerations as they pertain to programming and daily station operations; ratings, advertising and sales, promotion, and station relationships between departments and with community.		A critical study of the history of documentary television in the United States.	
MRT 218 Sound Reinforcement	4(4-0)	MRT 280 Video for Business and Industry	4(4-0)
Prerequisite: MRT 120 or department approval. Teaches principles and practical techniques that apply to sound reinforcement for voice, music performance, theatre, film, and television. Includes equipment selection, setup, troubleshooting, and operations.		Design and production of instructional materials for television, instructional design techniques appropriate for video production.	
MRT 219 Sound Reinforcement Practicum	4(4-0)	MRT 285 Media Portfolio	4(4-0)
Prerequisite: MRT 218 or department approval. A continuation of MRT 218 giving practical experience in planning, setup, and operation of varied sound reinforcement systems used in musical performance theatre.		Prerequisite: Department Approval. Individualized project provides student opportunity to demonstrate media skills in production of a portfolio tape. Proposal approved by Program Director required.	
MRT 220 Audio Recording I	4(4-0)	MRT 290 Independent Study	2(0-5)
Prerequisite: MRT 120. Introduces professional audio recording equipment and applies techniques learned in MRT 120 to location and studio recording. Placement of microphones and mixing to two-track format is emphasized.		MRT 291 Independent Study	3(0-8)
MRT 225 Audio Recording II	4(4-0)	MRT 292 Independent Study	4(0-11)
Prerequisite: MRT 220. Deals with special techniques used in multi-track recording studios, using four- and eight-track recorders and signal processing devices for recording and mixdown.		Pursuit of advanced study in areas not formerly taught within the curriculum. Students must submit written applications detailing their projects for departmental approval.	
MRT 230 Audio Production III	4(4-0)	MRT 296 Internship in Media Production	Credits variable
Prerequisite: MRT 125. Advanced techniques in creative audio production; applies the multi-track recorder to complex commercial and media production projects.		Prerequisite: Department Approval. MRT students work up to 30 hours per week as interns in a professional media environment.	
		MRT 299 Special Productions	4(4-0)
		Photography (PHO)	
		Media Department	
		Division of TeleCommunication and the Arts	
		PHO 108 History of Photography I	3(3-0)
		Survey of the development of photography through study of the people and processes involved.	

PHO 110 Basic Camera Operation	3(3-0)	PHO 155 Black and White Printing Lab	2(0-4)
Practical application of camera controls and pictorial composition utilizing commercial processing for class projects.		Prerequisite: PHO 140/Department approval. Guided practice in black and white printing geared to each student's need or problem.	
PHO 111 Basic Camera Operation II	3(3-0)	PHO 158 Print Finishing and Presentation	3(3-0)
Prerequisite: PHO 110 or equivalent. Emphasis on the photographic image, as opposed to the mechanics of camera operation, practice in photographic composition and design, photography under adverse lighting conditions, photography of sporting events, informal portraiture, close-up photography, creative use of electronic flash, abstract photography, and the use of accessory lenses and lens attachments.		Prerequisite: PHO 120. Development of expertise in print finishing and presentation.	
PHO 118 History of Photography II	3(3-0)	PHO 160 Introduction to Photography III	4(4-0)
Survey of contemporary photographers and processes.		Prerequisite: PHO 140. Continuation of PHO 140 with emphasis placed on visual perception, introduction to medium and large formats, survey of 200 level specializations, and preparations for 200 level review.	
PHO 120 Introduction to Photography I	4(2-4)	PHO 161 Camera Maintenance	2(2-0)
Introduction to types of cameras, camera controls, exposure and selection of sensitized materials. Camera handling and exposure techniques are emphasized. Students will process, proof, and print their own work; print spotting, mounting and presentation will be covered. Adjustable camera required. Students supply film and paper.		Prerequisite: PHO 120. Fundamentals of caring for photographic equipment, including routine maintenance, preventive maintenance, simple servicing and cleaning, as well as basic adjustments.	
PHO 125 Black and White Processing Lab	3(2-2)	PHO 165 Manipulative Black and White Printing	4(3-2)
Prerequisite: PHO 110. Film and paper processing, exposure control for black and white work, and information needed to proceed in photographic classes. Students are required to provide film and paper.		Prerequisite: PHO 160 or concurrent. Imagery achieved through manipulative camera and darkroom techniques. An introduction to various special films and papers and their use.	
PHO 126 Basic Motion Picture Production	4(3-3)	PHO 166 Fundamentals of Film Editing and Sound	4(4-0)
Introduction to all aspects of filmmaking leading to the production of individual projects. Write, direct, and photograph a short film. Create a sound track and edit the picture. Lectures, demonstrations, and exercises in introductory procedures in filmmaking.		Prerequisite: PHO 126. Assembling picture and sound elements for effective and dramatic impact. Editing action and dialogue sequences. Building sound tracks with music, dialogue, and sound effects. Exercise and practical editing projects.	
PHO 128 Photographic Design	4(4-0)	PHO 170 Basic Color Processing and Printing	4(2-4)
Prerequisite: PHO 120 or concurrent. Explore, through photographic medium, the elements and principles of design.		Prerequisite: PHO 110. Basic color processing and printing, using readily available equipment, designed primarily for the photographer who has no requirements for production color printing. Emphasis is on correct exposure of both positive and negative color film, small tank processing of those films, printing both positive and negative films, and drum and tube processing of the prints.	
PHO 129 Professional Photographic Technical Lecture	Credits variable	PHO 175 Photographic Theory Laboratory	2(0-4)
Facets of the role of the professional photographer: materials, processes, and new developments.		Prerequisite: Department approval. A trouble-shooting class for students whose deficiencies in photography would prevent their continuing in the course sequences. The objective is to provide the student with the necessary skills to enter the photo program beyond the Intro III level.	
PHO 136 Fundamentals of Cinematography and Sound	4(4-0)	PHO 176 Fundamentals of Film Directing	3(3-0)
Prerequisite: PHO 126. Principles of composition, lighting, sound, continuity, mood, and dramatic impact. Operation of professional cameras, film and exposure, sync sound, coverage and camera angles.		Prerequisite: PHO 126. Covers directing motion pictures, principles of story development, production planning, work with actors, creative staging, coverage, continuity, sequences for theatrical or documentary films.	
PHO 138 Understanding Photographic Communication	3(3-0)	PHO 179 Media Studies: Photography I	12(8-8)
By viewing photographs, interacting with guest experts, participating in class discussions, and completing assigned readings, the student will acquire an understanding of photographic content and function.		Together with PHO 189 and PHO 199, this course forms the first year of the Institute program in photography. At the completion of the year, students will establish credits in the following: PHO 108, PHO 120, PHO 128, PHO 129 (1 cr.), PHO 140, PHO 154, PHO 160, PHO 190, PHO 200, PHO 220.	
PHO 140 Introduction to Photography II	4(2-4)	PHO 186 Fundamentals of Film Animation	3(3-0)
Prerequisite: PHO 120. Continuation of PHO 120 with refinement of exposure, processing, printing controls, and print finishing.		Prerequisite: PHO 126. Covers concepts used in animation of motion pictures; student will produce animated film(s) and projects.	
PHO 146 Fundamentals of Lighting	4(4-0)	PHO 189 Media Studies: Photography II	12(8-8)
Use of light for effect and dramatic impact in film, television, or still photography. Emphasize shape, texture, depth, and shadows. Balance light ratios and color temperatures. Shoot in the studio and on location.		Prerequisite: PHO 179. Together with PHO 179, and PHO 199 this course forms the first year of the Institute program in photography. At the completion of the year, students will establish credits in the following: PHO 108, PHO 120, PHO 128, PHO 129 (1 cr.), PHO 140, PHO 154, PHO 160, PHO 190, PHO 200, PHO 220.	
PHO 148 Photo Design II	4(4-0)	PHO 190 Photography in Business and Industry	3(3-0)
A continuation of Photo Design I concepts. This class will emphasize practical application in each students own visual processing system.		Prerequisite: PHO 160 or concurrent. Study of occupational situations and opportunities in the photographic industry.	
PHO 149 Photographic Technical Laboratory	Credits variable	PHO 199 Media Studies: Photography III	12(11-4)
Prerequisite: Department approval. Demonstration, laboratory experience, and involvement with and about new ideas in the photographic fields.		Prerequisite: PHO 189. Together with PHO 179, and PHO 189 this course forms the first year of the Institute program in photography. At the completion of the year, students will establish credits in the following: PHO 108, PHO 120, PHO 128, PHO 129 (1 cr.), PHO 140, PHO 154, PHO 160, PHO 190, PHO 200, PHO 220.	
PHO 150 Basic Photo-Chemistry	3(3-0)	PHO 200 Introduction to Color Theory	3(3-0)
Prerequisite: PHO 120. Introduction to the black-and-white photo-chemical processes including chemical compounding and testing.		Prerequisite: PHO 140. Introduction to color theory, materials, and their practical application.	
PHO 154 Professional Product Lighting	3(3-0)		
Prerequisite: PHO 140 or concurrent. Lighting problems encountered in photography of products of various shapes, textures, specular quality, and reflectance. Students will conduct problem-solving projects to determine their competence in meeting and overcoming common lighting problems utilizing simple, readily available lighting equipment.			

PHO 201 Photo-Journalism I	4(4-0)	PHO 226 Film Production Workshop III	4(2-4)
Prerequisite: PHO 140. Techniques involved in photography for publication, including events, story-telling, and photography at the decisive moment.		Prerequisite: PHO 216. Students who have completed PHO 216 may produce their own films, under supervision, to increase their experience and build their personal film portfolios.	
PHO 202 Portrait I	4(4-0)	PHO 230 Cibachrome Printing	4(2-4)
Prerequisite: PHO 160. Lighting techniques and lighting systems in a variety of modes; performance of posing and lighting exercises on single persons, couples, and small groups.		Prerequisite: PHO 220 and Department approval. Designed to introduce the student to the equipment, technique and process of the cibachrome color print system.	
PHO 203 Environmental Photography I	4(4-0)	PHO 231 Composition, Cropping and Editing	4(4-0)
Prerequisite: PHO 160/200. Techniques and equipment utilized in nature and environmental photography.		Prerequisite: PHO 160/201. Fundamentals of composing, cropping and editing photographs. This is essential for photojournalism students and valuable for all students in the vocational photography program.	
PHO 204 Large Format Photography I	4(2-4)	PHO 240 Color Printing II	4(4-0)
Prerequisite: PHO 160. Camera technique, perspective and sharpness controls, optics, processing and printing of large format negatives. 4 x 5 cameras provided.		Prerequisite: PHO 220. Continuation of materials and processes used in color printing.	
PHO 205 Non-Silver Photography I	4(4-0)	PHO 244 Large Format Photography III	4(4-0)
Prerequisite: PHO 150 or PHO 165. An introduction to the various non-silver processes which preceded the silver print.		Prerequisite: PHO 204/220. Continuation of large format techniques with emphasis on architectural photography.	
PHO 206 Film Production Workshop I	4(2-4)	PHO 246 Multi-Image I	4(4-0)
Prerequisite: 9 credits from PHO 136-186. Students who have completed at least three fundamental level film classes may produce their own films, under supervision, to gain increased technical and practical experience in film production.		Prerequisite: PHO 140/200 or equivalent. This course will introduce the student to basic concepts of multi-image production—both technical camera exposure techniques and shooting/editing strategies for presentation.	
PHO 207 Close-up Photography I	3(3-0)	PHO 250 Color Printing III	4(4-0)
Prerequisite: PHO 160. Study of the specialized equipment and lighting techniques unique to this area of photography.		Prerequisite: PHO 220. Advanced color processing and printing with emphasis on the mastery of techniques of color image construction. Includes various forms of color print manipulation, reversal processes, duplicating methods, and proper use of color analyzers.	
PHO 208 Color Applications and Aesthetics	4(4-0)	PHO 252 Portrait III	4(4-0)
Prerequisite: Department approval. Will survey the history of color photography, evaluate the use of color as a commercial tool and evaluate students use of color in photography.		Prerequisite: PHO 220/202/220. Combines the techniques of portrait and product photography. Student will work primarily in color, and will put people and products together to produce effective photographs suitable for reproduction in various media.	
PHO 209 Professional Black and White Printing	4(4-0)	PHO 260 Professional Photo Workshop	4(4-0)
Prerequisite: PHO 160. Introduction to production printing, including processing, proofing, finishing, and presentation of commercial black-and-white prints.		Prerequisite: Department approval. Courses include field expeditions for specific study areas; professional guest lectures and workshops; and producing special requests for industry or other academic departments in the College. Specific descriptions are published in advance. May be repeated for credit.	
PHO 210 Color Processing	2(2-0)	PHO 270 Field Projects	4(0-11)
Prerequisite: PHO 160/200. Study of reversal and negative color film and paper processing procedures. Emphasizes process monitoring for quality control.		Prerequisite: Department approval. Work experience in actual photography situations for practical application of curriculum based skills.	
PHO 214 Zone System Photography	4(2-4)	PHO 275 Advanced Photographic Theory	4(4-0)
Prerequisite: PHO 160. Comprehensive testing and evaluation of the zone system as it applies to exposure/development control. 4 x 5 view cameras and light measurement are stressed.		Prerequisite: PHO 205 or 221 or 224 or 244. Allows the advanced student to pursue an area of weakness in his/her field of study under the guidance of an instructor. Thus the student can obtain competencies needed to proceed. May be repeated for credit.	
PHO 216 Film Production Workshop II	4(2-4)	PHO 279 Media Studies: Photography IV	12(110-44)
Prerequisite: PHO 206. Students who have completed PHO 206 may produce their own films, under supervision, to increase their technical and practical experience.		Prerequisite: PHO 199. Together with PHO 289 and PHO 299, this course forms the second year of the Institute program in photography. At the completion of the year, students will establish credits in the following: PHO 129, PHO 202, PHO 208, PHO 275, PHO 297 and 12 credits in major.	
PHO 220 Color Printing I	4(2-4)	PHO 280 Independent Study	2(2-0)
Prerequisite: PHO 160/200. Introduction to the materials and processes of color printing.		Prerequisite: Department approval. Advanced study in areas not formerly taught within the curriculum. Students must submit written application detailing their projects for departmental approval.	
PHO 221 Photo-Journalism II	4(4-0)	PHO 289 Media Studies: Photography V	12(110-44)
Prerequisite: PHO 160/201. Continuation of photography for publication.		Prerequisite: PHO 279. Together with PHO 279 and PHO 299, this course forms the second year of the Institute program in photography. At the completion of the year, students will establish credits in the following: PHO 129, PHO 202, PHO 204, PHO 208, PHO 275, PHO 297 and 12 credits in major.	
PHO 222 Portrait Photography II	4(4-0)	PHO 290 Independent Study	3(0-8)
Prerequisite: PHO 202/204/220. A continuation of PHO 202 with primary emphasis on color portraiture in the studio. Students study professional style, techniques, and business methods as currently practiced in the field.		Prerequisite: Department approval. Advanced study in areas not formerly taught within the curriculum. Students must submit written application detailing their projects for departmental approval.	
PHO 224 Large Format Photography II	4(4-0)		
Prerequisite: PHO 204/220. Continuation of techniques used in large format photography. Emphasis on studio product lighting, architectural photography, and use of color films.			
PHO 225 Non-Silver Processes II	4(4-0)		
Prerequisite: PHO 160/205. Continuation of PHO 205 providing in-depth experience in several non-silver photo processes.			

PHO 296 Internship in Photography Credits variable

Prerequisite: Department approval. Work up to 30 hours per week as technical assistants on photo assignments, becoming familiar with the daily operation of a production company from contact with clients in both technical and creative aspects.

PHO 297 The Portfolio 4(4-0)

Prerequisite: PHO 190/201/202/220. Preparation and presentation of final portfolio. Successful completion required for all Associate Degree candidates.

PHO 298 Independent Study 4(4-0)

Prerequisite: Department approval. Pursue advanced study in areas not formerly taught within the curriculum. Students must submit written application detailing their projects for departmental approval.

PHO 299 Media Studies: Photography VI 12(110-44)

Prerequisite: PHO 289. Together with PHO 279 and PHO 289, this course forms the second year of the Institute program in photography. At the completion of the year, students will establish credits in the following: PHO 129, PHO 202, PHO 204, PHO 208, PHO 275, PHO 297 and 12 credits in major.

PERFORMING ARTS DEPARTMENT

Director: John Dale Smith
Room 201, Turner House

The Performing Arts Department features courses in three disciplines: Dance, Music, and Theatre. The objectives of the Department are to direct students in development of their skills in creative expression and to provide the necessary background essential for advanced training. Course offerings are designed to meet the goals of both beginning and advanced students and to enable them to explore their potential for artistic development and achievement.

By closely coordinating the academic and production activities of Dance, Music, and Theatre Programs, the Performing Arts Department provides students with the opportunity to explore the essential interrelationship of the arts while at the same time increasing their skills and expanding their career potential. The career training opportunities in Dance have modern dance and ballet emphasis. In Music, career training is offered in vocal and instrumental skills. Emphasis in theatre training may be in either performance or design and technical theatre.

**Dance (DNC)
Performing Arts Department
Division of TeleCommunication and the Arts**

DNC 101 Modern Dance Beginning I 3(2-1)

Includes warm-up exercises, technique development, dance vocabulary, and spacial relationships. May be repeated for credit until skills are achieved. Consult Dance advisor for initial placement based on previous experience.

DNC 102 Modern Dance Beginning II 3(2-1)

Progression of skills developed in DNC 101. May be repeated for credit until skills are achieved. Consult Dance advisor for initial placement based on previous experience.

DNC 103 Modern Dance Intermediate I 3(2-1)

Progression of skills developed in DNC 102. May be repeated for credit until skills are achieved. Consult Dance advisor for initial placement based on previous experience.

DNC 201 Modern Dance Intermediate II 3(2-1)

Progression of skills developed in DNC 103. May be repeated for credit until skills are achieved. Consult Dance advisor for initial placement based on previous experience.

DNC 202 Modern Dance Advanced I 3(2-1)

Progression of skills developed in DNC 201. May be repeated for credit until skills are achieved. Consult Dance advisor for initial placement based on previous experience.

DNC 203 Modern Dance Advanced II 3(2-1)

Progression of skills developed in DNC 202. May be repeated for credit until skills are achieved. Consult Dance advisor for initial placement based on previous experience.

DNC 104 Dance History I 2(1-2)

A history of dance from the prehistoric period through the development of modern dance, the beginning of jazz dance to the present; interrelationships and repetitions of major phases of dance throughout.

DNC 107 Beginning Ballet I 3(2-1)

Includes ballet exercises for development of strength, balance and coordination. Technique development, dance vocabulary and spacial relationships are emphasized. May be repeated for credit until skills are achieved. Consult Dance advisor for initial placement based on previous experience.

DNC 108 Beginning Ballet II 3(2-1)

Progression of skills developed in DNC 107. May be repeated for credit until skills are achieved. Consult Dance advisor for initial placement based on previous experience.

DNC 109 Intermediate Ballet I 3(2-1)

Progression of skills developed in DNC 108. May be repeated for credit until skills are achieved. Consult Dance advisor for initial placement based on previous experience.

DNC 207 Intermediate Ballet II 3(2-1)

Progression of skills developed in DNC 109. May be repeated for credit until skills are achieved. Consult Dance advisor for initial placement based on previous experience.

DNC 208 Advanced Ballet I 3(2-1)

Progression of skills developed in DNC 207. May be repeated for credit until skills are achieved. Consult Dance advisor for initial placement based on previous experience.

DNC 209 Advanced Ballet II 3(2-1)

Progression of skills developed in DNC 208. May be repeated for credit until skills are achieved. Consult Dance advisor for initial placement based on previous experience.

DNC 110 Dance Choreography—Beginning 3(2-1)

Creation of dance for performance. Students organize, conduct auditions, rehearse, and present a three-minute composition using three or more dancers. May be repeated three times for credit.

DNC 120 Lansing Ballet Company 4(2-4)

Prerequisite: audition. A performing class under the artistic direction of the Lansing Ballet Association; concerts, lecture/demonstration, and inter-discipline productions. May be repeated for credit.

DNC 133 Tap I 3(2-1)

Basic tap steps progressing to character and novelty tap technique. Choreographic problems in movement time, and space analysis. May be repeated for credit until skills are achieved. Consult Dance advisor for initial placement based on previous experience.

DNC 134 Tap II 3(2-1)

Progression of skills developed in DNC 133. May be repeated for credit until skills are achieved. Consult Dance advisor for initial placement based on previous experience.

DNC 135 Tap III 3(2-1)

Progression of skills developed in DNC 134. May be repeated for credit until skills are achieved. Consult Dance advisor for initial placement based on previous experience.

DNC 136 Character Dance 2(1-2)

Prerequisite: DNC 107. Designed to provide students with the basics of character dancing as applied in classical ballet. May be repeated three times for credit.

DNC 137 South American Folk Dance 2(1-2)

Introduction to culture, music, and movement in traditional dances from Argentina, Chile, Brazil and Venezuela.

DNC 140 Jazz Dance Beginning 3(2-1)

Courses in Jazz technique are identified by progressive skill level. Music and dance of American Jazz. May be repeated for credit until skills are achieved.

DNC 170 Jazz Dance Intermediate 3(2-1)

Courses in Jazz technique are identified by progressive skill level. This course builds on the cumulative material covered in DNC 140. Music and dance of American Jazz. Accents and phrases of Jazz music composition and performances will be emphasized. May be repeated for credit until skills are achieved.

- DNC 171 Jazz Dance Advanced** 3(2-1)
Courses in Jazz technique are identified by progressive skill level. This course builds on the cumulative material covered in DNC 170. Music and dance of American Jazz. Accents and phrases of Jazz music composition and performances will be emphasized. May be repeated for credit until skills are achieved.
- DNC 141 Spanish Dance** 2(1-2)
Introduction of flamenco dance as performed in southern Spain; music, hand clapping, and musical origin. May enroll singly or in couples. May be repeated for credit.
- DNC 142 Mexican Folk Dance** 2(1-2)
Introduction to Mexican dance, music, steps, and techniques; costumes and customs; cultural evolution. May be repeated for credit.
- DNC 154 Independent Study I** 1(0-2)
Prerequisite: department approval. For dance majors who wish to devote time to research projects, choreography, assigned student teaching projects, and other related dance interests. Student will meet with approved instructor 2.75 hours during the term. May be repeated for credit.
- DNC 155 Independent Study II** 2(1-2)
Prerequisite: department approval. For dance majors who wish to devote time to research projects, choreography, assigned student teaching projects, and other related dance interests. Student will meet with approved instructor 5.5 hours during the term. May be repeated for credit.
- DNC 156 Independent Study III** 3(1-4)
Prerequisite: department approval. For dance majors who wish to devote time to research projects, choreography, assigned student teaching projects, and other related dance interests. Student will meet with approved instructor 8.25 hours during the term. May be repeated for credit.
- DNC 158 Semiprivate Dance Technique** 2(2-0)
Prerequisite: department approval. A course for intensive technical training for intermediate/advanced dance majors with special problems or areas of skills. Student will meet with approved instructor 11 hours during the term. May be repeated for credit.
- DNC 160 Private Dance I** 1(1-0)
Prerequisite: department approval. Intensive technical training for intermediate/advanced dance majors with special problems or areas of special skill.
- DNC 166 T'ai Chi** 3(2-1)
Introduction to Zazen Meditation and basic principles of T'ai Chi; first 17 movements in Yang School of T'ai Chi Ch'uan. May be repeated for credit. P/Z course.
- DNC 167 Tuning the Human Body Workshop** .5(0-.5)
A one day workshop which introduces techniques from Movement Therapy, Bioenergetics, Myomassology, and Acupressure to aid the student in body awareness.
- DNC 169 Dance Exercise** 1(0-2)
Dance exercises and techniques. Recommended for all levels of dance, and dance majors planning to teach at the elementary, high school and community service levels. May be repeated three times for credit.
- DNC 192 Improvisation** 2(1-1)
Prerequisite: DNC 102. Explores the process and techniques of improvisation; personal resources, talent, and solution of improvisational problems. May be repeated for credit.
- DNC 193 Improvisation II** 2(1-1)
Prerequisite: Instructor approval. Explores the process and techniques of improvisation; personal resources, talent, and solution of improvisational problems. May be repeated for credit.
- DNC 195 Adagio** 3(2-1)
Prerequisite: Instructor approval. The course emphasizes duets, solos, lifts, and precision timing between dancers to improve ability to relate physically to each other. May be repeated for credit.
- DNC 200 Adagio Advanced** 3(2-1)
Prerequisite: DNC 195. Further emphasis on duets, solos, lifts, and precision timing between dancers to improve ability to relate physically to each other. May be repeated for credit.
- DNC 206 Ballet for Men** 2(1-2)
Prerequisite: Some experience. An introduction to basic ballet movement for male dancers, singers, actors, and athletes, to increase body control, physical strength, and agility. May be repeated for credit.
- DNC 210 Pointe Technique Beginning** 2(1-1)
Prerequisite: Instructor approval. For the advanced female ballet dancer. Consult Dance advisor for initial placement based on previous experience. Stresses development of strength in feet and ankles, elongated line, and classical technique. May be repeated for credit.
- DNC 213 Pointe Technique Intermediate** 2(1-1)
Prerequisite: DNC 210. For the advanced female ballet dancer. Consult Dance advisor for initial placement based on previous experience. Stresses development of strength in feet and ankles, elongated line, and classical technique. May be repeated for credit.
- DNC 214 Anatomy/Dance** 3(2-1)
Anatomy/physiology for the dancer, actor, or athlete. Examines skeletal, muscular, respiratory, and nervous systems; principles of good nutrition; correct body placement for prevention of injuries.
- DNC 216 Ballet Literature** 2(1-2)
The general history of the stories and music of ballets from 1861 to present. The development of the composers/choreographers and their dance contributions to the art form.
- DNC 220 Jazz Aerobic** 1(0-3)
Progressive physical conditioning, improving endurance and cardiovascular efficiency. May be repeated three times for credit. P/Z course.
- DNC 221 Aerobics Maintenance** 1(0-3)
Prerequisite: DNC 220. Advanced aerobics to increase muscle tone, improve endurance, and cardiovascular efficiency. May be repeated three times for credit. P/Z course.
- DNC 265 Makeup Dance/Theatre** 3(2-2)
Applying makeup properly for stage; effectively using supplies and techniques; evaluating assortment of makeup on the market.
- DNC 267 Introduction to Modeling** 3(2-1)
Projection, visual image, and impressions; turns and movements, differences between American and European modeling; requirements, opportunities, and various facets of a modeling career.
- DNC 272 Wardrobe Coordination** 3(2-1)
Development and assimilation of individual clothing style and fashion type. Clothing personality will be inspired by detail, fabric, color and accessories. A lifestyle analysis, how-to's of planning a wardrobe and shopping guidelines will also be discussed. May be repeated for credit.
- DNC 273 Runway Technique** 2(1-2)
Prerequisite: DNC 267. Runway modeling routines, model's turns, stage entrances and exits. May be repeated three times for credit.
- DNC 274 Body/Mind Compatibility** 3(2-1)
Developing the proper frame of mind; diet, health and total physical fitness will be under constant evaluation. Students will learn to develop into their lifestyle a strong positive attitude leading to and maintaining top physical condition. May be repeated three times for credit.
- DNC 275 Model's Internship I** 6(3-6)
Prerequisite: DNC 267 and DNC 276 and Audition and Department Approval. An advanced level training of all modeling techniques, practical experience, and individual professional development.
- DNC 276 Skin Care and Makeup I** 3(2-1)
Instruction in all aspects of individual personal grooming; coordination of hair style, makeup, and wardrobe will be stressed.
- DNC 277 Hair Care and Makeup II** 3(2-1)
Prerequisite: DNC 276. Second level of instruction in individual hair care and makeup techniques.
- DNC 278 Photo and Video Makeup Design III** 3(2-1)
Prerequisite: DNC 277. Still photo and video related application will be studied and developed. Students will be required to demonstrate professional makeup artistry of all levels.

DNC 280 Ballroom Bronze I 3(2-1)

An introduction to the five basic levels of ballroom dances: fox trot, rumba, swing, cha-cha, and waltz. May be repeated 3 times for credit.

DNC 291 Swing/Ballroom 1(0-2)

Prerequisite: Couples Only. Study in techniques, patterns, music and style of swing dances. Evaluation of the differences in movement, rhythms, and techniques of contributing styles in development of swing dances. May be repeated three times for credit.

DNC 299 Western Swing Ballroom 1(0-2)

Techniques, patterns, music and style of western style swing. Evaluation of the differences in movement, rhythms, and techniques of contributing styles in adaptation of western dances to ballroom techniques. May be repeated three times for credit.

**Dance Workshops and Seminars (DNR)
Performing Arts Department
Division of TeleCommunication and the Arts**

DNR 101 Modern Repertory 2(1-2)

Prerequisite: Audition and Department Approval. Modern repertory classes focus on the preparation of dance for performance. The student concentrates on memorization, projection, character training and polishing for performance. May be repeated for credit.

DNR 104 Ballet Repertory 2(1-2)

Prerequisite: Audition and Department Approval. Ballet repertory classes focus on the preparation of dance for performance. The student concentrates on memorization, projection, character training and polishing for performance. May be repeated for credit.

DNR 107 Tap Repertory 2(1-2)

Prerequisite: Audition and Department Approval. Tap repertory classes focus on the preparation of dance for performance. The student concentrates on memorization, projection, character training, polishing and performing.

DNR 110 Jazz Repertory 2(1-2)

Prerequisite: Audition and Department Approval. Jazz repertory classes focus on the preparation of dance for performance. The student concentrates on memorization, projection, character training and polishing for performance. May be repeated for credit.

DNR 153 Master Class Ballet—Begin/Low Intermediate .5(5-0)

Prerequisite: DNC 101 or DNC 107. A master ballet class for the beginning to low intermediate level student. Conducted by professional dancer/instructor in residence or performing/teaching in the service area. Classes scheduled in concentrated sessions. May be repeated for credit. P/Z course.

DNR 154 Master Class Ballet—High/Intermediate advanced .5(5-0)

Prerequisite: DNC 103 or DNC 109. A master ballet class for the high to intermediate advanced level student. Conducted by professional dancer/instructor in residence or performing/teaching in the service area. Classes scheduled in concentrated sessions. May be repeated for credit. P/Z course.

DNR 155 Master Class Tap and Jazz .5(5-0)

A master tap and jazz class. Conducted by professional dancer/instructor in residence or performing/teaching in the service area. Classes scheduled in concentrated sessions. May be repeated for credit. P/Z course.

DNR 159 Master Class Modern—Begin/Low Intermediate .5(5-0)

Prerequisite: DNC 101 or DNC 107. A master modern class for the beginning to low intermediate level student. Conducted by professional dancer/instructor in residence or performing/teaching in the service area. Classes scheduled in concentrated sessions. May be repeated for credit. P/Z course.

DNR 160 Master Class Modern—Intermediate/Advanced .5(5-0)

Prerequisite: DNC 103 or DNC 109. A master modern class for the intermediate to advanced level student. Conducted by professional dancer/instructor in residence or performing/teaching in the service area. Classes scheduled in concentrated sessions. May be repeated for credit. P/Z course.

DNR 156 LBC Advanced Ballet I 3(2-1)

Prerequisite: DNC 207 Support ballet class for the Lansing Ballet Company (DNC 120). May be repeated for credit.

DNR 157 LBC Advanced Ballet II 3(2-1)

Prerequisite: DNC 208. Support ballet class for the Lansing Ballet Company (DNC 120). May be repeated for credit.

DNR 201 Musical Theatre Repertory 2(1-2)

Prerequisite: DNC 102 and DNC 108 and DNC 140. An introduction to choreographic styles of the American Musical Theatre for the intermediate dance student. Selected passages of original choreography from current and past Broadway musicals will be introduced.

DNR 208 Clogging Workshop 1(0-2)

An introductory course to the basic concepts of country clogging. Discussion of origin and historic significance.

DNR 210 Polka Workshop 1(1-1)

A course in international Waltz and Polka dance techniques. This is a course suitable for the beginner or those wishing to acquire intensive training in Waltz and Polka dance forms. Discussion of national origin and historic significance to dance will be included.

DNR 211 Jazz Intermediate Workshop 2(1-2)

Prerequisite: DNC 140. This course is designed for the intermediate jazz student who is interested in exploring a variety of Jazz dance styles. The student concentrates on memorization, projection, character development and style variations. A guest instructor may conduct this class.

DNR 216 Ballroom Bronze I Workshop 1(1-1)

Traditional ballroom techniques in cha-cha, samba, tango, and rhumba. Enrollment with partner recommended but not required. May be repeated three times for credit.

DNR 218 Beginning Tap Workshop 1(0-2)

Introduction to and exploration of the fundamentals of tap dance technique. May be repeated for credit.

DNR 223 Ballroom Bronze II Workshop 1(1-1)

Prerequisite: DNR 216. An advanced course in traditional ballroom techniques. Emphasis will be placed on dance styles such as the Cha-Cha, Waltz, Rumba, Foxtrot and Swing, as well as introduction to the Tango. Enrollment with a partner is recommended but not required.

DNR 224 Ballroom Hustle Workshop 1(1-0)

Designed to introduce students to Hustle Dance steps and styling. Hustle is an upbeat dance which is performed to popular music.

DNR 225 Ethnic Dance Workshop .5(5-0)

Introduces a selection of Greek, Yugoslavian, Rumanian, Bulgarian and Israeli dances. No partners required.

DNR 232 Skin Care for Women Over 30 .5(5-0)

Proper skin care and how to recognize the changing needs based on maturity, hormones, sun exposure, and climate, for women. A maintenance program will be designed for each individual.

DNR 233 Makeup for Women Over 30 .5(5-0)

Makeup techniques revised for skin over age 30, on an individual basis.

DNR 234 Wardrobe Coordination Workshop 1 (1-0)

Will develop and assimilate individual clothing style and fashion type. How to plan a wardrobe, personal color selections, and how to accessorize will be introduced.

DNR 235 Hair Care for Women Over 30 .5(5-0)

Designed to familiarize students with the continual changes, problems, and solutions, which are more likely to affect the woman over age 30. Student will receive up-to-date usage information relative to all the latest hair care products, appliances, and techniques.

**Music (MUS)
Performing Arts Department
Division of TeleCommunication and the Arts**

MUS 101 LanSwingers 1(0-3)

Prerequisite: Instructor Approval. Selected vocal ensemble that participates almost exclusively in jazz, swing, and pop choral performance.

MUS 102 Lansing Women's Glee Club	1(0-2)	MUS 168 Introduction to Musicianship I	3(2-1)
An ensemble of women vocalists composed of students and community members to develop general musicianship and provide training in choral singing.		The first in a sequence of three courses covering notation of pitch and rhythm, musical terminology, and the principles of rhythmic and melodic reading. Also, basic introduction to musical scales, key signatures, intervals and chords.	
MUS 106 LanSymphonic Choral Society	1(0-3)	MUS 169 Introduction to Musicianship II	3(2-1)
Prerequisite: Instructor Approval. A civic-college choral organization whose members learn and perform the master works which have been composed for large chorus or for chorus and orchestra.		Prerequisite: MUS 168. The second in a sequence of three courses covering notation of pitch and rhythm, musical terminology, and the principles of rhythmic and melodic reading. Also, basic introduction to musical scales, key signatures, intervals and chords. This course builds on the cumulative material covered in MUS 168.	
MUS 107 Opera Workshop	2(1-2)	MUS 170 Introduction to Musicianship III	3(2-1)
Prerequisite: Instructor Approval. An introductory course to the elements of opera as musical theatre.		Prerequisite: MUS 169. The third in a sequence of three courses covering notation of pitch and rhythm, musical terminology, and the principles of rhythmic and melodic reading. Also, basic introduction to musical scales, key signatures, intervals and chords. This course builds on the cumulative material covered in MUS 169.	
MUS 113 Summer Musical Chorus	2(1-3)	MUS 173 Basic Musicianship	4(2-3)
Prerequisite: Audition. LCC's annual summer musical chorus. Members are selected for their acting as well as singing ability and past performance experience.		Prerequisite: Department Approval. The first in a sequence of three courses in music theory as a freshman year requirement for a Bachelor of Music or similar four-year college degree, including a full series of ear training, sight-singing and dictation.	
MUS 119 Lansing Concert Band	1(0-3)	MUS 174 Basic Musicianship	4(2-3)
Prerequisite: Instructor Approval. A community band serving also as the VFW and American Legion Band. The group holds at least 25 concerts throughout the year, playing all types of music, but concentrating mainly on traditional concert band literature.		Prerequisite: MUS 173. The second in a sequence of three courses in music theory as a freshman year requirement for a Bachelor of Music or similar four-year college degree, including a full series of ear training, sight-singing and dictation. This course builds on the cumulative material covered in MUS 173.	
MUS 123 Jazz Ensemble	2(1-1)	MUS 175 Basic Musicianship	4(2-3)
Prerequisite: Some Experience in jazz band. An ensemble approach to the playing and studying of jazz.		Prerequisite: MUS 174. The third in a sequence of three courses in music theory as a sophomore year requirement for a Bachelor of Music or similar four-year college degree, including a full series of ear training, sight-singing and dictation. This course builds on the cumulative material covered in MUS 174.	
MUS 130 Classical Guitar I	2(1-1)	MUS 176 Advanced Musicianship	4(2-3)
Covers basic guitar technique, and musicianship, including proper sitting position, holding the instrument, proper hand positions and finger action, practicing effectively, reading music, and basic music theory.		Prerequisite: MUS 175. The first in a sequence of three courses in music theory as a sophomore year requirement for a Bachelor of Music or similar four-year college degree, including a full series of ear training, sight-singing, and dictation.	
MUS 136 Class Organ-Commercial Music	2(1-1)	MUS 177 Advanced Musicianship	4(2-3)
Class organ instruction in popular music. Students will progress at their own rate.		Prerequisite: MUS 176. The second in a sequence of three courses in music theory as a sophomore year requirement for a Bachelor of Music or similar four-year college degree, including a full series of ear training, sight-singing, and dictation. This course builds on the cumulative material covered in MUS 176.	
MUS 137 Blue Grass Banjo	2(1-1)	MUS 178 Advanced Musicianship	4(2-3)
Introduction to Blue Grass style on banjo.		Prerequisite: MUS 177. The third in a sequence of three courses in music theory as a sophomore year requirement for a Bachelor of Music or similar four-year college degree, including a full series of ear training, sight-singing, and dictation. This course builds on the cumulative material covered in MUS 177.	
MUS 138 Class Piano/Major	3(2-1)	MUS 179 Class Voice/Majors	2(1-1)
Prerequisite: department approval. The first in a sequence of three limited to transfer music majors to gain keyboard facility, skill in sight reading, and ability to transpose. The electronic piano lab is utilized in both individual and group playing.		Prerequisite: department approval. The fundamentals of posture and breath control; instruction in the phonetic approach to the pronunciation of English and Italian. The performance of the language utilizes the vocal literature of major composers.	
MUS 139 Class Piano/Major	3(2-1)	MUS 180 Class Voice/Majors	2(1-1)
Prerequisite: MUS 138. The second in a sequence of three limited to transfer music majors to gain keyboard facility, skill in sight reading, and ability to transpose. This course builds on the cumulative material covered in MUS 138. The electronic piano lab is utilized in both individual and group playing.		Prerequisite: MUS 179. Instruction in the phonetic approach to the pronunciation of German designed for singers. The performance of the language utilizes the song literature of major composers of German lieder.	
MUS 140 Class Piano/Major	3(2-1)	MUS 181 Class Voice/Majors	2(1-1)
Prerequisite: MUS 139. The third in a sequence of three limited to transfer music majors to gain keyboard facility, skill in sight reading, and ability to transpose. This course builds on the cumulative material covered in MUS 139. The electronic piano lab is utilized in both individual and group playing.		Prerequisite: MUS 180. Instruction in the phonetic approach to the pronunciation of French designed for singers. The performance of the language utilizes the song literature of major composers of the French chanson.	
MUS 144 Keyboard Beginner I	2(1-1)	MUS 182 Class Voice	2(1-1)
Prerequisite: None. The first in a sequence of three classes taught in an electronic piano lab. Students progress at own speed. For non-majors.		The first in a sequence of classes for group and individual work on classical literature and study of vocal techniques such as breathing, tone production, diction, phrasing, and style. Some pop music included.	
MUS 145 Keyboard Beginner II	2(1-1)		
Prerequisite: MUS 144. The second in a sequence of three classes taught in an electronic piano lab. This course builds on the cumulative material covered in MUS 144. Students progress at own speed. For non-majors.			
MUS 147 Intermediate Piano I	2(1-1)		
Prerequisite: MUS 145. The third in a sequence of three classes taught in an electronic piano lab. This course builds on the cumulative material covered in MUS 145. Students progress at own speed. For non-majors.			
MUS 162 Survey/Piano Literature	2(1-1)		
Prerequisite: Advanced Skills. A course to acquaint piano teachers with piano literature suitable for developing musicianship in students at various levels of advancement.			

- MUS 183 Class Voice** 2(1-1)
Prerequisite: MUS 182. The second in a sequence of classes for group and individual work on classical literature and study of vocal techniques such as breathing, tone production, diction, phrasing, and style. Some pop music included. This course builds on the cumulative material covered in MUS 182.
- MUS 185 Music Reading I** 3(2-1)
The first in a sequence of two courses for students with no previous experience in ear training. Covers solfege, musical thinking, including rote and mnemonic procedures, and introduction to the principle of sight-reading and the fundamentals of melodic, harmonic and rhythmic dictation.
- MUS 186 Music Reading II** 3(2-1)
Prerequisite: MUS 185. The second in a sequence of two courses for students with no previous experience in ear training. Covers solfege, musical thinking, including rote and mnemonic procedures, and introduction to the principle of sight-reading and the fundamentals of melodic, harmonic and rhythmic dictation. This course builds on the cumulative material covered in MUS 185.
- MUS 188 Guitar I** 2(1-1)
The first in a sequence of two courses for beginners. Note reading and music theory, learn to play single-note melody lead and chord accompaniment. Folk, blues and classical traditions of the instrument. "Finger-style" and "Flat-pick" techniques are introduced. Provide your own instrument.
- MUS 189 Guitar II** 2(1-1)
Prerequisite: MUS 188. The second in a sequence of two courses for beginners. Note reading and music theory, learn to play single-note melody lead and chord accompaniment. Folk, blues and classical traditions of the instrument. "Finger-style" and "Flat-pick" techniques are introduced. This course builds on the cumulative material covered in MUS 188. Provide your own instrument.
- MUS 199 Music Appreciation** 2(2-0)
Gives a general knowledge of musical structure, composers, compositions, terms, and the relationships of music to other arts. For non-music majors.
- MUS 200 Basic Music/Elementary Teachers** 4(4-0)
Provides Elementary Teacher majors with the basic skills to teach music in the classroom. Meets State Department of Education certification requirements for elementary classroom teachers.
- MUS 205 Private Voice/Majors** 3(0-5)
Prerequisite: Audition. Private lesson, 1 hour per week, for music students. Enrollment by audition only. Auditions held the first Friday of fall and winter terms, or as requested during fall and spring term juries. Students who are not admitted as music majors are recommended to take private lessons for non-majors and reaudition to meet audition criteria.
- MUS 206 Private Voice/Majors** 2(0-3)
Prerequisite: Audition. Private lesson, 40 minutes per week, for music students. Enrollment by audition only. Auditions held the first Friday of fall and winter terms, or as requested during fall and spring term juries. Students who are not admitted as music majors are recommended to take private lessons for non-majors and reaudition to meet audition criteria.
- MUS 207 Private Instrument/Majors** 3(0-5)
Prerequisite: Audition. Private lesson, 1 hour per week, for music students. Enrollment by audition only. Auditions held the first Friday of fall and winter terms, or as requested during fall and spring term juries. Students who are not admitted as music majors are recommended to take private lessons for non-majors and reaudition to meet audition criteria.
- MUS 208 Private Instrument/Majors** 2(0-3)
Prerequisite: Audition. Private lesson, 40 minutes per week, for music students. Enrollment by audition only. Auditions held the first Friday of fall and winter terms, or as requested during fall and spring term juries. Students who are not admitted as music majors are recommended to take private lessons for non-majors and reaudition to meet audition criteria.
- MUS 209 Private Keyboard/Majors** 3(0-5)
Prerequisite: Audition. Private lesson, 1 hour per week, for music students. Enrollment by audition only. Auditions held the first Friday of fall and winter terms, or as requested during fall and spring term juries. Students who are not admitted as music majors are recommended to take private lessons for non-majors and reaudition to meet audition criteria.
- MUS 210 Private Keyboard/Majors** 2(0-3)
Prerequisite: Audition. Private lesson, 40 minutes per week, for music students. Enrollment by audition only. Auditions held the first Friday of fall and winter terms, or as requested during fall and spring term juries. Students who are not admitted as music majors are recommended to take private lessons for non-majors and reaudition to meet audition criteria.
- terms, or as requested during fall and spring term juries. Students who are not admitted as music majors are recommended to take private lessons for non-majors and reaudition to meet audition criteria.
- MUS 211 Private Guitar/Majors** 3(0-5)
Prerequisite: Audition. Private lesson, 1 hour per week, for music students. Enrollment by audition only. Auditions held the first Friday of fall and winter terms, or as requested during fall and spring term juries. Students who are not admitted as music majors are recommended to take private lessons for non-majors and reaudition to meet audition criteria.
- MUS 212 Private Guitar/Majors** 2(0-3)
Prerequisite: Audition. Private lesson, 40 minutes per week, for music students. Enrollment by audition only. Auditions held the first Friday of fall and winter terms, or as requested during fall and spring term juries. Students who are not admitted as music majors are recommended to take private lessons for non-majors and reaudition to meet audition criteria.
- MUS 213 Private Voice/Non-Majors** 3(0-5)
Private lesson, 1 hour per week, for non-major voice students.
- MUS 214 Private Voice/Non-Majors** 2(0-2)
Private lesson, 40 minutes per week, for non-major voice students.
- MUS 215 Private Voice/Non-Majors** 1(0-1)
Private lesson, 30 minutes per week, for non-major voice students.
- MUS 216 Private Instrument/Non-Majors** 3(0-5)
Private lesson, 1 hour per week, for non-major instrumental students.
- MUS 217 Private Instrument/Non-Majors** 2(0-3)
Private lesson, 40 minutes per week, for non-major instrumental students.
- MUS 218 Private Instrument/Non-Majors** 1(0-1)
Private lesson, 30 minutes per week, for non-major instrumental students.
- MUS 219 Private Keyboard/Non-Majors** 3(0-5)
Private lesson, 1 hour per week, for non-major piano or organ students.
- MUS 220 Private Keyboard/Non-Majors** 2(0-3)
Private lesson, 40 minutes per week, for non-major piano or organ students.
- MUS 221 Private Keyboard/Non-Majors** 1(0-1)
Private lesson, 30 minutes per week, for non-major piano or organ students.
- MUS 222 Private Guitar/Non-Majors** 3(0-5)
Private lesson, 1 hour per week, for non-major piano or guitar students.
- MUS 223 Private Guitar/Non-Majors** 2(0-3)
Private lesson, 40 minutes per week, for non-major piano or guitar students.
- MUS 224 Private Guitar/Non-Majors** 1(0-1)
Private lesson, 30 minutes per week, for non-major piano or guitar students.
- MUS 227 Independent Study** 1(1-1)
Prerequisite: Department approval. Under instructor supervision, the student will work on specific projects approved by the program director. Student will meet with approved instructor 2.75 hours during the term.
- MUS 228 Independent Study** 2(1-2)
Prerequisite: Department approval. Under instructor supervision, the student will work on specific projects approved by the program director. Student will meet with approved instructor 5.5 hours during the term.
- MUS 229 Independent Study** 3(1-3)
Prerequisite: Department approval. Under instructor supervision, the student will work on specific projects approved by the program director. Student will meet with approved instructor 8.25 hours during the term.
- MUS 230 Church Choir Conducting** 2(1-1)
A course designed to instruct church choir conductors in conducting techniques, score analysis, introduction to vocal techniques, selection of literature and dealing with children's choirs.
- MUS 232 Music Seminar** 1(1-0)
Prerequisite: Department approval. Designed to meet special needs of students

and offered on demand. Students are approved in advance by faculty and department.

MUS 233 Music Seminar 2(1-1)

Prerequisite: Department approval. Designed to meet special needs of students and offered on demand. Students are approved in advance by faculty and department.

MUS 234 Music Seminar 3(2-1)

Prerequisite: Department approval. Designed to meet special needs of students and offered on demand. Students are approved in advance by faculty and department.

MUS 235 Harmonica I 1(1-1)

Introductory course demonstrating the sound techniques employed in the mastery of the harmonica.

MUS 236 Harmonica II 2(1-1)

Prerequisite: MUS 235 or Equivalent. Introduces blues changes. The student will perform five blues songs and gain the ability to improvise over standard blues changes.

MUS 239 Jazz History 2(2-0)

General introduction to recorded jazz. Each week the class will focus on a different period, style, or group of performers. Covers instrumentation, arrangement, ensemble qualities, unison, counterpoint, call and response, differences between collective improvisation and group backing for a soloist, the differing forms of big bands and the small jazz group, the individuality of soloists within a style, the changes in style from one period to the next, the role of innovators within the music, how they influence others.

MUS 240 Music History I 3(3-0)

Prerequisite: department approval. Ancient Greece through Romanesque and Gothic periods, concluding with the Renaissance, Greek theory and "ethos"—age of plainsong, development of polyphony.

MUS 241 Music History II 3(3-0)

Prerequisite: MUS 240. Baroque and classical periods with special attention to fugue, opera, oratorio, sonata, and symphony. Characteristic works analyzed.

MUS 242 Music History III 3(3-0)

Prerequisite: MUS 241. Romantic, impressionistic, and contemporary periods. A comprehensive final examination is administered covering MUS 240-242.

MUS 244 Studio Production—Commercial 3(2-1)

Prerequisite: department approval. This course is an introduction to modern multi-channel recording techniques. The term is divided into two parts. The first part is conducted on-campus and the second part is observation of recording sessions in an off-campus recording studio. Covers equipment functions, separation techniques, basic tracks, and overdubs. Additional studies include: the roles of musicians, producers, and engineers in the commercial music recording field.

MUS 245 Fundamental Methods of Commercial Music 3(3-0)

Introduction to the patterns behind chords, scales and harmonic movement, and learning to read music.

MUS 251 Lennon/McCartney 2(2-0)

An historical survey and musical analysis of the most influential songwriting team of the 1960's. Topics include stylistic evolution, social context, musical roots, and the continuing influence of the Beatles.

MUS 252 History of Rock I 3(3-0)

Introduction to the varied styles and origins of the music called Rock 'n' Roll, as well as some of the major figures behind it.

MUS 253 Business of Music 4(4-0)

An introduction to the business aspects of the music industry. Areas covered include copyrights, contracts, trademarks, publishing, recording and record company operations, personal managers, booking agents, concert promotion, and unions.

MUS 254 Band Management 2(2-0)

Prerequisite: MUS 253 or instructor approval. Designed to assist the professional musician or manager in the creation or improvement of a performing band. All major aspects of band management are covered, including intra-band agreements, contracts, negotiations, choice of format and material, equipment, finances, promotion and sales, road management, and basic organizational information.

MUS 255 Class Voice—Commercial Music 3(2-1)

The beginning class in a series of three classes. Class and individual work on pop music and study of important vocal techniques in pop, jazz, and rock music. Recommended as a prerequisite to private voice lessons.

MUS 256 Class Voice—Commercial Music 3(2-1)

Prerequisite: MUS 255. The intermediate class in a series of three classes. Class and individual work on pop music and study of important vocal techniques in pop, jazz, and rock music. Recommended as a prerequisite to private voice lessons.

MUS 257 Class Voice—Commercial Music 3(2-1)

Prerequisite: MUS 256. The advanced, and last class in a series of three classes. Class and individual work on pop music and study of important vocal techniques in pop, jazz, and rock music. Students required to give public performance. Recommended as a prerequisite to private voice lessons.

MUS 258 Class Keyboard—Commercial Music 2(1-1)

The first in a sequence of three, provides progressive introduction to the keyboard, reading music, and principles of improvisation. Topics include chord construction, voicing, playing from chord symbols, major, minor, and blues construction.

MUS 259 Class Keyboard—Commercial Music 2(1-1)

Prerequisite: MUS 258. The second in a sequence of three, provides progressive introduction to the keyboard, reading music, and principles of improvisation. Topics include chord construction, voicing, playing from chord symbols, major, minor, and blues construction. This course builds on the cumulative material covered in MUS 258.

MUS 260 Class Keyboard—Commercial Music 2(1-1)

Prerequisite: MUS 259. The third in a sequence of three, provides progressive introduction to the keyboard, reading music, and principles of improvisation. Topics include chord construction, voicing, playing from chord symbols, major, minor, and blues construction. This course builds on the cumulative material covered in MUS 259.

MUS 267 Top Forty Band 2(0-3)

Prerequisite: instructor approval. For commercial music students, with emphasis on developing and upgrading competence and effectiveness as performers.

MUS 269 Recording Band 2(1-2)

Prerequisite: audition. The term is divided into two parts. The first half is conducted in an on-campus rehearsal facility. Under instructor supervision, students select, arrange, and rehearse the musical compositions to be recorded. The second half of the term is spent in an off-campus recording studio, recording and mixing the same selections.

MUS 270 Pop Guitar I 2(1-1)

Classroom guitar for the beginning student. Learn to take solos from records and perform pop guitar ensemble music in the classroom.

MUS 271 Pop Guitar II 2(1-1)

Prerequisite: MUS 270. Advanced classroom guitar for the intermediate or advanced pop rock guitarist. This course builds on the cumulative material covered in MUS 270. Learn to take solos from record and perform pop guitar ensemble music in the classroom.

MUS 276 Lyric Writing 3(3-0)

The art of text setting in pop/rock music examined through its lyrics. Reflections of social and technological change will be studied, and original material will be critiqued and made available to songwriters.

MUS 277 Private Songwriting 1(0-1)

Prerequisite: MUS 245. Private coaching, 30 minutes per week, in writing and copyrighting musical compositions, giving attention and suggestion in harmony, chord substitution, and formal design.

MUS 278 Private Songwriting 2(0-3)

Prerequisite: MUS 245. Private coaching, 40 minutes per week, in writing and copyrighting musical compositions, giving attention and suggestion in harmony, chord substitution, and formal design.

MUS 279 Private Songwriting 3(0-5)

Prerequisite: MUS 245. Private coaching, 1 hour per week, in writing and copyrighting musical compositions, giving attention and suggestion in harmony, chord substitution, and formal design.

- MUS 280 Rock Percussion** 2(1-1)
The first in a sequence of two, provides progressive work in percussion techniques with emphasis on rock rhythms and concepts.
- MUS 281 Advanced Rock Percussion** 2(1-1)
Prerequisite: Advanced Skills. The second in a sequence of two, provides progressive work in percussion techniques with emphasis on rock rhythms and concepts. This course builds on the cumulative material covered in MUS 280.
- MUS 282 Private Voice—Commercial Music** 1(0-1)
Private voice lessons for non-majors, particularly relating to commercial music. Work on specific music projects, to be assigned by instructor. Weekly lessons of 30 minutes.
- MUS 283 Private Voice—Commercial Music** 2(0-3)
Private voice lessons for non-majors, particularly relating to commercial music. Work on specific music projects, to be assigned by instructor. Weekly lessons of 40 minutes.
- MUS 284 Private Voice—Commercial Music** 3(0-5)
Private voice lessons for non-majors, particularly relating to commercial music. Work on specific music projects, to be assigned by instructor. Weekly lessons of 1 hour.
- MUS 285 Private Instrument—Commercial Music** 1(0-1)
Private instrumental instruction emphasizing techniques and style specifically related to commercial music. Weekly lessons of 30 minutes.
- MUS 286 Private Instrument—Commercial Music** 2(0-3)
Private instrumental instruction emphasizing techniques and style specifically related to commercial music. Weekly lessons of 40 minutes.
- MUS 287 Private Instrument—Commercial Music** 3(0-5)
Private instrumental instruction emphasizing techniques and style specifically related to commercial music. Weekly lessons of 1 hour.
- MUS 288 Private Keyboard—Commercial Music** 1(0-1)
Private keyboard instruction emphasizing techniques and style specifically related to commercial music. Weekly lessons of 30 minutes.
- MUS 289 Private Keyboard—Commercial Music** 2(0-3)
Private keyboard instruction emphasizing techniques and style specifically related to commercial music. Weekly lessons of 40 minutes.
- MUS 290 Private Keyboard—Commercial Music** 3(0-5)
Private keyboard instruction emphasizing techniques and style specifically related to commercial music. Weekly lessons of 1 hour.
- MUS 297 Synthesizers and Computer Music I** 2(1-2)
Prerequisite: instructor approval. A broad survey of the role of computers in the discipline of music. Topical areas include an historical overview of the applications of computers in music, sound synthesis techniques, synthesis hardware and signal processing, computer-assisted instruction, and sound analysis. Students will receive practical experience in the computer laboratory with computer-assisted analysis and instruction on the DEC VAX 11/780, IBM personal computers, and a digital synthesizer.
- MUS 298 Synthesizer and Computer Music II** 2(1-2)
Prerequisite: MUS 297 or instructor approval. An extension of MUS 297, with emphasis on advanced synthesis technique, performance, and composition.
- Theatre (THR)**
Performing Arts Department
Division of TeleCommunication and the Arts
- THR 105 Introduction to Theatre** 3(3-0)
Elements in theatre: audience, cast, director, designers, technicians, and historical development. Students will discuss and participate in production techniques and evaluate performances.
- THR 110 The Teacher as a Performing Artist** 3(3-0)
A presentational approach to the art of public speaking, in the classroom, in professional situations, or in one-on-one communication. Includes development of vocal and physical (gestures, facial expressions) skills to enhance presentations, identification of distracting habits and mannerisms, and dealing with nervousness and stress.
- THR 111 Creative Dramatics for Elementary Teaching** 2(1-2)
Progressive course focusing on developing drama skills in children, using techniques in improvisation, music, costumes, and puppetry. Develops the concentration, imagination, cooperation, and observation skills of students. Useful in teaching other subjects in various curricula.
- THR 112 Advanced Creative Dramatics for Elementary Teaching** 2(1-2)
Prerequisite: THR 111. An advanced extension of THR 111, focusing on further development of drama skills in children.
- THR 130 Studio Theatre Practicum** 2(1-2)
Prerequisite: THR 131 concurrently. Covers the "scoring" of an entire script and uses skills acquired in Introduction to Acting (THR 250) and Acting I (THR 251); i.e., character development, rhythm, style, pacing, and movement.
- THR 131 Studio Theatre Performance** 2(1-2)
Prerequisite: THR 130 concurrently. Provides the student an opportunity to practice the process of rehearsal and performance. Focus on the understanding and implementation of the skills acquired and the relationships experienced between the actor and the script, and the actor and director. Production skills also taught.
- THR 150 Oral Interpretation** 3(2-1)
Themes and concepts of literature, drama and poetry, and the technical skills (voice, emotion, etc.) needed to communicate them. Students will perform selections at the end of the term for an audience.
- THR 151 Readers Theatre** 2(1-2)
An oral approach to the study of literature. Students participate in individual and group readings of plays, poetry, and stories. Exploration of the principles of vocal production, expression, and characterization included.
- THR 152 Stage Voice I** 2(2-1)
Basic techniques of expressive speech, vocal projection, and other stage-related communication methods. Examines the major physiological features of the speaking voice, control through abdominal breathing, practice of the phonetic alphabet, and recitation of short passages using various dialects.
- THR 153 Stage Voice II** 2(2-1)
Prerequisite: THR 152. A continuation of THR 152 with emphasis on more sophisticated style of voice for the stage, involving individual production requirements.
- THR 155 Pantomime** 3(2-2)
Covers presentation and theatrical aspects of pantomime, emphasizing physical communication through flexibility and body coordination. Includes exercises designed to create illusions and characters to be performed for the class and invited guests.
- THR 157 Advanced Pantomime** 3(2-2)
Prerequisite: THR 155. Improving and perfecting skills learned in THR 155. Additional skills include application of make-up, creating a costume, and the rehearsal process. When possible, public performances will be scheduled.
- THR 175 Theatre History** 3(3-0)
An examination of the history of drama from primitive times to the present, introducing the overall pattern of theatre history with emphasis on European and American development.
- THR 177 History of Musical Theatre I** 3(3-0)
Encompasses the history of musical theatre from its origins to the 1960's. Study includes the development in America by focusing on all aspects of particular musicals chosen by the instructor.
- THR 187 Audition Techniques** 3(2-1)
Examines the theatrical audition process by developing monologues and characters, experiencing sight-reading techniques, and preparing working resumes. Study includes musical auditions and the preparation of musical pieces.
- THR 188 Advanced Audition Techniques** 3(2-1)
Prerequisite: THR 187. A continuation of THR 187 with further refinement of basic audition techniques and concepts.
- THR 200 Method Acting Workshop** 3(2-1)
An in-depth study of Method Acting as formulated by Constantin Stanislavski and popularized by the Actor's Studio. Includes preparation, internal control, and approach necessary to sustain a character for dramatic presentation.

Teaches the use of emotion as a portion of the technique an actor learns in developing personal performance process.

THR 201 Advanced Method Acting Workshop 3(2-1)

Prerequisite: THR 200. An advanced approach to an in-depth study of Method Acting as formulated by Stanislavski and popularized by the Actor's Studio. This course builds on the cumulative material covered in THR 200.

THR 211 Production Practicum I 1(1-2)

Prerequisite: department approval. An introduction to techniques of stage craft for the performing arts. The basic fundamentals involved in tool usage and safety, stage lighting, lighting plot interpretation, and understanding of the organization of backstage production. Involves two hours of lab time per week.

THR 212 Production Practicum I 2(1-4)

Course involves four hours of lab time per week, giving the student basic fundamentals involved in tool usage and safety, stage lighting, lighting plot interpretation, and understanding of the organization of backstage production.

THR 213 Production Practicum I 3(1-6)

Course involves six hours of lab time per week, giving the student a greater opportunity to refine the basic fundamentals involved in tool usage and safety, stage lighting, lighting plot interpretation, and understanding of the organization of backstage production.

THR 215 Design Practicum I 3(2-1)

An introduction to the elements of design and how they relate to performance. Introduction to color theory as it relates to paint, light, and fabric. Techniques of rendering, translation of a picture to 3-dimensionality, spacial relationships and development of a design concept also covered.

THR 216 Design Practicum II 3(2-1)

Prerequisite: THR 215 or department approval. A continuation of study begun in Design Practicum I. In addition, the student will learn model building as the final element in the design process.

THR 217 Design Practicum III 3(2-1)

Prerequisite: THR 216 or department approval. Advanced study in the design process. A continuation of training begun in Design Practicum I and II.

THR 218 Scene Painting 3(1-2)

Designed to teach the basics of scene painting, including instruction in color theory, various brands and types of paint available, and use of tools and techniques of scene painting.

THR 219 Advanced Scene Painting 3(1-2)

Prerequisite: THR 218. Advanced course designed to study in-depth techniques for scene painting.

THR 221 Production Practicum II 1(1-2)

Prerequisite: THR 211 or 212 or 213. Intermediate techniques of stage craft for the performing arts. Student continues training in tool usage and safety, stage lighting, light plot interpretation, and a more detailed understanding of backstage production. Based on student's choice to emphasize their studies toward lighting design or technical direction, student will study floorplan, working drawing interpretation, and fundamentals of color. Involves two hours of lab time per week.

THR 222 Production Practicum II 2(1-4)

Prerequisite: THR 212 or 213. Involves four hours of lab time per week giving the student experience in order to refine their intermediate/advanced techniques of stage craft for the performing arts. Student continues training in tool usage and safety, stage lighting, light plot interpretation, and gains a more detailed understanding of backstage production. Based on student's choice to emphasize their studies toward lighting design or technical direction, student will study floorplan, working drawing interpretation, and fundamentals of color.

THR 223 Production Practicum II 3(1-6)

Prerequisite: THR 212 or 213. Involves six hours of lab time per week giving the student experience in order to refine intermediate and learn more advanced techniques of stage craft for the performing arts. Student continues training in tool usage and safety, stage lighting, light plot interpretation, and gains a more detailed understanding of backstage production. Based on student's choice to emphasize their studies toward lighting design or technical direction, student will study floorplan, working drawing interpretation, and fundamentals of color.

THR 224 Production Practicum III 3(1-6)

Prerequisite: THR 223 or department approval. Involves six hours of lab time

per week. Student will receive practical production experience based on student's choice to emphasize their studies on lighting design or technical direction.

THR 225 Stage Management 3(3-0)

An introduction to the basic techniques of stage management, emphasizing the stage manager's responsibilities, the relationship of stage manager to the producer, director, designer, crew, cast; techniques to work up production and rehearsal schedules, contact sheets, scene breakdowns, blocking notations, and cueing of a show.

THR 226 Advanced Stage Management 3(3-0)

Prerequisite: THR 225. Practical experience in stage work; the student is assigned to act as stage manager or assist the stage manager in a production.

THR 230 Theatre Workshop 12(5-15)

Prerequisite: department approval. An extensive summer apprentice experience in elementary principles of theatrical production under the supervision of professional actors, directors, and technicians with an area theatre company. Includes acting, properties, set construction, costuming, and lighting principles. Requires additional lab time.

THR 231 Theatre Workshop - LCC 6(2-10)

Prerequisite: instructor approval. A modified summer apprenticeship program designed for high school students as well as college students. Includes acting, technical theatre, and costuming, using the facilities at the college as a laboratory. Requires additional lab time.

THR 235 Theatre Special Projects 2(1-3)

Prerequisite: instructor approval. Student will be given the opportunity to write, direct, perform, or produce productions for college functions. Limited to individuals who have been selected as cast members in a scheduled LCC performance. Two credit hours awarded for scope of work under supervision of instructor.

THR 236 Theatre Special Projects 4(2-4)

Prerequisite: instructor approval. Student will be given the opportunity to write, direct, perform, or produce productions for college functions. Limited to individuals who have been selected as cast members in a scheduled LCC performance. Four credit hours awarded for scope of work under supervision of instructor.

THR 237 Theatre Special Projects 1(0-2)

Prerequisite: instructor approval. Student will be given the opportunity to write, direct, perform, or produce productions for college functions. Limited to individuals who have been selected as cast members in a scheduled LCC performance. One credit hour awarded for scope of work under supervision of instructor.

THR 246 Introduction to TV/Film Acting 3(2-1)

Designed to introduce the beginning acting student to the basic skills needed for working in front of the camera including scene study, basic terminology, use of energy in front of the camera, and an individual evaluation.

THR 248 Advanced TV/Film Acting 3(2-1)

Prerequisite: THR 246. Advanced work on basic skills in front of the camera.

THR 247 Acting for TV Commercials 3(2-1)

Designed to provide the student with an introduction to the concept of commercials, the audition, the cold reading, and the taping session.

THR 249 Improvisation 3(2-2)

Through the use of masks and developmental exercises, this class will train the student in long-term, in-depth character development through improvisational technique.

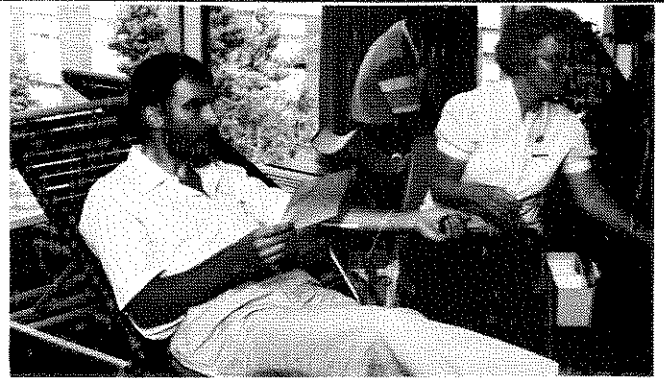
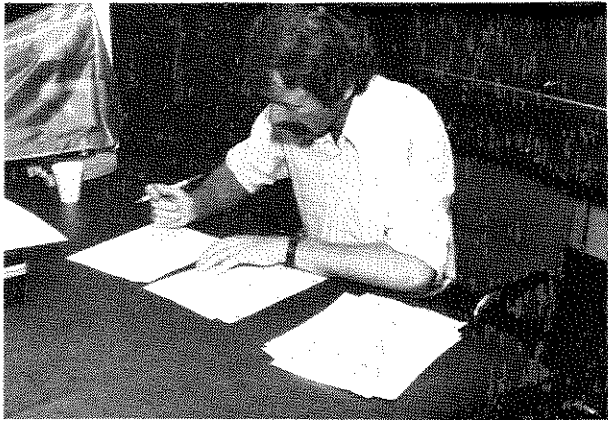
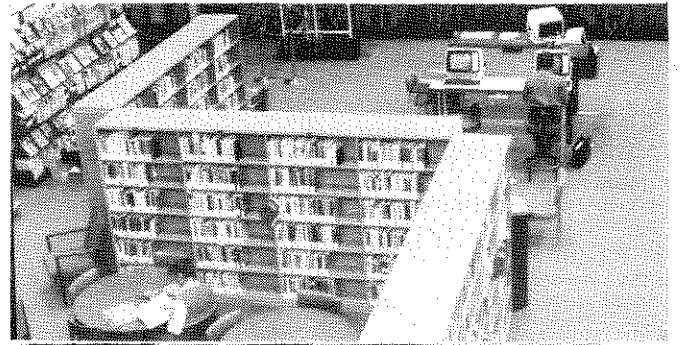
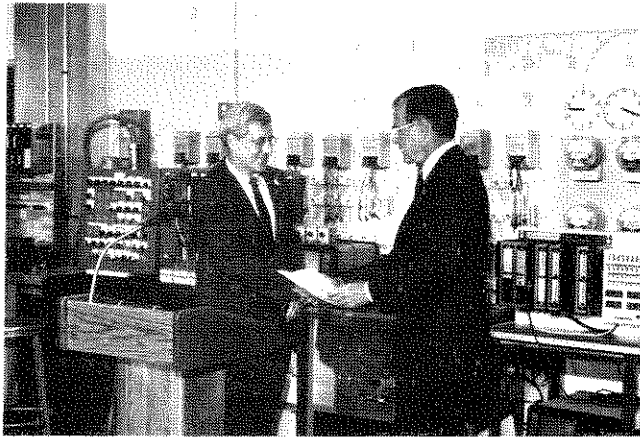
THR 250 Introduction to Acting 3(2-2)

Discusses various acting techniques and introduces the beginning student to the skills necessary to maintain a sustained dramatic performance. Theatre games and improvisation exercises to overcome stage fright and to develop concentration and listening skills are heavily emphasized.

THR 251 Acting I 3(2-2)

Prerequisite: THR 250. An introduction to the vocal and physical skills necessary to sustain public performance. The fundamentals of acting, including improvisational techniques, the rehearsal process, character analysis, scene study, and production are covered.

- THR 252 Acting II** 3(2-2)
Prerequisite: THR 251. A continuation of the fundamental skills of acting. Students review techniques presented and add more complicated skills as abilities increase.
- THR 253 Acting III** 3(2-2)
Prerequisite: THR 252. Continued training in the fundamentals of acting. Students review and practice skills demonstrated, and apply them to acting styles from various historical periods. Course may be repeated up to three times for credit.
- THR 254 Acting III—Shakespeare** 3(2-2)
Prerequisite: THR 252. Course instruction includes reading and discussing the plays of William Shakespeare, focusing on the attitude and style of the Elizabethan Theatre. Students will participate by presenting short scenes using dialects with developed characters.
- THR 255 Stage Makeup** 3(2-2)
A study in the application of stage makeup to develop a character and to assist the actor in sustaining the character in performance. Emphasizes skills in the use of different kinds of makeup, hairstyling, and appearance changes utilizing various chemical compounds.
- THR 256 Acting III—Shaw** 3(2-2)
Prerequisite: THR 252. Course instruction includes reading and discussing the plays of Bernard Shaw, focusing on the attitude and style of the Nineteenth Century. Students will participate by presenting short scenes with developed character.
- THR 257 Acting III—Greeks** 3(2-2)
Prerequisite: THR 252. Course instruction includes reading and discussing the plays of Greek theatre focusing on the attitude and style of the Fifth Century B.C. Students will participate by presenting short scenes with developed characters, using an acting style reflecting the period.
- THR 258 Advanced improvisation** 3(2-2)
Prerequisite: THR 249/Improvisation. Advanced Improvisation is an extension of beginning improvisation. Students will develop performance materials and present it by the end of the term.
- THR 260 Directing** 3(2-2)
Prerequisite: THR 251. A study of the theories and practice used in directing for the stage. Students examine the principles and terms used in dramatic analysis, prepare written character analyses, develop a comprehensive rehearsal schedule, and conduct rehearsals with goals selected for each rehearsal.
- THR 261 Movement for the Actor I** 3(2-2)
Course providing a basic understanding of the use of movement in performance. Students learn relaxation techniques and begin to explore skills for allowing an audience to share the actor's emotional and intellectual responses as expressed through movement.
- THR 262 Movement for the Actor II** 3(2-2)
Prerequisite: THR 261. An advanced course emphasizing the body as a medium of expression, encouraging students to devise their own techniques in order to share their unique personal interpretations.
- THR 281 Directed Independent Study** 6(3-6)
Prerequisite: instructor approval. Course provided for advanced students working on special projects outside the scope of standard classroom instruction. Student will meet with approved instructor 16.5 hours during the term.
- THR 282 Directed Independent Study** 4(2-4)
Prerequisite: instructor approval. Course provided for advanced students working on special projects outside the scope of standard classroom instruction. Student will meet with approved instructor 11 hours during the term.
- THR 283 Directed Independent Study** 2(1-2)
Prerequisite: instructor approval. Course provided for advanced students working on special projects outside the scope of standard classroom instruction. Student will meet with approved instructor 5.5 hours during the term.
- THR 284 Directed Independent Study** 3(2-1)
Prerequisite: instructor approval. Course provided for advanced students working on special projects outside the scope of standard classroom instruction. Student will meet with approved instructor 8.25 hours during the term.
- THR 285 Introduction to Clowning** 3(2-2)
Introductory course in the art of clowning. Basic clown types, makeup, juggling, balloonology, and beginning magic.
- THR 286 Advanced Clowning I** 3(2-2)
Prerequisite: THR 285. An advanced course in the art of clowning for the performance career student. Unique clown types, advanced clown makeup, juggling, balloonology, and sleight of hand tricks are examined. Emphasis on creating an original clown character including costume, makeup, and appropriate skits; projection and performance.
- THR 289 Clown Physical Comedy** 3(2-2)
Designed to develop the student's non-verbal expression by the use of comedy pantomime, stage gestures, improvisation, and pratt falls. The student will be responsible for performing short skits in class.
- THR 290 Circus Skills** 3(2-1)
Complete training on the still trapeze (trapeze bar is 7' off the floor), exercise on rolla board, stilt walking (2' & 4'), unicycle (regular, 20" & 18" wheel, 5' high), body and hand balancing items, and juggling (clubs & balls).
- THR 295 Alexander Technique** 1(0-3)
Introduces a system of mind-body dynamics beneficial to actors, dancers, and musicians, focusing on realignment of body usage to develop full capability of energy, control, and relaxation.
- Theatre Seminars and Workshops (THW)
Performing Arts Department
Division of TeleCommunication and the Arts**
- THW 105 Acting Workshop** 2(2-0)
Full or variable length course designed to take advantage of special talents of current or visiting performance faculty.
- THW 110 Play in Progress** 1(1-0)
A practical workshop designed for theatre/music/dance students to observe all phases of the play process; including, production meetings, scene rehearsal, blocking rehearsal, technical rehearsals, run-throughs, actor-director working relationship, and note giving. Discussions with a working director will focus on applied technique and rehearsal theory.



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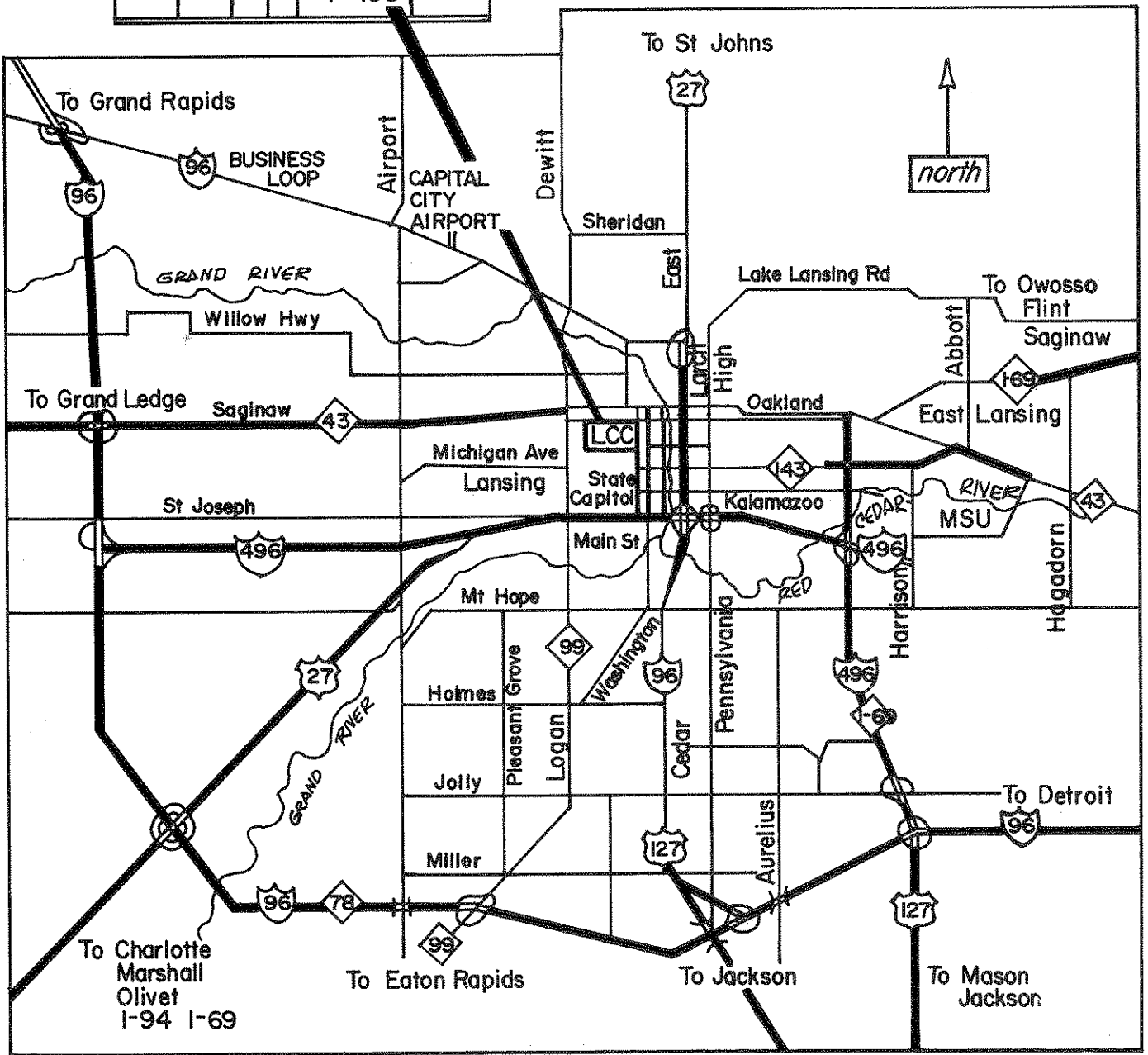
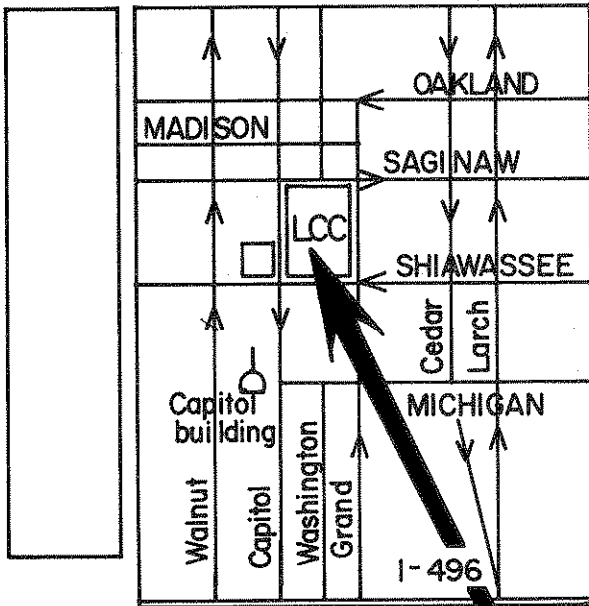
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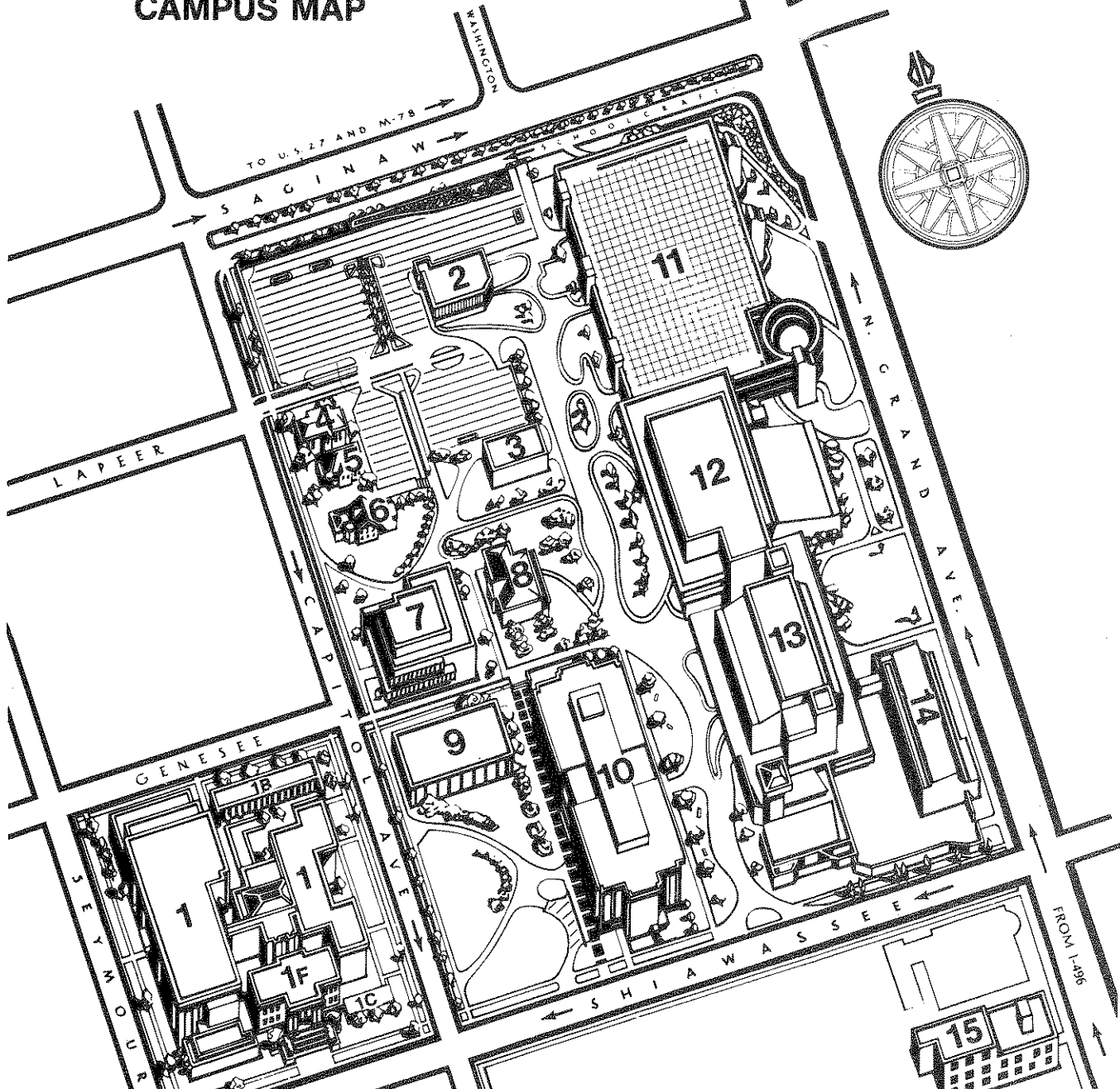
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Lansing Community College

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LANSING COMMUNITY COLLEGE CAMPUS MAP



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| 1. Old Central (OC) | 11. Parking Ramp |
| 2. Photography Center (PC) | 12. Gannon Center-Health Careers/Physical Education (GPE) |
| 3. Administration (ADM) | 13. Gannon Center-Vocational-Technical (GVT) |
| 4. North House (NH) | 14. Voc-Tech Automotive Center |
| 5. State Museum Workshop | 15. Academic & Office Facility (AOF) |
| 6. Conference Center | |
| 7. Dart Auditorium (DRT) | |

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