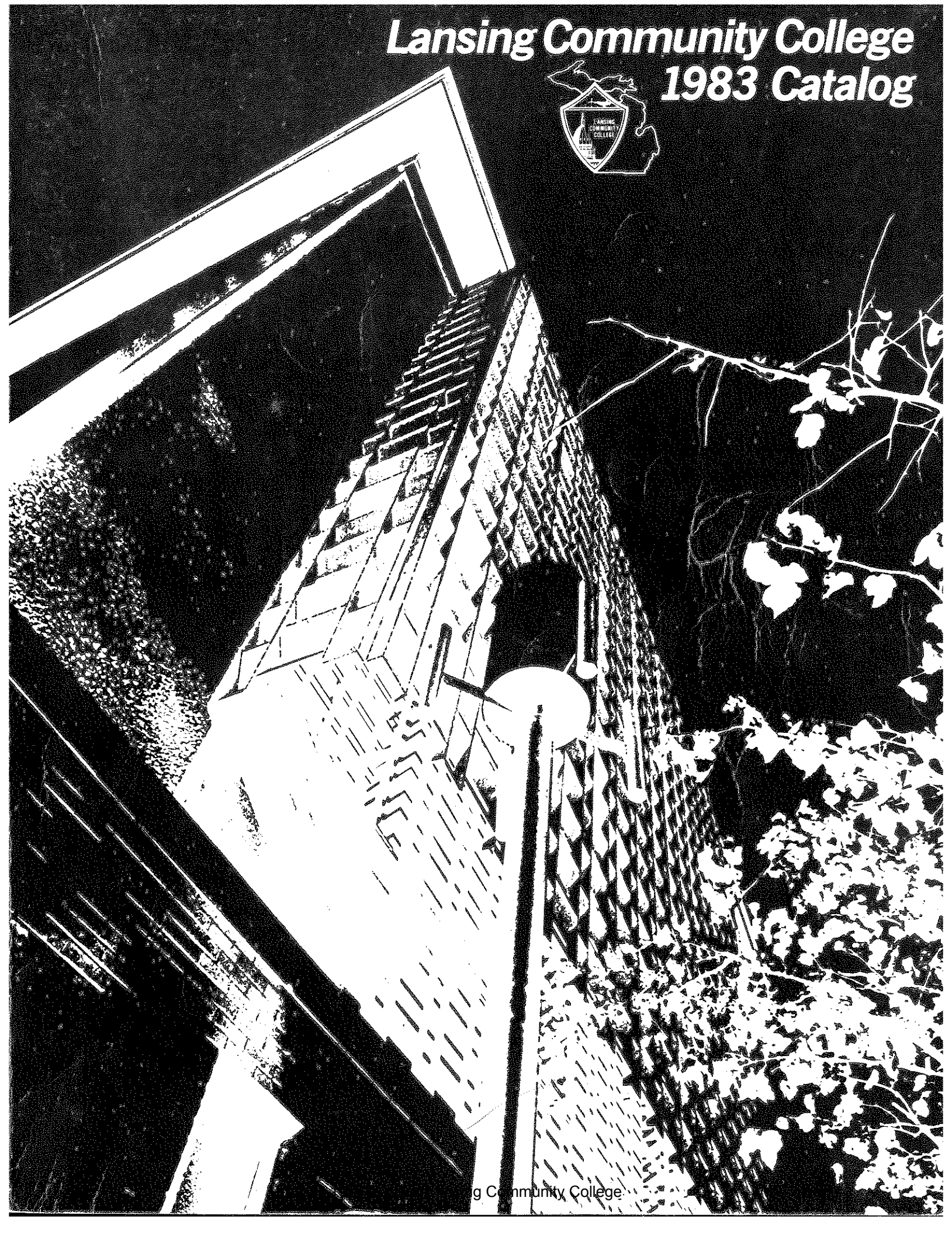
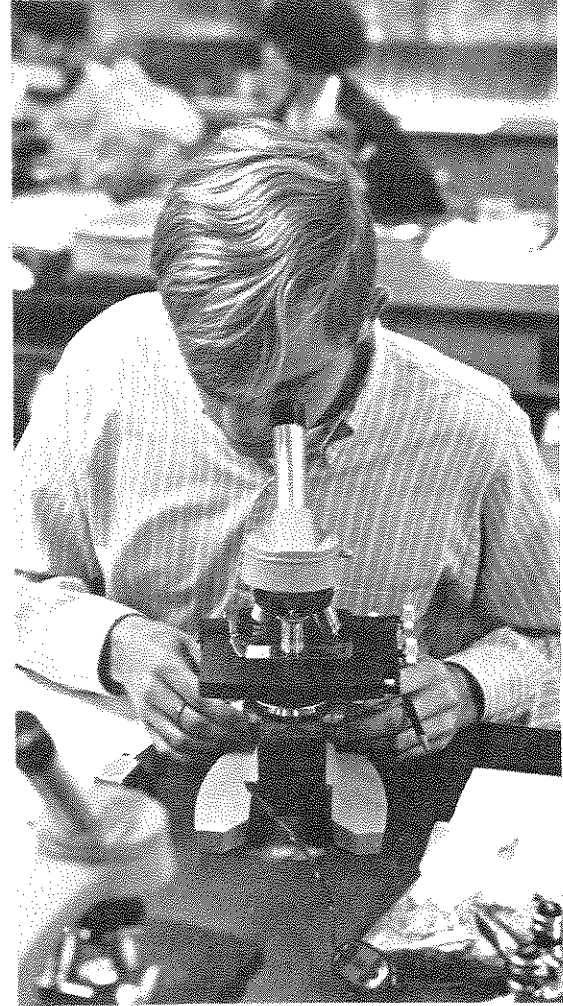
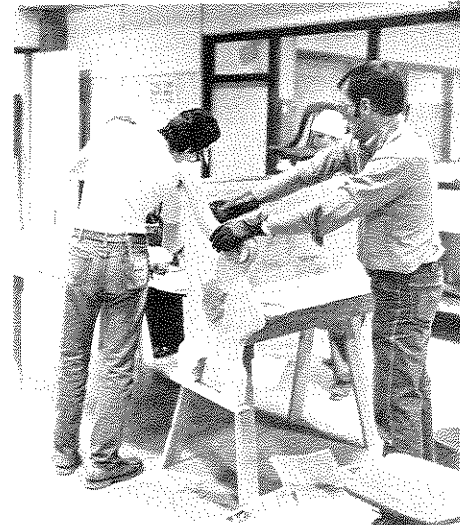
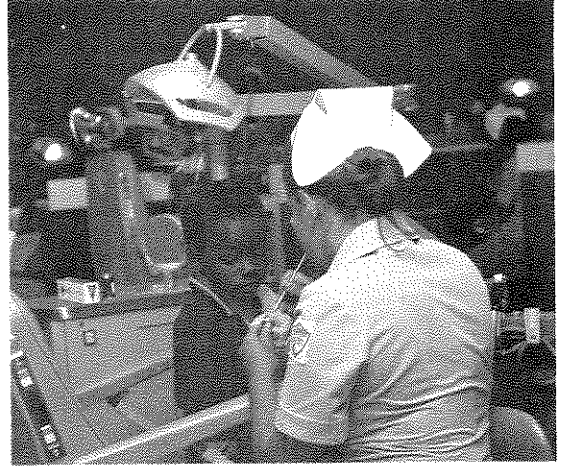
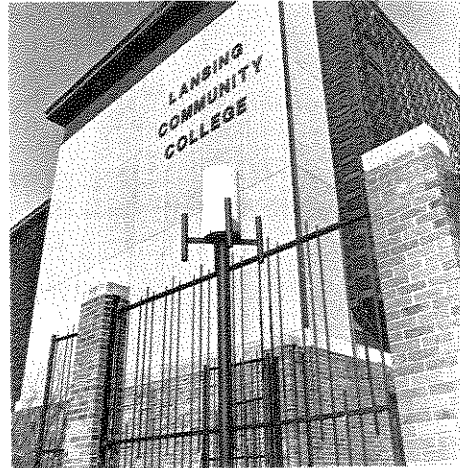
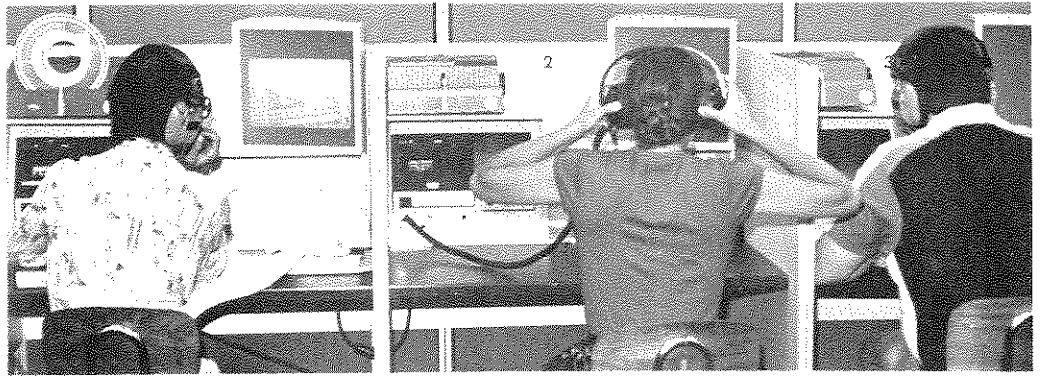
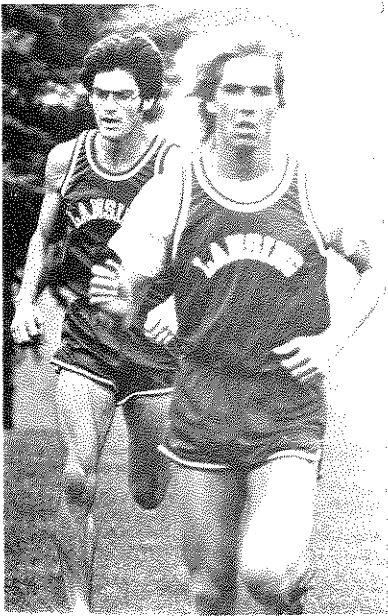
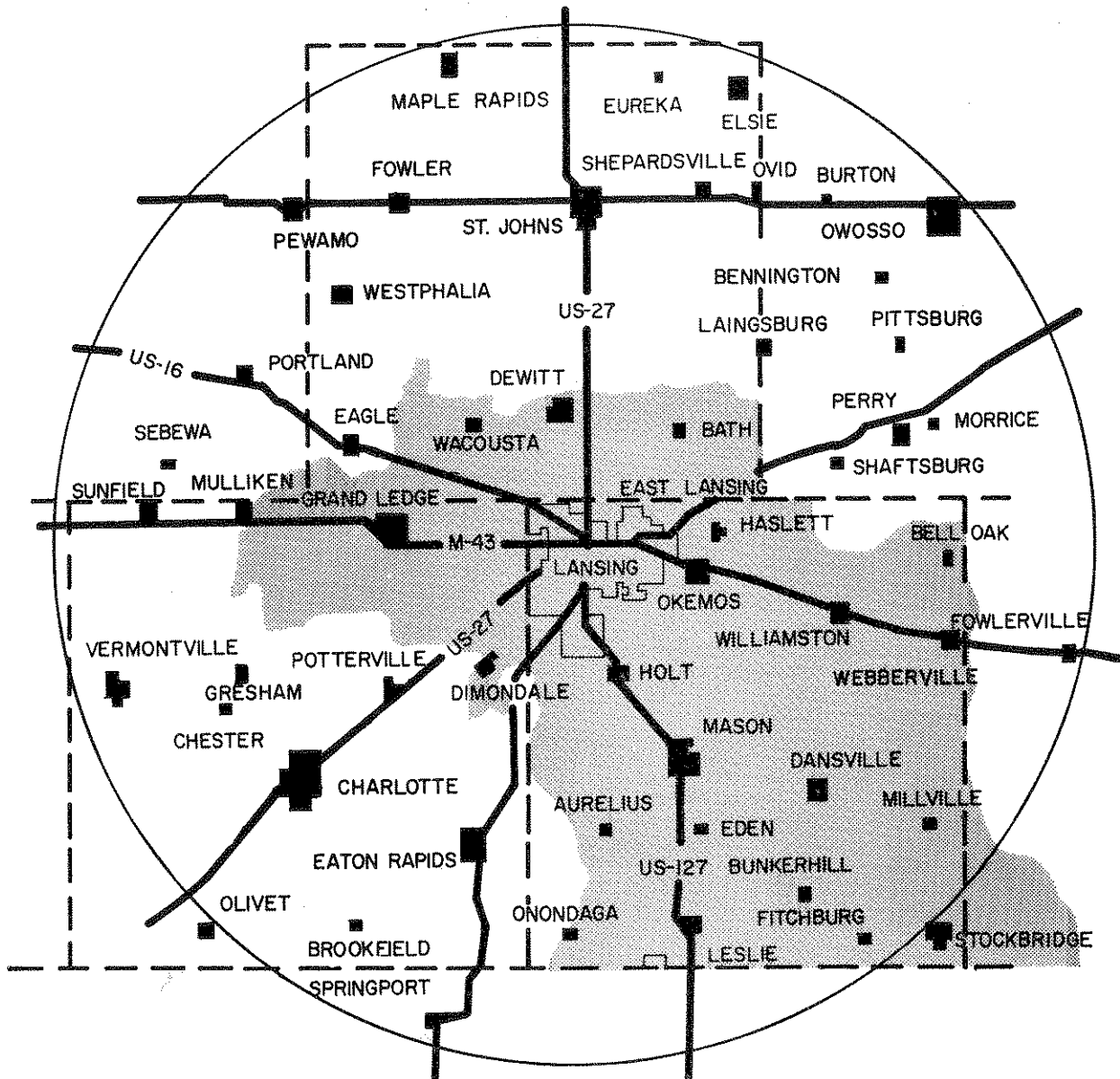


Lansing Community College 1983 Catalog





Lansing Community College Service Area

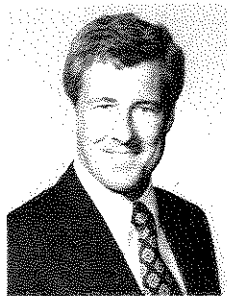


 *Lansing Community College Resident District*

LANSING COMMUNITY COLLEGE

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

Lansing Community College BOARD OF TRUSTEES



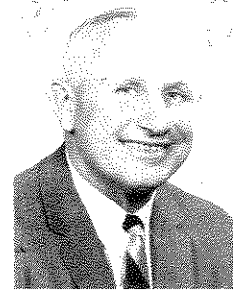
William C. Hollister
Chairperson



David L. Froh
Vice Chairperson



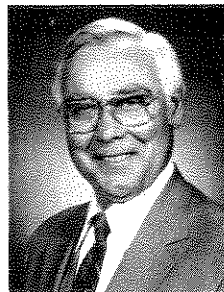
Phyllis I. McKesson
Secretary



David D. Diehl
Treasurer



Erik O. Furseth
Trustee



David F. Machtel, Jr.
Trustee



Shirley M. Rodgers
Trustee

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 101, Administration Building.

Courses are shown as they existed at the time of preparation of this publication, but are subject to change.

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 483-1852

DIVISION OF BUSINESS
Old Central Building
Telephone 483-1522

DIVISION OF ARTS & SCIENCES
Arts & Sciences Building
Telephone 483-1010

DIVISION OF APPLIED ARTS & SCIENCES
Gannon Vocational Technical Bldg.
Telephone 483-1317

**DIVISION OF STUDENT
PERSONNEL SERVICES**
Student Personnel Services Bldg.
Telephone 483-1162

DIVISION OF LEARNING RESOURCES
Office Unit F Building
Telephone 483-1621

EVENING COLLEGE OFFICE
Old Central Building
Telephone 483-1527

EVENING COLLEGE OFFICE
Arts & Sciences Building
Telephone 483-1191

EVENING COLLEGE OFFICE
Gannon Vocational Technical Bldg.
Telephone 483-1324

ACADEMIC CALENDAR 1983

SUMMER TERM, 1983

Registration Day	June 24
Classes Begin	June 27
Independence Day	July 4
Last Class Day	August 19

SPRING TERM, 1983

Registration Days	March 30, 31
Preparation/Records Day	April 1
Classes Begin	April 4
Memorial Day	May 30
Graduation Day	June 12
Last Class Day	June 19

FALL TERM, 1983

Preparation & Faculty/ Administration Days	September 15, 21
Registration Days	September 16, 19, 20
Classes Begin	September 22
Thanksgiving Recess	November 24, 25
Last Class Day	December 11

ACADEMIC CALENDAR 1984

WINTER TERM, 1984

Registration Days	January 3, 4
Preparation/Records Day	January 5
Classes Begin	January 6
Last Class Day	March 22

SPRING TERM, 1984

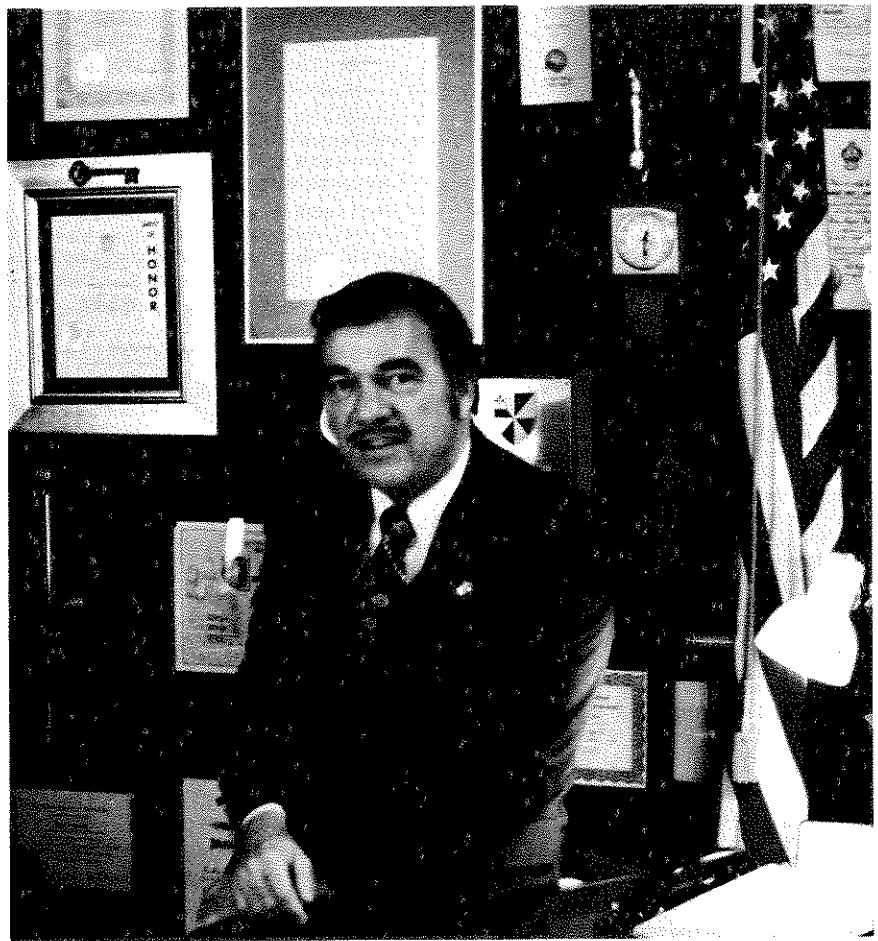
Registration Days	March 28, 29
Preparation/Records Day	March 30
Classes Begin	April 2
Memorial Day	May 28
Graduation Day	June 10
Last Class Day	June 17

SUMMER TERM, 1984

Registration Day	June 22
Classes Begin	June 25
Independence Day	July 4
Last Class Day	August 17

FALL TERM, 1984

Preparation & Faculty/ Administration Days	September 13, 19
Registration Days	September 14, 17 18
Classes Begin	September 20
Thanksgiving Recess	November 22, 23
Last Class Day	December 9



Dear Student:

Each of us is a part of a learning society. By being partners in this learning society we define the role and responsibilities of Lansing Community College. Stereotypes of past days regarding the role of a college student, a teacher, or a president are just not today's reality. As President of Lansing Community College, it is as important for me to be involved in a learning environment as it is for you, the student. I find my role a constant mix of administrator, student, teacher and community worker.

We are partners in an adventure that we have not totally planned, with responsibilities that have been thrust upon us and others that we have accepted. We no longer live in a national marketplace, but in an international marketplace, making economic choices on materials produced across the world by workers who compete for our jobs as we compete with them. In a fast changing world there are few social and technological choices that do not involve the individual in continual learning. This learning is necessary from the standpoint of employment and a rich avocational environment, for to work without music is to miss the song of life.

Your institution is a part of the fabric of this nation, state and particularly your community, and you as a partner with the institution, make up what we call Lansing Community College. We are proud that over 40,000 citizens of this metropolitan area attend the College each year and that most of the people who live and work in our community have been partners with the College in the last few years.

Learning 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 opportunities that call for new rigor and discipline.

As we share our College together, please stop by and say "hello."

Sincerely,

Philip J. Gannon
President

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 of 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 businesses 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 pre-professional 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.

oratory located on the third floor of the Arts and Science Building at LCC, Mathematics-Mathematics Laboratory located in the Arts and Sciences Building at LCC.

Admissions 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
- 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 admissions 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 maximum 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. Complete and sign the Application for Admission, which may be obtained from the Admissions Office at the following address:
Admissions Office
Lansing Community College
Box 40010
Lansing, MI 48901
(517) 483-1252
2. Make arrangements to send or have sent an official academic record which has been translated into English. Copies of high school and any college work completed should be included.
3. Provide evidence of written and oral English competency by submitting official copies of test results from the Michigan State University test of English as a foreign language. Lansing Community College requires a minimum equated score of 75 on this test to admit a student.
4. Students whose tuition and fees will be paid by a sponsoring agency must include a letter of authorization for billing. All others must submit proof of at least \$1500 available on deposit in a local bank, to cover tuition and fees and living expenses for initial entry into LCC, in addition to a financial statement indicating the ability to cover all expenses for their stay in the United States.
5. Mail the completed application, academic and language records and statement of sufficient funds to attend the college with a \$10 non-refundable application fee to the above-mentioned address.
6. All students making application will be notified when all the materials have been received. A personal interview with the Director of Admissions or his representative will be necessary before any admissions decision will be made. An I-20 will be issued following the admissions interview, provided the applicant is admitted.
7. It is the applicant's responsibility to schedule the personal interview at least three (3) weeks prior to the first day of classes to the term in which admission is being sought. Interviews will not be scheduled until we have a completed and signed

GENERAL INFORMATION

ADMISSIONS

Lansing Community College is an "open door" community college designed to extend service to all 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 appropriately-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 are the responsibilities of College professional personnel.

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

The application-for-admission form must be completed as early as possible prior to enrollment so that potential students can gain the courses they wish in the time periods they want them. Admission applicants directions are:

1. Complete all items and information asked for 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 if attendance is interrupted.
3. If you are in high school or have graduated from high school in the last year, mail or personally deliver the application and fee to the high school to be completed and forwarded with a high school transcript to Lansing Community College.
4. Other applicants may personally deliver the application and fee to the admissions clerk's desk 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 high school grades and national test scores. If you would like further assistance in selecting a starting point in these areas you may contact the proper laboratory: English and Reading-Communications Department lab-

application, official copies of academic records, an official copy of language test results, the proof of support referred to in Item 4 above, and the \$10 non-refundable fee.

8. When appearing for the admission interview, an applicant must present a valid passport and an unexpired U.S. Immigration Form I-94. In addition, transfer applicants from another college or an English language center, must submit a U.S. immigration Form I-538, which has been signed by an official representative of the college or university from which he/she is transferring. Due to the fact that this approval sometimes takes three (3) months, the admission procedure to LCC for F-1 visa students must be completed three (3) months prior to the term he/she wishes to attend. If the applicant is accepted by LCC upon completion of the admission interview and a proper screening of English language competencies, we will assist him/her in completing the necessary immigration forms.
9. Prior to registration, each student must submit a completed International Student Agreement Form or Document of Sponsorship. Copies of these forms are available in the Lansing Community College Admissions Office. Either of these forms must be notarized and signed by the student seeking admission. The Document of Sponsorship must be updated each year prior to the beginning of Fall term classes and will be valid through the following Summer term.
10. The academic status of international students will be determined in accordance with the table reflecting standards of progress printed in the Guidebook. In addition, requirements of the United States Immigration Service will be upheld. All international students on an F-1 visa must maintain full-time student status, which requires them to complete twelve (12) or more credits each term with passing grades.
11. Lansing Community College charges an administrative fee for international students admitted under Federal, State or local governmental, and private agency, individual, or group contracts. This fee covers the costs of services attendant to the special needs of the international students such as accounting services, agency reports, emergency funding, personal assistance, and contract implementation. This administrative fee is currently \$125 per student for each academic term.

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

The intent and purpose of these procedural requirements is to provide a positive educational experience for the international students at Lansing Community College.

An 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 for English proficiency required for the admission of international students.
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 the granting of admission of 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 222, SPS Building, telephone: (517) 483-1184.

ADMISSION TO HEALTH CAREER PROGRAMS

Applicants to any of the Health Career Programs at Lansing Community College are advised to check with the Admissions office for specific and detailed information concerning the process and prerequisites for admission. 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. Both sides of this form must be completed. The guest applicant must also complete the LCC application form. Transcripts are not necessary. A non-refundable 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 will or will not be granted according to the discretion of the participating high school. Dual enrollment affords students educational enrichment in specific areas where they have displayed unusual interest and ability 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 his/her 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 his/her representative. This may be provided on page two of the LCC application form.
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.

PERFORMING ARTS AUDIT ADMISSIONS

The following criteria must be met if a student has not attained the eleventh (11) grade status in the public schools and wishes to enroll in a College-sponsored Performing Arts program:

1. The College-sponsored program must not be a duplication or a direct substitute of a program provided by the student's public school of jurisdiction.
2. The student must obtain permission to participate from the administration of the public school of jurisdiction.
3. The student must pay regular tuition and fees appropriate to student's resident status.
4. The student will not enroll for or receive college credit; the student will be placed in the program as an "auditor."

APPEAL OF COLLEGE ADMISSION

Any student applicant who has been 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 student 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 or 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 classes 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 student'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.

In the event that 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 classes 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 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 but must pay the international student rate.

- I. 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.

- I. 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. Petitioning for a Change in Residency Status

- A. Upon acceptance into the College 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 Student Records Office.
2. Student must submit proof of residency claim.
3. Student must check back with office after one week.

III. 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.

IV. 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.

V. Purchasing of resident property within the LCC College District eliminates the waiting periods for the establishment of residency for the purposes of tuition and fees. The student or the student's guardian must reside on the property.

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	Narrative Equivalent	Recommended 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		75% 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 an approved 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 transcript 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 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 to 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 24 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 over-all 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 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 in which the student has enrolled. The department chairperson has the following four 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 enable proper evaluation.
3. Credit may be granted upon demonstration of proficiency in a particular existing course by a comprehensive examination.
4. Credit may not be granted.

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

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) of 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" 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 some cases where LCC has no department or area similar to the course, transfer credit will not be given.
7. Only official transcripts will be evaluated. Student grade reports or student copies of the record are not acceptable.
8. One copy of the evaluation is sent to the student, one copy is kept in the student's folder and one copy in a file.
9. The student's transfer credits will show on the lower right-hand corner of his/her permanent record. They will also show in the grade report received at the end of each term.
10. Fractional credits shown in the student's total credits transferred in will not be included in his/her LCC records.

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.

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 and above	1.00 - 1.88	1.00 or less
13	1.89 and above	1.03 - 1.88	1.02 or less
14	1.89 and above	1.05 - 1.88	1.04 or less
15	1.90 and above	1.06 - 1.89	1.05 or less
16	1.90 and above	1.08 - 1.89	1.07 or less
17	1.90 and above	1.10 - 1.89	1.09 or less
18	1.91 and above	1.11 - 1.90	1.10 or less
19	1.91 and above	1.13 - 1.90	1.12 or less
20	1.91 and above	1.14 - 1.90	1.13 or less
21	1.92 and above	1.16 - 1.91	1.15 or less
22	1.92 and above	1.18 - 1.91	1.17 or less
23	1.92 and above	1.19 - 1.91	1.18 or less
24	1.93 and above	1.21 - 1.92	1.20 or less
25	1.93 and above	1.22 - 1.92	1.21 or less
26	1.93 and above	1.24 - 1.92	1.23 or less
27	1.94 and above	1.26 - 1.93	1.25 or less
28	1.94 and above	1.27 - 1.93	1.26 or less
29	1.94 and above	1.29 - 1.93	1.28 or less
30	1.95 and above	1.30 - 1.94	1.29 or less
31	1.95 and above	1.32 - 1.94	1.31 or less
32	1.95 and above	1.34 - 1.94	1.33 or less
33	1.96 and above	1.35 - 1.95	1.34 or less
34	1.96 and above	1.37 - 1.95	1.36 or less
35	1.96 and above	1.38 - 1.95	1.37 or less
36	1.97 and above	1.40 - 1.96	1.39 or less
37	1.97 and above	1.42 - 1.96	1.41 or less
38	1.97 and above	1.43 - 1.96	1.42 or less
39	1.98 and above	1.45 - 1.97	1.44 or less
40	1.98 and above	1.46 - 1.97	1.45 or less
41	1.98 and above	1.48 - 1.97	1.47 or less
42	1.99 and above	1.50 - 1.98	1.49 or less
43	1.99 and above	1.51 - 1.98	1.50 or less
44	1.99 and above	1.53 - 1.98	1.52 or less
45	2.00 and above	1.54 - 1.99	1.53 or less
46	2.00 and above	1.56 - 1.99	1.55 or less
47	2.00 and above	1.58 - 1.99	1.57 or less
48	2.00 and above	1.59 - 1.99	1.58 or less
49	2.00 and above	1.61 - 1.99	1.60 or less

ACADEMIC STATUS

Credits Completed	Good Standing Cumulative G.P.A.	Warning Range Cumulative G.P.A.	Withdrawal Range Cumulative G.P.A.
50	2.00 and above	1.62 - 1.99	1.61 or less
51	2.00 and above	1.64 - 1.99	1.63 or less
52	2.00 and above	1.66 - 1.99	1.65 or less
53	2.00 and above	1.67 - 1.99	1.66 or less
54	2.00 and above	1.69 - 1.99	1.68 or less
55	2.00 and above	1.70 - 1.99	1.69 or less
56	2.00 and above	1.72 - 1.99	1.71 or less
57	2.00 and above	1.74 - 1.99	1.73 or less
58	2.00 and above	1.75 - 1.99	1.74 or less
59	2.00 and above	1.77 - 1.99	1.76 or less
60	2.00 and above	1.78 - 1.99	1.77 or less
61	2.00 and above	1.80 - 1.99	1.79 or less
62	2.00 and above	1.82 - 1.99	1.81 or less
63	2.00 and above	1.83 - 1.99	1.82 or less
64	2.00 and above	1.85 - 1.99	1.84 or less
65	2.00 and above	1.86 - 1.99	1.85 or less
66	2.00 and above	1.88 - 1.99	1.87 or less
67	2.00 and above	1.90 - 1.99	1.89 or less
68	2.00 and above	1.91 - 1.99	1.90 or less
69	2.00 and above	1.93 - 1.99	1.92 or less
70	2.00 and above	1.94 - 1.99	1.93 or less
71	2.00 and above	1.96 - 1.99	1.95 or less
72	2.00 and above	1.97 - 1.99	1.96 or less
73	2.00 and above	1.97 - 1.99	1.96 or less
74	2.00 and above	1.97 - 1.99	1.96 or less
75	2.00 and above	1.97 - 1.99	1.96 or less
76	2.00 and above	1.97 - 1.99	1.96 or less
77	2.00 and above	1.97 - 1.99	1.96 or less
78	2.00 and above	1.97 - 1.99	1.96 or less
79	2.00 and above	1.97 - 1.99	1.96 or less
80	2.00 and above	1.97 - 1.99	1.96 or less
81	2.00 and above	1.97 - 1.99	1.96 or less
82	2.00 and above	1.97 - 1.99	1.96 or less
83	2.00 and above	1.97 - 1.99	1.96 or less
84	2.00 and above	1.97 - 1.99	1.96 or less
85	2.00 and above	1.97 - 1.99	1.96 or less
86	2.00 and above	1.97 - 1.99	1.96 or less
87	2.00 and above	1.97 - 1.99	1.96 or less
88	2.00 and above	1.97 - 1.99	1.96 or less
89	2.00 and above	1.97 - 1.99	1.96 or less
90	2.00 and above	1.97 - 1.99	1.96 or less
91	2.00 and above	1.97 - 1.99	1.96 or less
92	2.00 and above	1.97 - 1.99	1.96 or less
93	2.00 and above	1.97 - 1.99	1.96 or less
94	2.00 and above	1.97 - 1.99	1.96 or less
95	2.00 and above	1.97 - 1.99	1.96 or less
96+	2.00 and above	1.97 - 1.99	1.96 or less

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 sub-paragraph 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

In addition to the above, and beginning with

the second term of attendance, a student 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), Administrative 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.

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 aca-

demical 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 are not required until after the fourth week of the term.
3. Return form to Registrar's Office for proper recording and wait until all entries have been completed. Do not leave the office until all matters relating to the drop-add have been completed.

GRADUATION REQUIREMENTS AND DEGREES HOW TO APPLY FOR THE ASSOCIATE DEGREE OR CERTIFICATE OF COMPLETION

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.

GRADUATION REQUIREMENTS

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 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.

The student's Application for Diploma/Certificate is sent to the appropriate Departmental Chairperson and Divisional Dean for final review and approval. The student is informed of this action. This final review process takes from four to six weeks. After the application has been returned to the Registrar's Office, the student is notified of program completion or remaining requirements, if any. The application is held on file until the current term grades are recorded and successful completion of the term verified. Diplomas are mailed within two months after the last day of the term. Applications for students who do not successfully complete a

term are recycled and are held on file until all requirements are met.

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

1. Requirements:
 - A. 90 credits
 - B. G.P.A. of 2.0 or better
 - 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 Western Civilization. HUM 201, 202, 203. 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 four 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)
 Please note that Western Civilization courses (HUM 201, 202, 203) 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
WRI 121	WRI 121
ENG 122	WRI 122
ENG 123	ENG 123
C	D
WRI 121	WRI 121
ENG 122	WRI 122
WRI 123	WRI 123

Those students permitted to waive WRI 122 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 of the following: SS 101, 102, sociology, anthropology, psychology, political science or geography.
4. It is required that 12 credits in Science be fulfilled by courses that grant laboratory credit. Students must select at least four credits in a biological science and at least four 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 accep-

table towards either an Arts or Sciences Degree, whichever is appropriate within 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 of Arts and Sciences Office.

- I. Courses coded beginning with "O" will not be included in the 90 credit total.
- J. 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 decisions to the Open 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.
- K. Effective date of implementation: Academic year 1981-82.

CRITERIA FOR THE ASSOCIATE DEGREES IN APPLIED ARTS AND SCIENCES. DIVISION OF APPLIED ARTS AND SCIENCES

These requirements pertain to the following degrees:

- Associate - Applied Arts
- Associate - Applied Sciences
- Associate - Applied Science, General Technology
- Associate - Applied Arts, Performing & Creative Arts - General

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. For the associate degree in Performing & Creative Arts, see the 990 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 better.
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 departments 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.

REGULATION OF GRANTING 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, Business or 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.

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.

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	\$15.00*
Tuition, Non-Resident Students	
Per credit hour	\$22.00*
Tuition, Out of State Students	
Per credit hour	\$32.50*
Tuition, International Students	
Per credit hour	\$33.50*
Tuition for apprenticeship student 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.

*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
Withdrawal during second week of term	50% of tuition
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 notifying 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. Student self-initiated withdrawal
 - 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 letter 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 letter 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 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.

- 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 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.

DISCIPLINARY CASES

A student violating the rules and regulations of the College other than those involving academic performance and achievement (See Academic Regulations) 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. Requirement 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 ACTION

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.

OTHER REGULATIONS

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

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. With in 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 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 citizen 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 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 Guidebook.

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.

Examinations

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

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.

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	CDE
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 reading skills are further developed with special attention to sentence style and word choice.
- G. 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 LEARNING RESOURCES DEPARTMENT OF LIBRARY SERVICES

LMT Library Media Technology

DEPARTMENT OF INSTRUCTIONAL MEDIA

MRT Media Technology
PHO Photography

DIVISION OF ARTS AND SCIENCES

DEPARTMENT OF COMMUNICATION

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

DEPARTMENT OF HUMANITIES

HUM Humanities
ENG English
HST History
PHL Philosophy
REL Religion

DEPARTMENT OF MATHEMATICS

MTH Mathematics
CPS Computer Science

DEPARTMENT OF SCIENCE

BIO Biology
MIC Microbiology
ANT Anatomy
PGY Physiology
CEM Chemistry
AST Astronomy

MET Meteorology
GE Geology
OCN Oceanology
NS Natural Science
CPS Computer Science
PHY Physics
SC Independent Study/Science Seminars

DEPARTMENT OF SOCIAL SCIENCE

SS Social Science
GEO Geography
PLS Political Science
PSY Psychology
SA Sociology/Anthropology
HUS Human Services
CA Child Advocacy
CD Child Development
ED Education
MRA Mental Retardation Associate
PS Public Service
SW Social work

DIVISION OF BUSINESS

DEPARTMENT OF ACCOUNTING AND OFFICE PROGRAMS

ACC Accounting
BUS Business
CCR Court and Conference Reporting
DP Data Processing
EC Economics
INS Insurance
CLU Chartered Life Underwriter
LUT Life Training Council
LAW Law

DEPARTMENT OF MANAGEMENT AND MARKETING

AIB American Institute of Banking
BUS Business
COR Corrections
CIS Computer Information Systems
HMF Hotel-Motel-Food Management
LE Law Enforcement
LR Labor Relations
MGT Management
MKT Marketing
RE Real Estate
SBM Small Business Management
SEC Security
SL Savings and Loan

DIVISION OF APPLIED ARTS AND SCIENCES

AVIATION TECHNOLOGY PROGRAM

AFT Ground Schools

AFG Aviation Mechanics
AFM Airframe Mechanics
AFP Powerplant Maintenance

DEPARTMENT OF ENGINEERING TECHNOLOGY

AT Architectural Technology
LAT Landscape Architectural Technology
CT Civil Technology
CG Computer Graphics
EM Electro-Mechanical Technology
ET Electronics Technology
FST Fire Science Technology
DT Industrial Drafting Technology
MT Mechanical Technology
QC Quality Control
SAF Occupational Safety and Health
TEC Technology General
TT Truck Driver Training

DEPARTMENT OF APPLIED TECHNOLOGY

ATG Applied Technology General
ATR Applied Technology Related
ATS Applied Technology Seminars
AUT Automotive Trades
BTA Building Trades
BTJ Building Trades
BTR Building Trades
HAC Heating, Air Conditioning and Refrigeration
IM Industrial Management
LS Labor Studies
QWL Quality of Work Life
SPA Special Projects
THE Trucks and Heavy Equipment
WLD Welding

DEPARTMENT OF HEALTH CAREERS

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

DEPARTMENT OF PERFORMING AND CREATIVE ARTS

- ART** Art
- DNC** Dance
- DNR** Dance Repertory
- MUS** Music
- THR** Theatre
- THW** Theatre Workshop



DIVISION OF STUDENT PERSONNEL SERVICES

Dr. William Schaar, Dean

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.

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 trips, intramural athletics, intercollegiate athletics, student publications, and cultural involvement with the service community.
5. To assist students with formal instructional opportunities designed to help students acquire adjustment and activity 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.

Department of Student Development Services

Dr. John H. Cansfield, Chairperson

The department develops and maintains programs aimed at assisting students in personal growth. Support is provided through counseling, academic advising, testing, tutorial services, recruitment, liaison with various community organizations, and publications such as curricular guides, four-year college equivalency guides, career information and brochures. Group experiences of many kinds are reflected in the departmental course offerings.

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.

Career Planning Information

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. Several computer assisted career guidance systems (MOIS/SIGI) are available within the Career Planning and Placement office.

The Classroom Training Coordination Unit

The Unit staff provides counseling, advising and other support services for students attending the College under the auspices of the Comprehensive Employment and Training Act. All students participating in the program are referred from appropriate Tri-County agencies.

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 often 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/referral, study skill development 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.

Testing Services

A testing program designed to assist students in their educational and vocational development is an integral function of counseling services. Vocational and personality interest tests are frequently used by counselors as part of the counseling service if the student requires this service.

As a community service to adult, non-high school graduates, the Department of Student Development Services also administers the General Educational Development Test (GED) for high school equivalency certificates. This service is provided at a nominal charge.

Tutorial Services

A tutorial program is offered in the Center for Student Support to assist students in the realization of their academic goals. Peer tutors provide help outside the classroom in mathemat-

tics, science, English, accounting, and other subjects. Students are encouraged to attend tutorials as a way of keeping up with class demands or as a matter of review for quizzes and exams. Tutors are matched to the individual student in order to provide the optimum results. Students who desire assistance should inquire at the Center.

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

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, seeking an understanding of sex roles, 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 our lives.

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.

Student Development Services (SD)

Student Development Services Department
Division of Student Personnel Services

SD 106 College Survival Skills 2 (2-0)

Provides orientation to the services available at Lansing Community College to assist student in identifying personal and academic requirements for success in higher education. Attempts to identify those personal factors which may prevent individuals from succeeding academically.

SD 113 Handicapper Support Group 1 (1-0)

Provides an awareness of how individuals with specific characteristics live and function within the limitations of their characteristics. A forum to discuss individual and group concerns, and basic knowledge of available community support systems.

SD 117 Life Planning Workshop 1 (1-0)

Life Planning processes: self-exploration, career exploration, and decision making. An in-depth look at oneself; specifically, interests, values and skills, in order to determine the uniqueness of each participant.

- SD 118 Stretching Your Dollars 2 (2-0)**
Gives assistance 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)**
Evaluates present career situations in terms of personal development; identifies present skills, interests, values, motivations, and goal planning to promote career development.
- SD 121 Exploring Your Potential 2 (2-0)**
Identifies achievements that suggest the presence of strength and potential; gain realization of 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; aid for beginning and advanced students. How to take examinations, note-taking, writing papers, reading improvement, and use of the library.
- SD 125 Career Planning 2 (2-0)**
Helps students to relate their values, life goals, interests, and skills to job areas; investigate potential careers through self-assessment, career assessment, decision-making, and planning.
- SD 126 Elimination of Self-Defeating Behaviors 2 (2-0)**
To help people change their behavior by learning how self-defeating behaviors are started, maintained, and how they can be eliminated; learning how to live life more fully and happily.
- SD 127 Job Search Readiness 2 (2-0)**
An aid to the job search process. Covers filling out applications, writing resumes and cover letters, interviews, techniques used in seeking employment, and personal attitudes toward job hunting.
- SD 128 Interpersonal Communication 2 (2-0)**
Improves interpersonal communication skills through observation, listening, disclosure and behavior change. Lectures, discussion, readings, group activities, and self-assessment.
- SD 131 Weight Reduction II 2 (2-0)**
Prerequisite: SD 132. Solutions to both specific and long-range problems of weight loss and maintenance. (Any weight reduction program should be undertaken only after consultation with one's physician.)
- SD 132 Weight Reduction Seminar 2 (2-0)**
Covers weight reduction and control, beginning with a structured diet and exercise plan, focuses on environmental, personal and emotional factors that 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)**
Emphasis on total financial planning, toward attaining financial security and independence.
- SD 140 Marriage Preparation 2 (2-0)**
Designed for engaged couples to assist in answering basic questions about relationship, companionship, partnership, and love, for others and themselves.
- 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. Helps the student 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. Students will work on further development of vocabulary, ideas and behavior related to being assertive.
- SD 145 Organizing Time 2 (2-0)**
Making the most effective use of time. Includes discussions, films, written exercises, and readings dealing with procrastination, goal setting, time charting, and efficient measures of time management.
- SD 148 Assertive Couples Communication 2 (2-0)**
Focuses on communicating assertively in a primary relationship. Combines 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 149 Marriage Enrichment 2 (2-0)**
Emphasizes positive attitudes and strengths in the marriage relationship, with the goal of making a good marriage better.
- SD 150 Divorce Adjustment 2 (2-0)**
For those who are experiencing or who have recently completed a divorce. The student-centered atmosphere is supportive and geared toward coping with and finding constructive alternatives to the emotional crisis of divorce.
- SD 156 I'm OK, You're OK 2 (2-0)**
Basic concepts related to transactional analysis and how these concepts can enrich our lives.
- SD 157 Single Parenting 2 (2-0)**
For those raising children in a single-parent family structure who desire to become more effective parents. Includes communication, discipline, time-structuring, and the unique concerns of adults faced with the responsibilities of single-parenthood.
- SD 158 Anger Awareness 2 (2-0)**
Explores anger and identifies feelings, attitudes, and methods of expression.
- 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. Emphasizes the way women deal with assertiveness situations.
- 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. Topics deal with social issues facing society today.
- SD 167 Management Skills and Women 2 (2-0)**
Gives 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. Includes values clarification, leadership styles, communication, time management, decision making, supervision, and other skills.
- SD 168 Female Sexuality 2 (2-0)**
Explores what it means to be a fully sexual female. Share questions and feelings about sexuality and discover ways to take care of oneself. Topics include health issues, self examination, body awareness, sex roles, and the health care system.
- SD 169 Women As Winners 2 (2-0)**
Offers 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 171 Start Living Rationally 2 (2-0)**
Using Rational Emotive Therapy, become more effective and productive. Approaches to problem solving and practical techniques to avoid frustration and overcoming difficult situations at school, home, and on-the-job are discussed.
- SD 172 Legal Rights and Women 2 (2-0)**
Basic legal concepts pertaining to women; explores myths about women's legal status; explains recently passed laws which directly affect women; includes women and employment, women and credit, and domestic relations.
- SD 176 Widow(er)hood 2 (2-0)**
Explores the means of meeting change and crisis in a positive way; includes possible new directions in life and the exploration of ways to make crisis work for the widowed.
- SD 180 Adapting to Change: Life Skills 2 (2-0)**
Change unplanned reaction to planned response and learn skills that help make change a positive experience. For anyone facing major role changes relating to work or school re-entry, retirement, unemployment, or family status changes due to a move or loss of a family member. Concepts of adapting to change and provides practice in application.
- SD 188 Rape Education 2 (2-0)**
Sexual assault prevention and treatment: 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.
- SD 189 Birthing/Lamaze 2 (2-0)**
A letter signed by the expectant woman's physician is required by the second class session. Preparation for expectant parent(s), developing skills that allow active participation in the delivery process. Breathing and relaxation exercises, composure and sharing in the birth experience, parenting with infants.

SD 197 Interacting with the Handicapper 2 (2-0)

The primary purpose of the course is to increase awareness of the social and educational impact of various handicapping conditions, i.e., visual impairments, hearing impairments, speech impairments, learning disabilities, mobility impairments, and epilepsy.

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

Total financial planning toward attaining financial security and independence: budgeting, saving, taxes, estate planning, Social Security benefits, insurance, and investment. Focus on the concerns of women.

SD 213 Incest Awareness 2 (2-0)

This course will educate participants about the history, psychology and prevalence of incest.

SD 217 A.D.C. Supportive Group 2 (2-0)

Support and help to alleviate feelings of loneliness, hopelessness and frustration.

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

Develops parenting communication skills; includes active listening, problem solving, resolution of family conflict, infants, pre-schoolers, school-age, and older children.

SD 224 Small Group Leadership Training 2 (2-0)

Preparation as group facilitators, increasing knowledge of small group dynamics and increasing skills through experimental learning activities.

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

Self-exploration and methods of increasing knowledge about career opportunities; identification of personal interests, life values, present skills and relating these to career options; planning and goal-setting; decision-making, and job-finding.

SD 230 Women's Search for Identity and Meaning 2 (2-0)

Assists women in their efforts to answer such questions as "Who Am I? What do I do with my life?" Explores strengths, possibilities for growth, and growing in self-understanding and self-acceptance.

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 235 Women/Making It Alone 2 (2-0)

For single and married women who are in transition from dependency on others to being responsible for their own lives. Focus on the concerns of women moving from a married state to a single state through divorce, separation, or the death of a spouse. Share concerns, increase self-awareness, develop skills in functioning more effectively as independent individuals.

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 237 Black Women's Awareness 2 (2-0)

Explores concerns and issues confronting the Black woman in America today. 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?" and, "How can class participants grow together?"

SD 240 Empathy Training 2 (2-0)

Empathy as a technique to deal with emotions, values, attitudes, and decision-making in the helping process. Shows beginning skills for short-term peer counseling or crisis intervention, and helps to improve any aspect of daily life involving interpersonal relationships between spouse, children, parents, friends, etc.

SD 241 Math Anxiety 2 (2-0)

Explores the origins of "math anxiety," investigates the sex differences in performance and understanding of math, gives practical help in reducing anxiety and changing attitudes toward math. Recommended before taking a math class.

SD 242 Dealing With Stress 3 (3-0)

Facilitates an understanding of stress and how stress affects behavior; identifies alternate methods of dealing with stress.

SD 243 Advanced Empathy 2 (2-0)

Prerequisite: SD 249 or Concurrently. An expansion of concepts taught in the introductory Empathy Training class with concentration on values clarification and decision-making, the last two steps in the helping process.

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/auto alone, as well as the emotional adjustment involved in such changes shall be covered in this class while continuing to maintain a support system environment which enhances the individual potential of each class member.

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

Focuses on relationship building: self-assessment and understanding, understanding behavior of others, acknowledging expectations of others, communication of needs, identification of potential problems, and problem-solving techniques. Structured self-exploration through personal inventories and group participation.

SD 246 Alcohol: The Misunderstood Drug 2 (2-0)

Overview of the impact of alcohol on lives and society in general: medical, economic, social, sexual, and legal aspects. Includes impact of the advertising media, costs of problem drinking; evaluates the indirect effect on social and sexual values. Encourages awareness of environment and acceptable personal values.

SD 248 Seminar for Displaced Homemakers 3 (3-0)

An overview of the problems facing individuals who have previously been dependent upon the income of another, but who now, due to the dissolution of the marriage (through death or divorce), must seek employment outside the home. "Displaced homemakers" learn how to cope with their unique problems.

SD 271 Living Alone Creatively 2 (2-0)

For both single men and single women, focusing on creative and positive aspects of living alone (or with children). Information and films increase self-awareness, develop skills, and create a support system.

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 satisfaction and feelings of helplessness. As a result, they experience "burnout" with respect to their work. Covers why burnout occurs, how to recognize the signs, and how to deal with feelings associated with burnout.

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 I (1-0)

Prerequisite: SD 126, with grade of 3.0 or better. Help reinforce life-giving choices learned in the prerequisite course. Learn why life-giving choices work according to how they are carried. Enhance life-giving behaviors through review of concepts and discussion of participants' experience at placing the concepts into action.

STUDENT FINANCIAL SERVICES AND VETERANS' AFFAIRS

Neil G. Shriner, Director

Student Financial Services

The Student Financial Services Program at Lansing Community College assists students in meeting some of the College costs that cannot be met by personal or family resources.

Most financial assistance is based on need as determined by filing a Financial Aid Form with the College Scholarship Service in Princeton, New Jersey. The Financial Aid Need Analysis Report and the Pell Grant Student Aid Report are generated when both reports are properly designated on the Financial Aid Form.

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. When completed, the form should be mailed to Princeton, N.J. at least three months before the term begins. Lansing Community College Code Number is 1414 and should be designated on the FAF.

Detach the Admissions and Financial Services Form that is found on the last page of the LCC booklet, "Lansing Community College Applications Form." When it is completed bring or mail it to: Lansing Community College, Admis-

sions Office, 420 N. Capitol Ave., P.O. Box 40010, Lansing, MI 48901, at least two months before the term begins. The booklet and application forms for student employment may be obtained from the Student Financial Services Office.

Students transferring from other colleges must file a Financial Aid Transcript from their previous college at least six weeks before the term begins.

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

Sources of Financial Assistance:

Financial Assistance programs are funded from federal, state, college and private sources. Four major forms 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 scholastic ability. May or may not be based upon need.

- Board of Trustees Scholarships are awarded to outstanding area high school graduates.
- Divisional Scholarships are awarded to outstanding students who may apply directly to the department of their interest.
- The Michigan Competitive Scholarship Program is based upon a qualifying examination given during the junior or senior year in high school. Awards may vary with need.

Grants: non-repayable money usually based upon need.

- The Federal Pell Grant eligibility is determined by filing the Financial Aid Form.
- The Supplemental Educational Opportunity Grant eligibility is determined by filing the Financial Aid Form.

Loans: money that must be repaid beginning six to nine months after graduation or upon leaving school.

- National Direct Student Loan eligibility is determined by completion of the Financial Aid Form.
- Guaranteed Student Loan applications may be obtained through banks, savings and loan associations, or credit unions.
- State Direct Loan applications may be obtained at the Colleges' Student Financial Services Office if students are unable to obtain a guaranteed student loan at their banks.

Jobs: employment opportunities to assist students in earning money to meet part of their educational expenses.

- College Work/Student eligibility is determined by completion of the Financial Aid Form and a Student Employment Application.

Special Situation Funds are available. The College Student Financial Services Office has information regarding application procedures for the following programs:

- Bureau of Indian Affairs (BIA)
- Children of Disabled or Deceased Veterans Clubs, Organizations & Business Scholarships
- Comprehensive Employment Training Act (CETA)
- LCC Emergency Fund
- Michigan Commission of Indian Affairs
- Michigan Economics for Human Development
- Nursing Loan and Nursing Scholarship
- Private Donor Scholarships
- Veterans' Benefits
- Vocational Rehabilitation

Veterans' Affairs

Veterans' Affairs helps the veterans file applications for education, counseling, loans, tuto-

rial 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

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.

CAREER PLANNING AND PLACEMENT CENTER

Employment Placement

Placement services are available to all students for either parttime or full-time positions. Part-time positions at both 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 Financial Aids Office. The job board is located outside the Career Planning and Placement Center, Room 211, Vocational-Technical Building.

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 and interest testing
- career planning and job-search classes
- credential file system for graduates and alumni
- Computer Assisted Placement System
- resume and interview preparation
- employment assistance for both full and part-time positions
- MOIS (Michigan Occupational Information System)
- SIGI (System of Interactive Guidance and information)

STUDENT ACTIVITIES

William Zuhl, Director

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. Trips to such cities as Chicago, New Orleans, San Francisco, Williamsburg and Plymouth are planned annually from the Student Activities Office. Shorter trips are planned to such points of interest as Frankenmuth, Cedar Point, and Greenfield Village. Over a million student miles were traveled in the last year by students taking advantage of the opportunity to see the many interesting places that are available through the travel program.

Student Government

The Preamble to the Constitution of the Student Government of Lansing Community College states: "We the students of Lansing Community College, in order to present the thinking of the student body to the faculty, administration, and students on issues of importance to students; inform students of College policies, programs and services; coordinate student activities; present programs which will contribute to the intellectual growth of students; and to develop citizenship and leadership training through its programs, do hereby ordain and establish this constitution for the Lansing Community College 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.

Physical Education & Athletics Department

Division of Student Personnel Services

Dr. Walter Lingo, Chairperson

The physical education program at Lansing Community College offers students an opportunity to develop physical skills. The attainment of a physical skill will enable an individual to pursue and/or maintain a sound state of physical fitness through life.

All physical education courses are transferable and all physical education grades are tabulated in determining a student's grade point average.

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:

(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

Professional (PEA)

Physical Education & Athletics Department
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)
Elementary 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 Health 3 (3-0)
Selected contemporary health issues; i.e., human sexuality, drug abuse, weight control.

PEA 104 Officiating Volleyball 2 (2-0)
Techniques and rules of volleyball: opportunity for certification upon successful completion.

PEA 105 Camping 3 (3-0)
Skills for living out of doors in a state park or camping area.

PEA 107 Psychology of Coaching 3 (3-0)
Philosophy, techniques, and methods practiced in coaching team and individual sports.

PEA 108 Officiating Baseball/Softball 2 (2-0)
Application of rules and officiating techniques in baseball and softball: game mechanics, psychology of umpiring, field positioning and contracts.

PEA 109 Officiating Basketball 2 (2-0)
Instruction and testing to provide opportunity for official certification.

PEA 110 Officiating Soccer 2 (2-0)
Application of rules and officiating techniques in soccer playing.

PEA 112 Women's Sports 2 (2-0)
Focuses on the role of women in sports: coaching careers, athletic training, and related sport opportunities.

PEA 113 Officiating Football 2 (2-0)
Rules and officiating techniques for football; opportunity to become certified upon completion of course and testing.

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 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 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)

Physical Education & Athletics Department
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, Individual Fitness-A-B-C-D 2 (1-2)
103, 104
Four sequential courses to acquaint students with the principles of "aerobics" and provide 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 201, 202, Individual Fitness-E-F-G-H 2 (1-2)
203, 204

Four sequential courses to further aerobic conditioning and individual fitness.

Individual Sports (PEC)

Physical Education & Athletics Department
Division of Student Personnel Services

PEC 100 Badminton-Beginning 1 (0-2)
History, rules and etiquette of the game; Proper use of equipment, fundamental skills, and game strategy.

PEC 101 Badminton-Intermediate 1 (0-2)
Refinement and improvement of skills.

PEC 102 Badminton-Advanced 2 (2-0)
Further refinement of skills; tournament play.

PEC 103 Handball-Beginning 1 (0-2)
History, terminology, rules, fundamentals, etiquette, strategy, and basic shots.

PEC 104 Handball-Intermediate 1 (0-2)
Refinement and improvement of skills.

PEC 105 Handball-Advanced 2 (2-0)
Strategy and competition.

PEC 106 Pocket Billiards-Beginning 1 (0-2)
History, rules, and fundamentals, practice drill, positioning of cue ball, and variations of the game of pocket billiards.

PEC 107 Pocket Billiards-Intermediate 1 (0-2)
Refinement and improvement of skills.

PEC 108 Pocket Billiards-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)
Continuation of skills.

PEC 114 Table Tennis-Advanced 2 (2-0)
Refinement of skills and introduction of game strategy.

PEC 115 Tennis-Beginning 1 (0-2)
Basic skills of tennis: serve, forehand, and backhand strokes, rules and strategy of the game.

PEC 116 Tennis-Intermediate 1 (0-2)
Continuation of skills.

PEC 117 Tennis-Advanced 2 (2-0) Refines skills of service, forehand and backhand strokes and game strategy.	PED 109 Cross Country Skiing-Beginning 1 (0-2) Basic skills of cross country skiing: flat, uphill and downhill techniques, equipment, waxing, touring, and basic safety.	Team Sports (PEE) Physical Education & Athletics Department Division of Student Personnel Services
PEC 127 Bowling-Beginning 1 (0-2) Basic skills and scoring of bowling.	PED 110 Cross Country Skiing-Intermediate 1 (0-2) Refinement and improvement of skills.	PEE 103 Field Hockey-Beginning 1 (0-2) Introduction to the basic skills.
PEC 128 Bowling-Intermediate 1 (0-2) Refines skills.	PED 111 Cross Country Skiing-Advanced 2 (2-0) Advanced skills plus overnight camping trip.	PEE 104 Field Hockey-Intermediate 1 (0-2) Emphasis on team play.
PEC 129 Bowling-Advanced 2 (2-0) Class competition involved.	PED 112 Figure Skating-Beginning 1 (0-2) Basic and intermediate skating skills; composing and performing simple routines.	PEE 105 Field Hockey-Advanced 2 (2-0) Actual competition with an intraclass tournament.
PEC 130 Skiing-Beginning 1 (0-2) Fundamentals and techniques of skiing, with individual instruction emphasizing personal safety, skiing history, physics, and terminology.	PED 113 Figure Skating-Intermediate 1 (0-2) Refinement and improvement of skills.	PEE 106 Ice Hockey-Beginning 1 (0-2) Fundamentals and game strategy and rules.
PEC 131 Skiing-Intermediate 1 (0-2) Refinement and improvement of skills.	PED 114 Figure Skating-Advanced 2 (2-0) Refinement of competitive skills.	PEE 107 Ice Hockey-Intermediate 1 (0-2) Further develops skills and introduces team play.
PEC 132 Skiing-Advanced 2 (2-0) Development of more advanced techniques.	PED 115 Golf-Beginning 1 (0-2) Golf strokes, rules, and golf etiquette; experience on the driving range and golf course.	PEE 108 Ice Hockey-Advanced 2 (2-0) Team competition with special plays.
PEC 133 Downhill Racing 1 (0-2) Downhill racing techniques, use of rules, and body drills. Skiers should have intermediate or above skills.	PED 116 Golf-Intermediate 1 (0-2) Refinement and improvement of skills with emphasis on individual problems.	PEE 109 Basketball-Beginning 1 (0-2) Beginning techniques and skill development.
Individual/Dual (PED) Physical Education & Athletics Department Division of Student Personnel Services	PED 117 Golf-Advanced 2 (2-0) A study of the U.S.G.A. Rules of Golf.	PEE 110 Basketball-Intermediate 1 (0-2) Team offenses and team defenses.
PED 100 Archery-Beginning 1 (0-2) Fundamentals, techniques, rules, care of equipment, elements of tournament shooting, novelty shooting, and competition.	PED 118 Ice Skating-Beginning 1 (0-2) Introduction to the healthful, life-long activity of skating.	PEE 111 Basketball-Advanced 2 (2-0) Team competition and preparation.
PED 101 Archery-Intermediate 1 (0-2) Improvement and refinement of skills.	PED 119 Ice Skating-Intermediate 1 (0-2) Refinement and improvement of skills.	PEE 115 Soccer-Beginning 1 (0-2) Beginning techniques; rules, strategy and competitive play.
PED 102 Archery-Advanced 2 (2-0) Improvement and refinement of skills with emphasis on competition.	PED 120 Ice Skating-Advanced 2 (2-0) Emphasis on teaching and supervising groups of skaters.	PEE 116 Soccer-Intermediate 1 (0-2) Team defenses and team offenses.
PED 103 Bicycling-Beginning 1 (0-2) Physical fitness value of bicycling and information for greater fulfillment.	PED 121 Roller Skating-Beginning 1 (0-2) Basic skills of forward and backward skating.	PEE 117 Soccer-Advanced 2 (2-0) Team playing and advanced strategy in game situations.
PED 104 Bicycling-Touring 1 (0-2) Minor bicycle repair, maintenance, cold weather riding, and increased cycling distances. Short tours and planned longer rides on some week-ends.	PED 122 Roller Skating-Intermediate 1 (0-2) Continuation of basic skills with speed skating introduced.	PEE 118 Softball-Beginning 1 (0-2) Fundamental skills.
PED 105 Bicycling-Camping/Touring 2 (0-4) Combines camping and touring; outfitting the camping cyclist, long distance riding, planning for long bike camping trips.	PED 123 Roller Skating-Advanced 2 (2-0) Dance routines and more advanced speed skating.	PEE 119 Softball-Intermediate 1 (0-2) Techniques and rules.
PED 106 Cross Country-Beginning 1 (0-2) Instruction in jogging or running, dependent upon the physical fitness of the individual.	PED 127 Yoga-Beginning 1 (0-2) Introduction to the philosophy and positions of yoga.	PEE 120 Softball-Advanced 2 (2-0) Team strategy and competitive play.
PED 107 Cross Country-Intermediate 1 (0-2) Emphasis on distance.	PED 128 Yoga-Intermediate 1 (0-2) Refinement and continuation of skills.	PEE 121 Touch Football-Beginning 1 (0-2) Beginning techniques and skill development.
PED 108 Cross Country-Advanced 2 (2-0) Emphasis on competition.	PED 129 Yoga-Advanced 2 (2-0) Refinement and continuation of skills.	PEE 122 Touch Football-Intermediate 1 (0-2) Emphasis on types of offenses and defenses.
	PED 130 Yoga-Special 1 (0-2) Postures and asanas are modified to meet the individual needs of the handicapped.	PEE 123 Touch Football-Advanced 2 (2-0) Team strategy and competitive play.
		PEE 124 Volleyball-Beginning 1 (0-2) Skills, game strategy, history, rules, and values of volleyball.
		PEE 125 Volleyball-Intermediate 1 (0-2) Refinement and improvement of skills.

PEE 126 Volleyball-Advanced 2 (2-0)
Team concepts, strategy and competition.

PEE 127 Water Polo-Beginning 1 (0-2)
Introduction of basic skills used in team play.

PEE 128 Water Polo-Intermediate 1 (0-2)
Refinement of team concept.

PEE 129 Water Polo-Advanced 2 (2-0)
Team concepts, strategy, and competition.

PEE 130 Competitive Volleyball 2 (2-0)
Individual and team strategies, offensive and defensive play, fitness, reaction, and movement drills.

Aquatics (PEF)

Physical Education & Athletics Department
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 3 (3-0)
Covers the skills needed to become a life guard with first aid training.

**PEF 107 Advanced Swimming/
Training 3 (3-3)**
Designed for the student interested in coaching/swimming beyond basic levels. Focuses on stroke analysis, weight training, dry land exercises (stretching), cardio-vascular conditioning, and the principles of training.

PEF 108 Skin Diving 2 (1-2)
Introduction to underwater recreation.

PEF 109 SCUBA 3 (2-2)
National certification.

PEF 110 Synchronized Swimming 2 (1-2)
Elementary, intermediate, and advanced strokes.

PEF 111 Diving-Beginning 1 (0-2)
Fundamentals of diving: front, back, inward, reverse, and twisting dives.

PEF 112 Diving-Intermediate 1 (0-2)
Emphasis on board mechanics with introduction of somersaults and more complex dives.

PEF 113 Diving-Advanced 2 (1-2)
Sound knowledge of diving. Diving at the competitive level.

PEF 114 Advanced SCUBA 3 (2-2)
Prerequisite: PEJ 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 nonswimming 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 swimming and swimming technique; designing an individual fitness program.

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 120 SCUBA Fitness 1 (0-2)
Fitness for SCUBA divers; refresher check out on SCUBA gear.

**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)
Physical Education & Athletics Dept.
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 113 Self Defense-Intermediate 1 (0-2)
A refinement of individual skills and techniques.

PEG 114 Self Defense-Advanced 2 (2-0)
Individual skills refinement.

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 129 Body Building-Beginning 1 (0-2)
Focuses on proper lifting techniques to isolate and strengthen muscle groups.

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

PEH 100 Gymnastics-Beginning 1 (0-2)
An introduction to the fundamentals of stunts, apparatus, and tumbling.

PEH 101 Gymnastics-Intermediate 1 (0-2)
Introduces intermediate techniques.

PEH 102 Gymnastics-Advanced 2 (2-0)
Event specialization.

PEH 201 Gymnastics Apparatus 2 (2-0)

Prerequisite: Prior experience in gymnastics. Introduction to balance beam, uneven bars, parallel bars, and vaulting.

Indoor Activities (PEI)

Physical Education & Athletics Dept.
Division of Student Personnel Services

PEI 100 Backgammon-Beginning 2 (2-0)

Introduction to backgammon including rules and strategy.

PEI 101 Backgammon-Intermediate 2 (2-0)

Offensive and defensive strategy.

PEI 102 Backgammon-Advanced 2 (2-0)

Playing the game competitively.

PEI 103 Bridge-Beginning 2 (2-0)

Introduction; rules and strategy; active participation throughout the course.

PEI 104 Bridge-Intermediate 2 (2-0)

Further study of bidding and playing the dummy hand.

PEI 105 Bridge-Advanced 2 (2-0)

Emphasis on bidding and participation in tournament play.

PEI 106 Chess-Beginning 2 (2-0)

An introduction, including history, rules, recording of game, and play.

PEI 107 Chess-Intermediate 2 (2-0)

Emphasis on strategy.

PEI 108 Chess-Advanced 2 (2-0)

Refinement and improvement of offensive and defensive skills.

Outdoor Activities (PEJ)

Physical Education & Athletics Dept.
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 104 Backpacking-Intermediate 2 (0-4)

Practical application of skills.

PEJ 105 Backpacking-Advanced 3 (0-6)

Incorporates overnight trip(s).

PEJ 106 Bow Hunting-Beginning 2 (1-2)

Basic fundamentals.

PEJ 107 Bow Hunting-Intermediate 2 (1-2)

Target shooting.

PEJ 108 Bow Hunting-Advanced 3 (0-6)

Game habits for the hunter.

PEJ 109 Canoeing-Beginning 2 (0-4)

Prerequisite: Students must know how to swim. Fundamentals of recreational canoeing and handling, care of equipment, safety strokes, and canoe tipping.

PEJ 110 Canoeing-Intermediate 2 (0-4)

Further canoeing experience.

PEJ 111 Canoeing-Advanced 3 (0-6)

Class trips are planned and taken.

PEJ 112 Horsemanship-Beginning 2 (1-2)

Horse care and riding skills are introduced.

PEJ 113 Horsemanship-Intermediate 2 (1-2)

Prerequisite: PEJ 112. Refinement and improvement of skills.

PEJ 114 Horsemanship-Advanced 3 (1-4)

Prerequisite: PEJ 113. Techniques and skills used in training horses for show.

PEJ 115 Hunting-Beginning 1 (0-2)

Emphasis on gun safety and hunting laws.

PEJ 116 Hunting-Intermediate 1 (0-2)

A study of the habits of the game to be hunted.

PEJ 117 Hunting-Advanced 2 (1-2)

Actual hunting of the game.

PEJ 118 Basic Mountaineering-Beginning 2 (0-4)

Climbing technique, equipment, food, survival, rescue, and medicine.

PEJ 119 Mountaineering-Intermediate 2 (0-4)

Emphasis on survival and rescue.

PEJ 120 Mountaineering-Advanced 3 (1-4)

Further experience including a planned trip.

PEJ 121 Orienteering-Beginning 2 (2-0)

Basic compass, map reading, and land navigation skills.

PEJ 122 Orienteering-Intermediate 2 (2-0)

Extensive map reading with land navigation skills.

PEJ 123 Orienteering-Advanced 3 (3-0)

Actual use of the skills.

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 130 Recreation Leadership 3 (1-4)

An introduction to innovative and creative alternatives to traditional activities. Provides experience in teaching games to elementary and junior high youth.

PEJ 132 Wilderness Survival 3 (1-4)

Skills to cope with a variety of emergency outdoor situations.

PEJ 133 Small Boat Safety and Seamanship 3 (3-0)

Classroom instructions in basic safety and seamanship skills for small crafts.

PEJ 134 Sailboat Cruising 3 (0-6)

Seminar aboard a 26 ft. sloop. Includes basic sailing and seamanship skill; two-day cruise.

PEJ 136 Canoe Expedition 3 (0-6)

A demanding canoeing course which takes the student into unspoiled scenic areas. Includes portaging, equipment selection, and canoeing skills.

PEJ 137 Wilderness Camping/Canoeing 3 (0-6)

Canoeing the wilds of Northern Ontario and Upper Michigan. Campers will camp/canoe for seven days.

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 and Leisure Education 1 (0-2)

Introduction to seasonal outdoor fitness and recreational activities. Activities include cycling, cross country skiing, camping, etc.

Military Science

Military Science (Army ROTC) is a four-year program of instruction in military leadership and management enabling college graduates to earn commissions as Second Lieutenants in the United States Army, Army Reserve, or National Guard. The first two years of this program of instruction (the Basic Course) may be completed at Lansing Community College and credits then transferred to any of the more than 270 colleges and universities that offer Army ROTC. Students successfully completing the prescribed courses are eligible to apply for admission to the ROTC Advanced Course (last two years) at any of these colleges and universities.

Military Science is neither a major nor a minor and fits into the elective credit of most academic programs. Students register for required courses through LCC, but most ROTC instruction is normally presented on the campus of Michigan State University. Compression of the required two-year program of instruction into one year is possible, if necessary, with departmental approval. While participating in military science at LCC, students incur no military obligation.

Scholarships covering full tuition, books and fees, plus \$100 per month are available on a competitive basis for students participating in the program. Scholarship cadets subsequently incur a four-year active duty obligation upon graduation.

Students enrolling in the Advanced Course without scholarship also receive \$100 per month during the normal academic year. If desired, they may serve for as little time as three months on active duty, and then serve as

Second Lieutenants in the Army Reserves or National Guard; or they may complete for active duty and serve a three-year tour in the U.S. Army.

Military Science courses are open to all students; however, students desiring to earn a commission through Army ROTC must meet the following criteria:

1. U.S. citizen
2. At least 17 years of age at time of initial enrollment and under 28 years of age at time of commissioning.
3. Medically qualified for military service.
4. Enrolled in an academic program leading to a Bachelor's degree. Consult the Military Science advisor or your counselor for additional information.

REQUIRED COURSES

Freshman

FALL	WINTER
MS 121	PLS 200
Preview of Military Science 1 credit	Introduction to Political Behavior 4 credits
SPRING	
MS 122	MS 141, Lab
Marksmanship and Hunter Safety 1 credit	1 credit

Sophomore

FALL	WINTER
MS 221	MS 223
Tactics 1 credit	Terrain Analysis and Land Navigation 3 credits
*HST 235 Military History of U.S.	3 credits
MS 142	
Lab 1 credit	

*Participating students must register for this course at Michigan State University as guest students.

Military Science (MS)

Air Force ROTC
Division of Student Personnel Services

MS 121 Preview of Military Science 1 (1-0)

Role of the ROTC Officer in the Army. Provides students with an overview of curriculum to satisfy requirements for a commission.

MS 122 Marksmanship and Hunter Safety 1 (1-2)

Small arms and marksmanship and safety with practical exercises on local firing ranges. Involves individual basic marksmanship and the skills necessary to participate in a competitive or recreational shooting program.

MS 141 Military Traditions 1 (1-0)

An introduction to the practical aspects of the Army through discussions and exercises. Includes customs of the service, drill, and leadership techniques.

MS 142 Military Science Lab 1 (0-1)

Prerequisite: Department Approval. Development of leadership at the squad level. Practical exercises in drill and command.

MS 143 Military Science Lab 1 (0-1)

Prerequisite: Department Approval. Development of leadership and technical skills in preparation for leadership roles at summer camp.

MS 221 Military Tactics 1 (1-0)

Prerequisite: Department Approval. Taken in conjunction with Military History of the United States. An introduction to basic fundamentals of tactics; examines the principles of war and their application to modern land warfare.

MS 223 Terrain Analysis and Land Navigation 2 (2-0)

Prerequisite: Department Approval. Military topographical maps, map construction, specifications and uses. Includes a study of aerial photographs and terrain analysis for military operations, specifications and uses.

MS 280 Military Instruction Techniques 4 (4-2)

Prerequisite: Department Approval. Methods of instruction in manipulative skills to groups with varying educational backgrounds. Emphasis on entry behavior, progress analysis, and test construction. Laboratory simulates field situations for student performance evaluation.

MS 282 Military Management 4 (3-2)

Prerequisite: MS 280. A task-analysis approach to assigned missions. Preparation and execution phases of military operations are accomplished in a classroom environment using qualitative and quantitative techniques.

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 140 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 openings for students in non-flying specialties with prior military training, all or part of the GMC may be waived at the time they apply for the POC. 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 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, required textbooks, and a subsistence allowance of \$100 for each month of the academic year. Students must apply for a four-year scholarship by December 15 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 Descriptions of Courses section of this catalog.

Uniforms and Textbooks

Air Force blue uniforms and necessary texts are furnished on loan basis by 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.

AS 110 Organization of the U.S. Air Force 1 (1-0)

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 (1-0)

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 (1-0)

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 (1-0)

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 (1-0)

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 (1-0)

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

AS 141 Leadership Laboratory 1 (1-0)

Prerequisite: Concurrent enrollment in an AS 100 or AS 200 level course. Basic concepts of leadership and the role of the Air Force officer; leadership development through practical experience.

CENTER FOR AGING EDUCATION

The Center for Aging Education provides education, training, educational services and applied research services in aging. It is a coordinating center and information clearinghouse for programs designed for the following audiences:

1. persons preparing for careers in gerontology, who wish to gain entry-level competencies in gerontological fields such as nursing home administration, senior adult program direction, older adult outreach services, and senior adult advocacy;
2. persons already employed in gerontological services, who want to improve their professional competencies;
3. persons in middle years preparing for active "retirement";
4. older adults seeking opportunities—through learning—to develop or renew skills, acquire new knowledge or explore life options; and
5. general audiences of all ages who wish to explore aging as it relates to themselves, their families, and their communities.

Workshops, seminars and other gerontology training programs are offered in response to identified community needs and interests. Center staff design seminars for older adults to meet their needs in an ever-changing society. A number of workshops have been coordinated as part of the training program needs identified by the Tri-County Office on Aging and local service providers and agencies.

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

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 staff.

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.

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.

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 recommended. 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 3 (3-0)

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: ANT 151 and GER 100 recommended. 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 108 A Manager's Guide to Pre-Retirement Planning Programs 1 (1-0)

Principles, practices, and current approaches to pre-retirement planning. Includes a review of the goals and objectives of pre-retirement planning, components of a model program, methods of conducting programs, and planning considerations for the employer.

GER 109 Mature Driver Refresher 1 (1-0)

Current Michigan driving laws, procedures, and methods, especially as they apply to the older driver. Topics include signs, signals, and pavement markings; open road driving; other kinds of road users (bicyclists, pedestrians); intersections; adverse conditions and local problem areas; license renewal and restricted driving.

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 121 Senior Group Program Planning 1 (1-0)

For persons who may serve as leaders of senior groups: review group activities, roles as leaders, improving existing programming, motivating group members, techniques of leadership, publicity skills, arranging trips, and innovative program ideas.

GER 122 Working with Older Adults: Using Community Resources 2 (2-0)

Overview of issues and skills critical to work with older adults in a service capacity. Includes the demography of the aging population; myths of aging; age-related sensory loss; effects of stress on the mental health of older adults; special communication skills; an outline of Federal and State programs that serve older adults; and information about local community resources.

GER 123 Counseling Outreach Skills: Aging Populations 2 (2-0)

Prerequisite: GER 100 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 1 (1-0)

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 127 Issues of Aging: Advocacy 1 (1-0)

Exploration of specific skills and techniques that are used to influence the legislative process in selected issue areas of importance to older people.

GER 128 Community Service Advisor Training 3 (3-0)

Overview of rules and regulations governing public benefit programs including Social Security, Supplemental Security Income (SSI), Disability, Food Stamps, Medicare, and Medicaid. Introduces legal advocacy skills such as interviewing, investigating, fact-finding, negotiating, and making proper legal referrals.

GER 131 Fitness Leadership in Older Adult Groups 1 (1-0)

An introduction to basic exercise and leadership techniques for older adult groups. Includes timing the pulse, warm-up exercises, walking, cool-down exercises, dynamics of exercise leading, basics of nutrition, special-range-of-motion exercises, and introductory cardiopulmonary resuscitation (CPR) techniques.

**GER 150 Leadership Skills
Assessment 1 (1-0)**

Leadership—what it is, how to assess individual styles, ways to improve leadership skills. Includes definitions of leadership, individual approaches, behaviors of effective leaders, motivation, situational factors, leadership style preferences, personal action plans to improve leadership skills. Application to leadership in senior adult programs is included.

**GER 156 Serving Older Adults:
Outreach/Referral 1 (1-0)**

For outreach office staff members who are charged with assisting in the provision of services to older adults. Includes purpose of outreach offices, purpose and function of information and referral services, relationship of the information and referral function to the Older Americans Act and the aging services network, communication skills, and techniques for working with difficult clients.

**GER 160 Issues of Aging:
Employment 1 (1-0)**

Introduction to issues of employing the older worker: physical capacity; learning ability; job performance; performance in training; work attitudes; and benefits, including insurance and Social Security.

**GER 161 Issues of Aging:
Sexuality 1 (1-0)**

Issues relating to sexuality and older persons: societal attitudes, sexual behavior patterns, physiological changes, psychological responses, and special situations such as institutional settings.

GER 163 Grants in Aging 2 (2-0)

The grants process as it applies to funding programs that serve older adults. Write a mini-proposal, identify funding sources, learn how funds are allocated, become familiar with proposal language, and learn how to prepare a budget for a grant proposal. Develop and present own proposal for funding.

**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 Confusion: Causes and
Interventions 1 (1-0)**

Introduction to current concepts of "senility" (confusion or mental impairment in old age): major causes, diagnosis, treatment, strategies for working with confused or disoriented older persons, and other conditions which may be incorrectly diagnosed as "senility."

**GER 166 Planning and Managing
Housing for Older Adults 2 (2-0)**

Assessing individual housing needs, alternative housing, and a review of existing housing resources. The role of the housing manager in subsidized housing is included.

**GER 167 Issues of Aging:
Nursing Homes 1 (1-0)**

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, and guidelines for visiting nursing home residents.

**GER 168 Legal Rights of
Older People 2 (2-0)**

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 Issues of Aging:
Age Discrimination 1 (1-0)**

Introduction to the Age Discrimination Act and the Age Discrimination in Employment Act. Includes psychological data on age discrimination, the use of age as a criterion in the law, and the credit law as it relates to age.

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 & 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 & 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.

DIVISION OF LEARNING RESOURCES

James Platte, Dean

The services of the Division of Learning Resources are designed to meet the information and communication needs of students, faculty, and staff. The resources for these services are provided by the professional and technical staff of the libraries, the media production and distribution centers, the planetarium/multi-media center, the professional development laboratory, the archives and professional resource center. The departments also offer courses and curricula related to library and media services.

The program and service objectives of the Division are:

1. To acquire, produce and organize materials and equipment into a collection of resources that facilitate communication, individual learning, and effective instruction recognizing the varied modes and levels of learning and the scope of modern instructional alternatives.
2. To administer a system of resources circulation that supports maximum use by all students and faculty.
3. To promote an effective learning environment in the libraries, the media centers and the classrooms through instructing students in information search skills and critical use of materials and by supporting the development of those instructional techniques which require the learner's use of resources.
4. To support the on-the-job needs of faculty and staff by coordinating college-wide professional development/and by meeting professional information needs through the archives, professional literature and information services.
5. To provide technical training in Media-Radio-Television and Photography/Film making.

The Department of Library Services has three service centers: the main Learning Resource Center in the Division of Arts and Sciences Building (A&S), the Dwight Rich Learning Resource Center in Old Central (OC) and a third Learning Resource Center in the new Vocational-Technical Building (VT). These centers offer students and faculty opportunities to use a book collection of nearly 75,000 items as well as 675 magazine subscriptions and backfiles. Students have access to library collections of tape and disc recordings, filmstrips, slides, and microfilm. Through the library, students may use Instructional Media Department audio, video, and 16mm film collections. Special interest collections include a study group of children's literature (OC); the Chicano and Native American collection (A&S); the Career Information Center of college catalogs, books, pamphlets and microfiche (VT); annual reports of corporations (OC); and an extensive Magazine Reference Center in the Arts and Sciences Learning Resource Center.

Department of Library Services

The hours of the three library service centers, in general, coincide and are posted at the doors. The Arts & Sciences Library (ASL) is located in Room 253 on the north side of the second floor in the A&S Building. The 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. In general, the libraries are

open between terms. Check with the libraries for between-term hour changes. Telephone for library open hours information. All library users must present an LCC validated ID card when checking out materials.

Resources

The collection of 90,000 book and A-V titles and 700 magazine subscriptions 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 has those books related to the programs centered in each building. The computer on-line catalog lists materials found in all LCC libraries. 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. Fifteen on-line catalog terminals may be searched by author, title, subject and other access terms. Each library's terminals access information on the holdings of all three libraries, arranged in Library of Congress classification order. Lansing Public Library's holdings are being added to the catalog information system. Approximately 100,000 LPL records (in Dewey Decimal classification) are accessible via the catalog terminals.

Other resources of the libraries include paperback collections of best-sellers and popular fiction and non-fiction; instructional lab circulation support; back-files of magazines 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; pamphlet collections; circulating recordings, audiotapes, filmstrips and slides; an OCLC computer catalog terminal to locate material which can be borrowed from over 2,000 libraries; Easy Reading Browsing (ERB) books to support developmental reading courses. Facilities for student use in the libraries include a conference room for group study and a typing room (ASL), and study and listening carrels. Students may view 16mm films and videotapes in the A&S Library as well as use tape and record players or sound filmstrip and slide players in the listening-viewing areas. Cassette players and calculators are loaned for use in the libraries.

Services

The staff of the libraries provide users their most important link to the information in LCC's learning resources collection and other libraries of the community. Reference desks are conveniently located in all three centers, and the reference staff invite requests for assistance.

LCC actively participates in Lansing's regional interloan cooperative CALNET. Use the OCLC union catalog terminal (ASL) to locate authors or titles. Please 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.

Services to faculty members include in-class library instruction sessions geared toward specific assignments or overall introduction of services. Faculty are encouraged to discuss with librarians acquisitions of new materials for their curricula. Materials are also placed "on reserve" for student short period use. Librarians will also prepare subject bibliographies and "Focus On" ... study guides relative to individual class needs.

Services for handicappers 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. See the librarians for location and details.

The department offers a two-credit independent study course to help students learn to find information in libraries, LMT 150 USING YOUR COLLEGE LIBRARY. All students are encouraged to take the course, especially transfer program students. The LCC produced text for the course "Search On: Using Libraries" may be purchased independent of course enrollment. Audio tapes, films and other materials are available to assist students in independently developing library skills.

Students, faculty and staff using the libraries should acquire a copy of the LCC Library Handbook and become familiar with its more detailed explanations of services and procedures.

Library Media Technology (LMT)

Library Services Department
Division of Learning Resources

LMT 150 Using Your College Library 2 (2-0)

Introduction to use of library materials and services with emphasis on information and skills that will facilitate using any library.

LMT 210 Introduction to OCLC 2 (2-0)

Introduction to effective use of the OCLC system in library services, with emphasis on searching, tagging and operating techniques by hands-on training on the OCLC terminals. Some background in library materials cataloging necessary.

LMT 221 Media Services I/Graphics 2 (2-0)

Design and production of graphics applicable to library and media centers. Projects include lettering techniques, overhead transparency preparation, mounting and laminating non-projected visuals.

LMT 222 Media Services II/Equipment 2 (2-0)

Practice operation and simple maintenance of common A-V and electronic equipment. Audio materials, audio tape production and basic slide tape production are explored.

LMT 240 Books for Young People 3 (3-0)

Introduction to various genres of children's literature. Covers selection of books to read, classifying these books, establishing criteria for their evaluation, and devising methods of creatively presenting and sharing literature with children.

LMT 260 Specialized Information Services 2 (2-0)

Exploration of various approaches to providing information service to special clientele. Principles of organization, acquisition, retrieval, and dissemination of information are identified and applied in practical situations.

DEPARTMENT OF INSTRUCTIONAL MEDIA

Chairperson: Dale Dunham

Services

The Instructional Media Department offers many services to help faculty with classroom media and to help College departments prepare and present media materials.

Audio-visual equipment check-out centers in Old Central, Arts and Sciences, and Vocational Technical buildings provide projectors and tape recorders for instructors' use. These centers, along with the main departmental offices in the Academic and Office Facility, Room 108, provide AV materials such as blank recording tapes, special marking pens, and replacement lamps, and services such as preparation of

overhead transparencies and film check-out from our own library. An IMD Equipment Maintenance Service takes care of all repairs across campus.

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. Students and faculty may also listen to tapes by visiting the Arts & Sciences and Old Central libraries.

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 college support.

Facilities

Television Studio

A complete color television studio supported by full ¾ 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.

Photography Center

The Photography Center offers the students a variety of facilities and equipment. Black and white printing labs with a total of thirty-eight enlargers are available during open lab 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 by professional studios and labs 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 small, 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

IMD 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.

Media Technology (MRT)

Instructional Media Department
Division of Learning Resources

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 Multi-Media Workshop 4 (4-2)

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 newswriting 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)

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.

MRT 155 Television Production II 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.

MRT 160 Radio-Television Copywriting 4 (4-0)

Prerequisite: Department approval. 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.

MRT 165 Radio News and Public Affairs Writing 4 (4-0)

Prerequisite: Department approval. Basic writing techniques and formats utilized in preparing scripts for radio newscast and public affairs programs.

MRT 170 Audio Systems Maintenance 4 (4-0)

Prerequisite: MRT 120. 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.

MRT 180 Media and the Future 4 (4-0)

Study of the interrelationship between media and society.

- MRT 200 TV-Film Graphics 3 (3-0)**
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.
- MRT 210-212 Broadcast Sales I-II each 4 (4-0)**
Covers methods and specialized skills employed in selling radio and television advertising and air time.
- MRT 215 Radio Program Director 4 (4-0)**
Prerequisite: MRT 136 or department approval. 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.
- MRT 218 Sound Reinforcement 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.
- MRT 219 Sound Reinforcement Practicum 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.
- MRT 220 Audio Recording I 4 (2-4)**
Prerequisite: MRT 120. Introduces professional audio recording equipment and applies techniques learned in MRT 120 to location and studio recording. Placement of multiple microphones and mixing to two-track format is emphasized.
- MRT 225 Audio Recording II 4 (4-0)**
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.
- MRT 230 Audio Production III 4 (2-4)**
Prerequisite: MRT 125. Advanced techniques in creative audio production; applies the multi-track recorder to complex commercial and theatrical production projects.
- MRT 234 Radio Workshop 5 (2-10)**
Prerequisite: Department approval. Advanced operations in production and management of the student-operated radio stations.
- MRT 235 Audio Recording III 4 (4-0)**
Prerequisite: MRT 225. Provides additional hands-on experience to refine technical and creative recording skills.
- MRT 242 Radio Practicum 2 (2-0)**
Prerequisite: MRT 132 or 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 246 TV Practicum 2 (0-4)**
Prerequisite: Department approval. Practical experience in television studio operation. Students work on assigned video projects, which vary according to production schedules.
- MRT 250 Electronic Field Production I 4 (4-0)**
Prerequisite: MRT 152. Remote video production emphasizing equipment operation, single camera shooting styles, and basic video editing.
- MRT 251 Electronic Field Production II 4 (4-0)**
Prerequisite: MRT 250. A more vigorous application of skills learned in Electronic Field Production I, emphasizing individual remote projects. Computer controlled editing stressed.
- MRT 252 TV Producer-Director 4 (4-0)**
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 255 Television Lighting 4 (4-0)**
Prerequisite: MRT 152 or department approval. Theory and practice of lighting for television.
- MRT 260 Television Awareness Training 4 (4-0)**
Study of the effects of television on society. Critically explores such issues as violence, sexuality, children, advertising, stereotypes, and others.
- MRT 275 Documentary Television in the U.S. 4 (4-0)**
A critical study of the history of documentary television in the United States.
- MRT 280 Television in Education 4 (4-0)**
Design and production of instructional materials for television, instructional design techniques appropriate for video production.
- MRT 285 Media Portfolio 8 (8-0)**
Prerequisite: Department Approval. Individualized project provides student opportunity to demonstrate media skills in production of a portfolio tape. Approved proposal to Program Director required.
- MRT 290 Independent Study 2 (2-0)**
MRT 291 Independent Study 3 (3-0)
MRT 292 Independent Study 4 (4-0)
Pursuit of advanced study in areas not formerly taught within the curriculum. Students must submit written applications detailing their projects for departmental approval.
- MRT 296 Internship in Media Production 12 (24-6)**
Prerequisite: Department Approval. MRT students work up to 30 hours per week as interns in a professional media environment.
- MRT 299 Seminar in Special Subjects 4 (4-0)**
- Photography (PHO)**
Photography Dept.
Division of Learning Resources
- PHO 108 History of Photography I 3 (3-0)**
Survey of the development of photography through study of the people and processes involved.
- PHO 109 Basic Photo Oil Painting 2 (2-0)**
Hand coloring photographs using transparent oil paints.
- PHO 110 Basic Camera Operation 3 (3-0)**
Practical application of camera controls and pictorial composition utilizing commercial processing for class projects.
- PHO 111 Basic Camera Operation II 3 (3-0)**
Prerequisite: PHO 110. 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.
- PHO 116 Film History 3 (3-0)**
Focus on the major historical, technical, social and artistic developments from the beginning of motion pictures to the present. Each week, the class examines a major theme and views films related to that theme.
- PHO 117 Law Enforcement Photography 3 (3-0)**
Prerequisite: Department approval and PHO 110. Camera skills required for on-the-spot documentation for use as evidence by enforcement officers.
- PHO 118 History of Photography II 3 (3-0)**
Survey of contemporary photographers and processes.
- PHO 120 Introduction to Photography I 4 (2-4)**
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.
- PHO 125 Black and White Processing Lab 3 (2-2)**
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.
- PHO 126 Basic Motion Picture Production 4 (3-3)**
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.
- PHO 128 Photographic Design 4 (4-0)**
Prerequisite: PHO 110 or PHO 120. Explore, through photographic medium, the elements and principles of design.
- PHO 129 Professional Photographic Technical Lecture Variable**
Facets of the role of the professional photographer; materials, processes, and new developments.

- PHO 136 Fundamentals of Cinematography and Sound** 4 (4-0)
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.
- PHO 140 Introduction to Photography II 4 (2-4)**
Prerequisite: PHO 120. Continuation of PHO 120 with refinement of exposure, processing, printing controls, and print finishing.
- PHO 146 Fundamentals of Lighting** 3 (3-0)
Prerequisite: PHO 120 or PHO 126. 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.
- PHO 148 Photo Design II** 4 (4-0)
Prerequisite: PHO 128. Use of photography and various methods of photographic reproduction to solve design and art-related problems.
- PHO 149 Photographic Technical Laboratory** Variable
Prerequisite: Department approval. Demonstration, laboratory experience, and involvement with and about new ideas in the photographic fields.
- PHO 150 Basic Photo-Chemistry** 3 (3-0)
Prerequisite: PHO 120. Introduction to the black-and-white photo-chemical processes including chemical compounding and testing.
- 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 155 Black and White Printing Lab** 2 (0-4)
Prerequisite: Department approval/PHO 140. Guided practice in black and white printing geared to each student's need or problem.
- PHO 158 Print Finishing and Presentation** 2 (2-0)
Prerequisite: PHO 120. Development of expertise in print finishing and presentation.
- PHO 160 Introduction to Photography III** 4 (4-0)
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 161 Camera Maintenance** 2 (2-0)
Prerequisite: PHO 120. Fundamentals of caring for photographic equipment, including routine maintenance, preventive maintenance, simple servicing and cleaning, as well as basic adjustments.
- PHO 165 Manipulative Black and White Printing** 4 (3-2)
Prerequisite: PHO 160. Imagery achieved through manipulative camera and darkroom techniques. An introduction to various special films and papers and their use.
- PHO 166 Fundamentals of Film Editing and Sound** 4 (4-0)
Prerequisite: PHO 126. Assemble picture and sound elements for effective and dramatic impact. Edit action and dialogue sequences. Build sound tracks with music, dialogue, and sound effects. Exercise and practical editing projects.
- PHO 170 Basic Color Processing and Printing** 4 (4-2)
Prerequisite: PHO 140. 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 175 Photographic Theory Laboratory** 2 (0-4)
Prerequisite: Department approval or PHO 140. 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 176 Fundamentals of Film Directing** 3 (3-0)
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 186 Fundamentals of Film Animation** 3 (3-0)
Prerequisite: Department approval or PHO 126. Covers concepts used in animation of motion pictures; student will produce animated film(s) and projects.
- PHO 187 Photographic Sensitometry** 3 (3-0)
Prerequisite: PHO 150/160. Application of sensitometry to the photographic process, the uses of the densitometer, and scientific testing methods.
- PHO 190 The Business of Photography** 3 (3-0)
Prerequisite: PHO 160 or concurrent. Study of occupational situations and opportunities in the photographic industry.
- PHO 200 Introduction to Color Theory** 3 (3-0)
Prerequisite: PHO 140. Introduction to color theory, materials, and their practical application.
- PHO 201 Photo-Journalism I** 3 (3-0)
Prerequisite: PHO 140. Techniques involved in photography for publication, including events, story-telling, and photography at the decisive moment.
- PHO 202 Portrait I** 4 (4-0)
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.
- PHO 203 Environmental Photography I 4 (4-0)**
Prerequisite: PHO 160/200. Techniques and equipment utilized in nature and environmental photography.
- PHO 204 Large Format Photography I** 4 (2-4)
Prerequisite: PHO 160. Camera technique, perspective and sharpness controls, optics, processing and printing of large format negatives. 4 x 5 cameras provided.
- PHO 205 Non-Silver Photography I** 4 (4-0)
Prerequisite: PHO 150 or PHO 165. An introduction to the various non-silver processes which preceded the silver print.
- PHO 206 Film Production Workshop I** 4 (2-4)
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.
- PHO 207 Close-up Photography I** 3 (3-0)
Prerequisite: PHO 160. Study of the specialized equipment and lighting techniques unique to this area of photography.
- PHO 208 Archival Processing and Testing** 2 (2-0)
Prerequisite: PHO 160. Study of the problems and procedures for long-term preservation and storage of photographic materials.
- PHO 209 Professional Black and White Printing** 4 (4-0)
Prerequisite: PHO 160. Introduction to production printing, including processing, proofing, finishing, and presentation of commercial black-and-white prints.
- PHO 210 Color Processing** 2 (2-0)
Prerequisite: PHO 160/200. Study of reversal and negative color film and paper processing procedures. Emphasizes process monitoring for quality control.
- PHO 214 Zone System Photography** 4 (2-4)
Prerequisite: PHO 204. 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.
- PHO 216 Film Production Workshop II** 4 (2-4)
Prerequisite: PHO 206. Students who have completed PHO 206 may produce their own films, under supervision, to increase their technical and practical experience.
- PHO 220 Color Printing I** 4 (2-4)
Prerequisite: PHO 160/200. Introduction to the materials and processes of color printing.
- PHO 221 Photo-Journalism II** 4 (4-0)
Prerequisite: PHO 160/201. Continuation of photography for publication.
- PHO 222 Portrait Photography II** 4 (4-0)
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.

**PHO 223 Environmental
Photography II 4 (4-0)**

Prerequisite: PHO 203/204. Continuation of techniques and equipment used in nature and environmental photography.

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 226 Film Production Workshop III 4 (2-4)

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 230 Cibachrome Printing 4 (2-4)

Prerequisite: Department approval. Designed to introduce the student to the equipment, technique and process of the cibachrome color print system.

**PHO 231 Composition, Cropping
and Editing 4 (4-0)**

Prerequisite: PHO 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 232 Bridal and Wedding
Photography 3 (3-0)**

Prerequisite: PHO 200/202. Problems and opportunities inherent in bridal and wedding photography.

PHO 240 Color Printing II 4 (4-0)

Prerequisite: PHO 220. Continuation of materials and processes used in color printing.

PHO 242 Photographic Illustration 4 (4-0)

Prerequisite: PHO 202/220. Combines the techniques of portrait and product photography to produce photographs for advertising, catalog illustration, instruction manuals and the like. Students will work primarily in color, and will put people and products together to produce effective photographs suitable for reproduction in various media.

PHO 244 Large Format Photography III 4 (4-0)

Prerequisite: PHO 204/220. Continuation of large format techniques with emphasis on architectural photography.

PHO 245 Non-Silver Process III 4 (4-0)

Prerequisite: PHO 225. Continuation of non-silver processes.

PHO 250 Color Printing III 4 (4-0)

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 260 Professional Photo Workshop 4 (4-0)

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 270 Field Projects 4 (4-0)

Prerequisite: Department approval. Work experience in actual photography situations for practical application of curriculum based skills.

**PHO 275 Advanced Photographic
Theory 4 (4-0)**

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.

PHO 280 Independent Study 2 (2-0)

Prerequisite: Department approval.

PHO 290 Independent Study 3 (3-0)

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 296 Internship in Photography 12 (12-0)

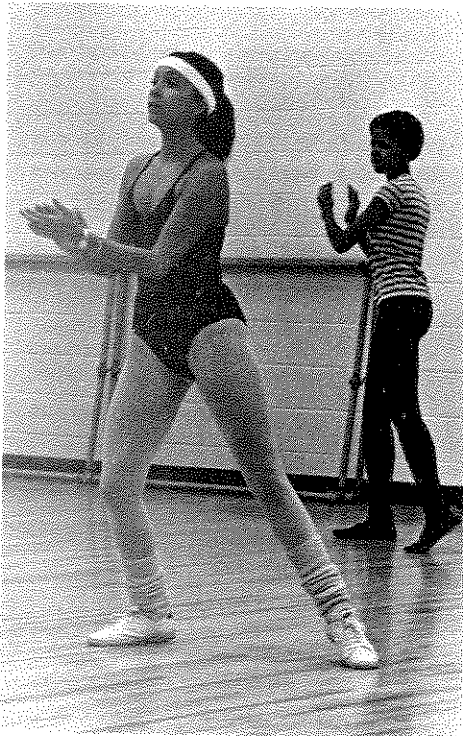
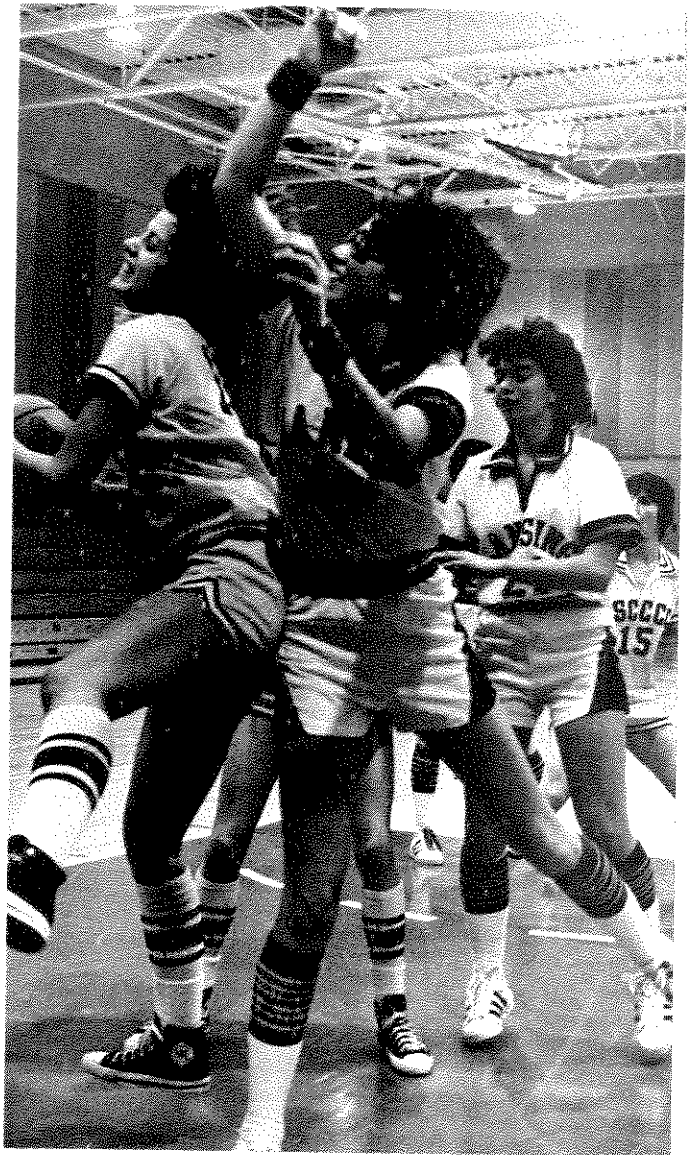
Prerequisite: Department approval. Work up to 30 hours per week as technical assistants on photo assignments, becoming familiar with the daily operation of a production company from contact with clients in both technical and creative aspects.

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.



DIVISION OF ARTS AND SCIENCES

Dean Sam Kintzer

The purpose of a liberal arts education is to present knowledge and ideas about the world around us through studies in the social and natural sciences, mathematics, and humanities; and to develop the ability to express concepts through effective communication by writing and speaking clearly. Of equal importance is the ability to read critically. 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 analytic reasoning and informed judgment. 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.

The Division of Arts and Sciences is established:

1. To provide general education for all students.
2. To offer freshman and sophomore liberal arts and science courses paralleling the first two years of university education.
3. To award 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. To offer pre-professional curricula enabling students to transfer after two years of study to advanced training at four-year colleges and universities.
5. To provide 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. To encourage 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. To provide support courses for vocational programs for other Divisions of the College.
8. To offer seminars in special subjects as part of a lifelong learning program for the community.
9. To offer a career program providing training for entry level positions in Human Service agencies in the fields of Social Welfare, Mental Health, Hearing Impaired, Child Development and Education.

To facilitate the attainment of these goals, the Division of Arts and Sciences.

- Provides 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.
- Provides 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.

Those individuals fully employed during the daytime, whether at a job or in the home, may begin their college education by enrolling in evening courses.

- Recognizes that thoughtful understanding of the issues of concern of the closing decades of the twentieth century requires of each individual the ability to read, write, and speak with clarity and organized purpose. To accomplish this, the Division provides for all students courses that will assist them to read with comprehension and to write and speak effectively.
- Establishes honors courses, invites guest speakers, holds special workshops and seminars for the academically able student with a wider range of interest.
- Provides 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.

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

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

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

The department offers testing services to help you select appropriate courses in writing and/or reading. You are urged to inquire in the Communication Department Laboratory about a writing 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.

COURSE DESCRIPTIONS

Communication (COM)

COM 031 Vocabulary Improvement I 2 (2-0)

Explains the precise meanings of words, evolution of words into contemporary English, and word choices appropriate for varying situations. Helps students improve vocabulary for reading, writing, and speaking.

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 035 Spelling Improvement 2 (2-0)

Examines in context, words that are frequently misused, mispronounced, and misspelled. Emphasizes basic phonic patterns, complicated consonant and vowel combinations, and word families. Includes study of syllabification and commonly misspelled words.

COM 150 The Press in a Free Society 3 (3-0)

An examination of the role and impact of journalism, print and electronic, 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.

COM 209 Mass Communication 4 (4-0)

Provides an understanding of the impact of mass communication on the knowledge and attitudes of U. S. audiences. Explores operational aspects of newspapers, magazines, radio, television and film in the light of communication theory and evidence from research. Covers such specific topics as news, advertising, violence in the media, and stereotyping.

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 295, 296 Independent Study Credits 297, 298 in Communication variable I, II, III, IV one to four

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

Reading (RDG)

RDG 006 Reading Laboratory No credit

RDG 006 is a notation for an arranged time in one of the reading courses held in the Communication Department Laboratory. At the time of registration, a student must register for both a specific course—RDG 016, 017, or 018—and a RDG 006 section. The RDG 006 section arranges the times for the student's attendance in the Communication Department Laboratory.

RDG 016, 017, 018 Reading Clinic
I, II, III 4 (0-8) each

Sequence teaches basic reading skills and improves confidence. Each course provides a personal reading program. Combines private tutoring with directed practice in the reading lab.

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)

Instruction in reading skills which are instrumental in effective academic performance at the college level. Emphasis in such areas as reading rate and comprehension, textbook study techniques, note-taking, library resources, essay tests, and objective tests.

Writing (WRI)

Placement testing is conducted during the first week of each term for all students in WRI 101, WRI 102, 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. The Departments of Communication and Humanities have various options for students who waive WRI 121. 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 101 Fundamentals of Writing 4 (1-6)

An individualized course designed 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. Instruction includes laboratory activities and group work in weekly class meetings, as well as flexible scheduling, self-pacing, and professional tutorial assistance.

WRI 102 Grammar and Mechanics in Writing 4 (1-6)

Increases mastery of traditional grammar and mechanics of Edited American English through intensive practice of those editing, proofreading, and writing skills necessary in generating memoranda, letters, reports, and essays.

WRI 121 Composition I 4 (4-0)

Designed to help the students develop writing ability. Emphasizes the organization and development of informational prose. Includes units in use of the dictionary and college reading skills.

WRI 122 Composition II 4 (4-0)

Prerequisite: WRI 121. Continuation of WRI 121 and an alternative to ENG 122 in many programs. Writing and 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.

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 by footnotes and bibliography.

WRI 131 Honors Composition I 4 (4-0)

Prerequisite: Department approval. Designed for superior writers, as identified by tests or by high school grades in English; an alternative to WRI 121. Includes an introduction to the principles of effective writing and critical thinking; writing practice in expository prose; and components in reading and dictionary skills.

WRI 132 Honors Composition II 4 (4-0)

Prerequisite: Department approval. Designed for superior writers; meets second-term requirement in Composition/English; an alternative to WRI 122. Deals with writing problems involving fact, opinion, logic, and persuasion. The student will have a chance to experiment with variations in purpose, audience, and style.

WRI 133 Honors Composition III 4 (4-0)

Prerequisite: Department approval. Designed for superior writers; meets third-term requirement in Composition/English; an alternative to WRI 123. Major writing assignment is the fully documented research paper, with attention to personal style and patterns of argument.

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.

Speech (SPH)

SPH 101 Human Communication 4 (4-0)

An investigative course in which the students study and apply theories of human communication. The students evolve their own models of communicating with others, verbally and non-verbally, in interpersonal, small-group, organizational, and cross-cultural situations.

SPH 102 Interpersonal Communication 4 (4-0)

Explores the verbal and nonverbal dimensions of face to face communication. Emphasizes the recognition and elimination of communication barriers.

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)

Introductory course. Study and application of the basic principles of effective public speaking. Students make seven speeches during the term.

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 203 Advanced Public Speaking 3 (3-0)

Prerequisite: SPH 104. Designed to acquaint the student with classical rhetoric theory as well as modern communication models related to persuasion. Critical analysis is developed through the study of speech models while performance techniques are refined through a series of 10-minute speeches.

SPH 206 Nonverbal Communication 4 (4-0)

Provides the student with an understanding of the many ways people communicate without words. The student will 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 will be increased through in-class activities.

English as a Second Language (ESL)

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.

Journalism (JRN)

JRN 151 Newswriting 4 (4-0)

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

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 167 Journalism Practicum 2 (0-4)

Prerequisite: JRN 151 or Department approval. Provides students with practical journalism experience while they contribute to the college newspaper. Students write both news and feature stories. Career preparation, press ethics, and legal responsibilities are stressed.

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.

FOREIGN LANGUAGES

Advanced placement in foreign language study may be arranged for students who have satisfactorily completed two or more years of a language in high school, and those who have established language proficiency by other means. Tests will be given when there is a question concerning the student's proficiency level.

French (FRN)**FRN 101, 102, 103 Elementary French I, II, III 5 (5-0) each**

Prerequisites: For FRN 101, none; for FRN 102, FRN 101; for FRN 103, FRN 102; or the equivalent of these prerequisites. Three-term sequence of elementary French designed to teach pronunciation, vocabulary, conversation, reading from graded texts and writing. Practice in mastery of the sound system, linguistic patterns, and grammatical structure of the language is afforded by a coordinated schedule of laboratory sessions (using tapes of native speakers) and class recitations.

FRN 201, 202, Intermediate French 203 I, II, III 5 (5-0) each

Prerequisites: For FRN 201, FRN 103; for FRN 202, FRN 201; for FRN 203, FRN 202; or the equivalent of these prerequisites. Three-term sequence of intermediate French involving systematic review of syntactic patterns, conversation, and extensive reading of modern texts. Increasing emphasis is placed on the oral and written use of the language, as well as the cultural background of the French people.

German (GRM)**GRM 101, 102, Elementary German 103 I, II, III 5 (5-0) each**

Prerequisites: For GRM 101, none; for GRM 102, GRM 101; for GRM 103, GRM 102; or the equivalent of these prerequisites. 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 201, 202, Intermediate German 203 I, II, III 5 (5-0) each

Prerequisites: For GRM 201, GRM 103; for GRM 202, GRM 201; for GRM 203, GRM 202; or the equivalent of these prerequisites. Three-term sequence in contemporary German offering advanced training and practice in the four basic skills: speaking, listening comprehension, reading and writing. Includes a thorough review of basic German grammar, intensive vocabulary building, small-group discussions, writing compositions, and student presentations on German culture. Cassette recordings accompanying the text provide students with additional listening comprehension practice.

Japanese (JPN)**JPN 101, 102, Elementary Japanese 103 I, II, III 4 (4-0)**

Prerequisites: For JPN 101, none; for JPN 102, JPN 101; for JPN 103, JPN 102; or the equivalent of these prerequisites. Three-term sequence in contemporary Japanese for beginners, offering basic knowledge of the Japanese language for practical communication. Develops skill in speaking, listening, reading and writing, and includes study of culture and everyday life in Japan. The main emphasis is on spoken Japanese. Additionally, three writing systems are introduced. Cassette tapes accompanying the textbook provide students with listening comprehension practice.

Spanish (SPN)**SPN 101, 102, Elementary Spanish 103 I, II, III 5 (5-0) each**

Prerequisites: For SPN 101, none; for SPN 102, SPN 101; for SPN 103, SPN 102; or the equivalent of these prerequisites. Three-term sequence of elementary Spanish emphasizing use of the language for practical communication. Classwork features intensive small-group conversation practice, and an introduction to Hispanic culture. Classes meet one hour daily, and students can increase their pronunciation and comprehension of spoken Spanish by listening to cassette tapes available in the Communication Department Laboratory.

SPN 201, 202, Intermediate Spanish 203 I, II, III 5 (5-0) each

Prerequisites: For SPN 201, SPN 103; for SPN 202, SPN 201; for SPN 203, SPN 202; or the equivalent of these prerequisites. Three-term sequence of intermediate Spanish; includes a thorough review of basic Spanish grammar, intensive vocabulary building, extensive small-group discussion on assigned reading topics, guided composition writing, and student presentations of special projects pertinent to Hispanic people and their cultures. Cassette tape recordings are available to help students improve their pronunciation and comprehension of spoken Spanish.

Sign Language (SGN)**SGN 160 Orientation to Deafness 1 (1-0)**

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 the equivalent. Provides the student with a basic knowledge of the sign language of the deaf and the major sign language systems. The student will become familiar with 400 signs and the manual alphabet used in American Sign Language (ASL).

SGN 162 Sign Language II 4 (3-2)

Prerequisite: SGN 161 or department approval. Designed to increase students' expressive and receptive sign language skills and vocabulary and to introduce and develop a basic understanding of American Sign Language (ASL) syntax and grammar. Study areas include use of facial expression, body language, and mime; use of verb tenses; and introduction to idioms.

SGN 163 Sign Language III 4 (3-2)

Prerequisite: SGN 162 or department approval. Provides instruction in additional sign language vocabulary and American Sign Language (ASL) syntax and grammatical rules. Study areas covered include expressive and receptive use of conversational sign language, idioms, and creating signing techniques.

SGN 164 Fingerspelling 1 (1-0)

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

SGN 165 Receptive Manual Communication 4 (3-2)

Prerequisite: SGN 163; or concurrent enrollment with SGN 163 with 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 260 Advanced Techniques in American Sign Language 3 (3-0)

Prerequisite: SGN 165 or department approval. Designed to provide concentrated instruction in the structure and principles of American Sign Language as used by the American deaf community.

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

Prerequisite: SGN 260 or department approval. 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 settings: education, medical, legal, human services, etc. Provides sign language vocabulary acquisition through laboratory experiences.

SGN 262 Principles of Interpreting II 5 (3-4)

Prerequisite: SGN 261 and department approval. Designed to provide in-depth understanding 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 (2-5)

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

**SGN 268, 269, Advanced Practicum Credits
270 I, II, III variable
four to six**

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. Depending upon credit choice, students will spend 6, 8, or 10 hours each week in their placement setting.

SEMINARS

The Department of Communication offers seminars in reading, creative and functional writing, speech, and conversational foreign languages. 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.

DEPARTMENT OF HUMANITIES

Chairperson: Dr. Joseph Anderson

The Department of Humanities offers courses under the following course codes:

- HUM: Humanities
- ENG: English
- HST: History
- 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 201, 202, 203: Western Civilization 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 four 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)

Please note that Western Civilization courses (HUM 201, 202, 203) are counted as History courses when only one or two of them are taken to fulfill general education requirements. It should also be noted that HUM 121, 122, 123: Power and Morality may be substituted as a whole or in part for HUM 201, 202, 203.

COURSE DESCRIPTIONS

Humanities (HUM)

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, particularly to Ancient Greece and to the Roman Empire, 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 201 Western Civilization I 4 (4-0)

Prerequisite: WRI 121 recommended. First of a series of three courses in the cultural foundations of Western man. Traces the social, intellectual, religious, philosophic, legal and artistic patterns of Ancient Near Eastern, Greek and Roman civilizations. Emphasizes the relationship of man's creative works to his beliefs and values, showing how others have understood themselves and how this understanding has shaped our views and conditions today.

HUM 202 Western Civilization II 4 (4-0)

Prerequisite: HUM 201 recommended. Europe from the ninth century to 1715 A.D. Concerned primarily with the development of ideas, new social forms, and the reflection of man's beliefs and values in philosophy, religion, literature, and the arts.

HUM 203 Western Civilization III 4 (4-0)

Prerequisite: HUM 202 recommended. The French Revolution and its impact in the nineteenth and twentieth centuries: democracy, nationalism, industrialism, imperialism, the two World Wars, and the fusing of Western and World civilization. Development of contemporary culture as reflected in philosophy, religion, literature, and the arts.

English (ENG)

ENG 122 Literature, Thought and Language I 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 Literature, Thought and Language II 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 Honors Literature, Thought and Language I 4 (4-0)

Prerequisite: Department approval. Same as ENG 122 but taught on an advanced level.

ENG 133 Honors Literature, Thought and Language II 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. REQUIRED FOR ENGLISH MAJORS AND MINORS.

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 Sinclair Lewis's Babbitt.

ENG 210 The 19th Century American Novel 4 (4-0)

Prerequisite: ENG 122 or WRI 122. Study of the major 19th century American novels ranging from James Fenimore Cooper to Jack London. Emphasis is on historical development of the novel form in America and the novelist's interpretation of the American scene.

ENG 211 The 20th Century American Novel 4 (4-0)

Prerequisite: ENG 122 or WRI 122. Intensive study of some of the influential American novels of this century. Students will read such authors as Faulkner, Hemingway, and Steinbeck.

ENG 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.

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 Survey of Afro-American Literature 4 (4-0)

Prerequisite: WRI 121 (ENG 122 recommended). A survey of Afro-American literature from the 17th century to the 20th 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 19th and 20th 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)

HST 104 World Affairs Since 1945 4 (4-0)

A study of contemporary world affairs since 1945, emphasizing the most recent political, economic, military, and diplomatic developments of significance.

HST 111 A Republic Forged and Broken: (American History I) 4 (4-0)

A history of America from the colonial beginnings through the Civil War.

HST 112 The Emergence of Modern America (American History II) 4 (4-0)

A history of America from the reconstruction of the nation after the Civil War to the present.

HST 150 Afro-American 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 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 Herstory: 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 the State of Michigan from pre-colonial times to the present.

HST 225 Black History in Michigan 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 19th and 20th 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 Irish to U.S. 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: pre-colonial Africa, the scramble for Africa, the rise of African nationalism and independence, Africa's internal and external relations.

HST 270 The Modern Middle East 4 (4-0)

A 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.

Philosophy (PHL)

PHL 101 Principles of Reasoning 4 (4-0)

An introduction to the elements of reasoning with special attention given to problems of the adequacy of definitions, the validity of arguments, and the empirical support of assertions. Emphasis will be placed on the practical application of logical methods.

PHL 102 Philosophy of Science 4 (4-0)

A critical examination of some of the basic concepts and problems of the natural 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 Values and Moral Reasoning 4 (4-0)

A course designed to improve moral reasoning through student participation in systematic examination of currently prominent social issues.

PHL 211 Who Am I? 4 (4-0)

An introduction to philosophy as the art of wondering in a quest for self-understanding and truth.

PHL 212 Self and Society 4 (4-0)

An exploration of the relationship between individual and culture, and their mutual molding process. No prerequisite, but PHL 211 is useful.

PHL 213 Life, Cosmos, and Ultimate Meaning 4 (4-0)

An inquiry into life, nature, and the search for ultimate meaning in our existence. No prerequisite, but PHL 211 or 212 useful.

Religion (REL)**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 religions 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.

Special Courses (HUM, ENG, HST, PHL, REL)**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.

HUM 296, 297 Independent Credits variable, 298, 299 Study one to four

Prerequisite: Arrangement with an instructor and approval by the Department Chairperson before registration. Special research projects and/or individual readings in Humanities, English, History, 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.

DEPARTMENT OF MATHEMATICS

Chairperson: Dr. Gary Knippenberg

The Department of Mathematics offers courses under the following course codes:

CPS: Computer Science
MTH: Mathematics

The Department of Mathematics 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.

Computer science courses are offered in cooperation with the Department of Science at LCC. They 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 their own 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.

COURSE DESCRIPTIONS**Mathematics (MTH)****Developmental Courses****MTH 095 Mathematics Laboratory No credit**

At the time of registration, a student must register for both a specific course (such as MTH 008 or MTH 009) and a MTH section. The MTH 095 section arranges 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 010, MTH 012, and MTH 102. MTH 012 and MTH 102 are also available in lecture form at which is conducted in a traditional classroom environment.

MTH 008 Basic Arithmetic 5 (0-5)

Prerequisite: Placement test. The focus is on practical uses of arithmetic. Operations with whole numbers and decimals are emphasized. Practical work is done both with fractions, percents and proportions. Work is done both with and without a calculator.

MTH 009 Pre-Algebra 5 (0-5)

Prerequisite: MTH 008 or proficiency on 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 and simple algebraic equations. An introduction to the Metric System is included. Word problems are emphasized with all topics. Use of a calculator is optional for checking calculations.

MTH 010 Metric System 2 (0-2)

Prerequisite: MTH 009 or proficiency on placement test. Available only in the Mathematics Laboratory. The Metric System is presented as a better way to measure. Covers the commonly used metric units of measurement for length, area, volume, mass, and temperature.

MTH 012 Beginning Algebra 5 (0-5)

Prerequisite: MTH 009 or proficiency on placement test. An introductory course in algebra covering the real number system, linear equations, polynomials, factoring, fractions, radicals, systems of equations, graphing and applications.

MTH 013 Geometry 4 (0-4)

Prerequisite: MTH 012 or proficiency on placement test. Available only in the Mathematics Laboratory. A course in plane geometry with emphasis on points, lines, planes, space, angles, triangles, congruence, similarity, perpendiculars, parallels, polygons, areas and circles.

MTH 030 Trigonometry 2 (0-2)

Prerequisite: MTH 012 or proficiency in beginning algebra. Available only in the Mathematics Laboratory. An introductory course about the principles and techniques involved in solving mathematical problems which require the use of trigonometry. Applications of vectors needed for Physics 201 is included.

MTH 102 Intermediate Algebra 5 (0-5)

Prerequisite: MTH 012 or proficiency on placement test. An extension of Beginning Algebra with emphasis on functions, graphing, inequalities, polynomials, systems of equations, fractions, radicals, quadratic equations and applications.

Transfer Level Mathematics**MTH 164 College Algebra and Trig 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 Trig II 5 (5-0)

Prerequisite: 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 permutations and combinations, probability, the binomial theorem, vectors and matrices, linear programming and graph theory. Business applications are emphasized.

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 209 Introduction to the History of Mathematics 2 (2-0)

Prerequisite: MTH 164. The development of the science of number and form can be traced to the earliest days of the human race. Primitive origins of mathematics in the time period 3500 BC to 500 AD are covered briefly. Emphasis is placed upon the lives and contributions of mathematicians from Euclid (300 BC) to the present.

MTH 210 Introduction to the Real Number System 2 (2-0)

Prerequisite: MTH 164. The course begins by defining the real number system as "a complete ordered field" and proceeds by explaining the words "field," "ordered field," and finally, "complete ordered field." The field axioms and order axioms are considered in some detail, as is the axiom of completeness. Some cardinal number theory is considered.

MTH 211 Graphs and Mathematical Models 2 (2-0)

Prerequisite: MTH 164. Numerous "real-world" situations and problems are analyzed by constructing a representation (a so-called mathematical model) of the situation or problem by means of a graph or digraph. These graph-theoretic models are used to analyze basic problem areas including: transportation problems, communication and critical path problems, party problems and coloring-planarity problems.

MTH 213 Analytic Geometry and Calculus I 5 (5-0)

Prerequisite: MTH 165 or four years of high school math including two years of algebra, plus trigonometry and geometry or placement test. Topics include the meaning of the derivative, formulas for differentiation, implicit differentiation, continuity, curve sketching, applied maximum-minimum problems, mean value theorem, Newton's method, conic sections, introduction of integration, differentiation and integration of sine and cosine functions.

MTH 214 Analytic Geometry and Calculus II 5 (5-0)

Prerequisite: MTH 213. Topics include the Fundamental Theorem of Calculus, applications of integration, techniques of integration and integration and differentiation of transcendental functions.

MTH 215 Analytic Geometry and Calculus III 5(5-0)

Prerequisite: MTH 214. Topics include a study of polar coordinates, vectors, functions of two or more variables and their graphs, directional derivatives, partial differentiation, exact differentials, double and triple integration with applications, and line integrals.

MTH 216 Analytic Geometry and Calculus IV 5(5-0)

Prerequisite: MTH 215. Topics include sequences and infinite series, tests for convergence, Taylor series, standard solution techniques for ordinary differential equations and applications of differential equations.

MTH 223 Computer Applications of Calculus I 1(1-0)

Prerequisite: MTH 213 taken previously or concurrently. An applications course which utilizes the BASIC programming language to formulate and solve problems related to topics studied in MTH 213, Calculus I.

MTH 224 Computer Applications of Calculus II 1 (1-0)

Prerequisite: MTH 214 taken previously or concurrently. A continuation of MTH 223 using the BASIC programming language to formulate and solve problems related to topics studied in MTH 214, Calculus II.

MTH 234 Theory of Matrices 5 (5-0)

Prerequisite: MTH 215. Topics include systems of linear equations, matrices, determinants, vector spaces, linear transformations, eigenvalues, eigenvectors and quadratic forms.

MTH 236, 237, 238, 239, 240 Honors Seminars in Mathematics 2 (2-0)

Prerequisite: Department approval. The student will maintain an individualized program in problem solving at a level higher than usually encountered in an introductory course. Such work may be done in conjunction with MTH 165, 213, 214, 215, or 216. For example, the student who demonstrates excellence in MTH 164 may take MTH 236 concurrently with MTH 165, and so forth. Meetings with instructors are arranged.

Statistics**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 I 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. The course is especially designed for students in curricula such as business or economics which require more than one term of statistics.

MTH 206 Statistics II 5 (5-0)

Prerequisite: MTH 205. A continuation of MTH 205. Topics include hypothesis testing, Chi-Square testing, analysis of variance, Bayesian decision making, regression and correlation.

Computer Science (CPS)**CPS 130 Computers in Society 4 (3-1)**

A non-technical introduction to the use and impact of computers in contemporary society. Designed for liberal arts students, core topics include historical development of computers, description of modern computers and a brief introduction to the programming language BASIC along with "hands-on" programming experience. Social and economic implications of the role of computers, large data banks and related questions of privacy and security, modeling and computer simulation and recent advances in computer technology are also considered.

CPS 250 Advanced Algorithms in FORTRAN 4 (4-0)

Prerequisite: DP 120 or DP 110 or CPS 150 and MTH 164. Techniques of top-down design and structured programming are applied in the implementation of various fundamental numeric and non-numeric algorithms using FORTRAN. Concepts of number systems, data structures, representation and storage of data are also studied. Of special interest to students in engineering, computer science, mathematics, and the natural and biological sciences.

CPS 255 Algorithms and PASCAL I 4 (4-0)

Prerequisite: MTH 213 or equivalent. Techniques of top-down design and structured programming are applied in the design of algorithms and their implementation in PASCAL. This course is designed to establish an understanding of fundamental computational procedures which form a basis for continuing study in further courses in computer science. Topics include numeric and character data, data types, arrays, procedures and decision structures.

CPS 256 Algorithms and PASCAL II 4 (4-0)

Prerequisite: CPS 255. A continuation of CPS 255. Topics include numeric computation, string processing, internal representation and storage of data, data structures, problem solving techniques and programming style.

CPS 260 Introduction to Discrete Structures 4 (4-0)

Prerequisite: MTH 213 and familiarity with FORTRAN or PASCAL. Applied mathematical concepts which are required to understand such computer functions as numerical computation, symbol manipulation, and information retrieval are studied. Topics include computer representation of sets and set operations, relations, matrix representation of graphs and digraphs, minimization of computer memory used for storage of matrices, Gorn trees and address structures, networks, simple concepts of Algol-like languages, Boolean algebra and its application to computer arithmetic, and an introduction to symbolic logic.

CPS 265 Assembly Language and Computer Organization (DEC/VAX) 5 (5-0)

Prerequisite: CPS 250 or CPS 255 and MTH 213. An introduction for computer science majors to machine structure, registers, and operations, as implemented on DEC/VAX mini-computers. 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.

*See Science Department listings for additional computer science courses.

Seminar Courses

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.

DEPARTMENT OF SCIENCE

Chairperson: Dr. David L. Shull

The Department of Science offers courses under the following course codes:

ANT:	Anatomy
AST:	Astronomy
BIO:	Biology
CEM:	Chemistry
CPS:	Computer Science
GE:	Geology
MET:	Meteorology
MIC:	Microbiology
NS:	Natural Science
OCN:	Oceanography
PGY:	Physiology
PHY:	Physics
SC:	Science Seminars

The Science Department offers courses in a variety of disciplines, including Biology, Physics, Chemistry, and Earth Sciences. Among the innovative educational methods employed for several courses are the Audio-Visual-Tutorial System, computer-assisted instruction, and self-pacing.

The instructional program of the Science Department is designed to serve three basic purposes. These are (1) to provide a full range of courses that fulfill general education science requirements for an Associate Degree, (2) to develop and offer specialized courses in support of programs offered by other departments within the College, and (3) 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

BIOLOGY (BIO) MICROBIOLOGY (MIC)

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.

BIO 101 Biology 4 (3-2)

A course in selected biological, physical and chemical concepts which are foundations to the understanding of human physiology. Cell structure and function, cell chemistry (including chemical bonds, electrolytes, pH, carbohydrates, lipids, proteins, nucleic acids, and chemical energy transformations), diffusion, osmosis, dialysis filtration, mitosis, meiosis and genetics are included. This course is especially designed as a prerequisite for certain Human Anatomy and Physiology courses and is a requirement for students enrolled in many health career programs.

BIO 107 Cellular Biology 4 (3-3)

Deals with the nature of science and its processes, cell structure and cell processes. It includes cell division and heredity. Forms and functions of cells are related in the study of tissues. Applications of statistics and probability to genetics and the theory of evolution are also considered.

BIO 108 Life Processes 4 (3-3)

A molecular approach to life functions. The course opens with an introduction to chemistry sufficient to understand its biological applications that follow. The structure and functions of body systems such as digestive, nervous, circulatory, excretory, respiratory, and reproductive are studied. Processes such as photosynthesis, respiration, and hormonal control are included.

BIO 109 Principles of Ecology 4 (3-3)

This course is oriented to field investigations and laboratory study of organisms and their relation to natural environment. Taxonomy is studied where it is relevant to ecology.

BIO 140 Evolution 4 (3-3)

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.

BIO 201 Zoology I 4 (2-4)

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 (2-4)

Prerequisite: BIO 201 or department approval. Continuation of Biology 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 resources and the principles of utilization through management and conservation. Topics include history of conservation, ecology, soils, water, forests, wetlands, wildlife, and the human impact on the renewable resources of the earth. The laboratory consists of field investigations and guidance for natural resource majors or others according to specific interest or declared vocations.

BIO 211 Foundations of Biological Science 4 (2-4)

Prerequisite: NS 123 or equivalent college biology course. Foundations of Physical Science is 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 the students directly with natural phenomena, their relationships and application of principles studied. Methodology of biological science teaching is included.

BIO 250 General Entomology 4 (3-3)

Prerequisite: One term of general biology recommended. An introduction to the study of insects that emphasizes their classification, evolution, life cycles, behavior, and their external and internal structures and function. 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 recognition, observation, and collection of major insect groups found in Michigan.

BIO 260 Botany (Plant Morphology) 4 (2-4)

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 261 Plant Physiology 4 (3-3)

An introductory course dealing with the functional aspects of plant structures and with plant processes and their mechanisms. Includes photosynthesis, respiration, hormonal regulation, functional relation to physical environmental factors, and the processes of flowering and seed germination. In the laboratory, students employ such techniques as chromatography, radiography, manometry, electrophoresis and various forms of assays.

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 Heredity 4 (4-0)

Prerequisite: NS 123 or one term of biology. An introduction to principles of heredity with emphasis on the human, including discussions of inheritance of physiological and psychological traits as well as the hereditary implications of evolution. Topics include mitosis, meiosis, mechanisms of chromosome movement, aberrations in chromosome number, structure, and their significance. Human genetics as it relates to social and medical problems is discussed.

BIO 271 Genetics Laboratory 1 (0-2)

Prerequisite: BIO 270 or concurrent. The course includes human and animal genetics exercises. Topics include blood testing, breeding experiments, and cellular preparations.

BIO 272 Genetics 3 (3-0)

Prerequisite: BIO 270 and 271. The traditional concepts of genetics are examined through discussions of the principles of heredity in animals, plants, and microorganisms. A study of quantitative inheritance, linkage, chromosomal aberrations and recent developments in the field will also be included.

MIC 203 Microbiology 4 (2-4)

Prerequisite: BIO 101 or equivalent. An introductory study of the history of microbiology and of classification rickettsia, mycoplasmas, 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.

MIC 280 Histology 5 (2-6)

Prerequisite: BIO 207 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. Techniques of photomicrography, microtomy and staining of frozen and embedded tissues are included.

MIC 290 Principles of Embryology 3 (3-0)

Prerequisite: PGY 212 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.

MIC 291 Embryology Laboratory 2 (0-6)

Prerequisite: BIO 290 or concurrent. This course is the laboratory experience for BIO 290. It emphasizes observational experiences with live and preserved embryos and prepared slides of embryos, whole and sectioned. The student becomes familiar with developmental stages of chick and big embryos with some comparison made to human embryos.

Anatomy (ANT)**ANT 150 Anatomy and Physiology 5 (4-2)**

Prerequisite: BIO 101 or equivalent. A one-term introductory course in the structure and function of the human body. Skeletal, muscular, nervous, sensory, circulatory, respiratory, digestive, urinary, reproductive and endocrine systems are included. This course is designed for students in the Dental Hygiene curriculum.

ANT 151 Anatomy and Physiology I 4 (3-2)

Emphasizes the function of all systems in the human body. Study of the cell, tissues, skeletal system, muscular system, nervous system and special sense organs is included. The first of two-term sequence in Human Anatomy and Physiology, designed for students pursuing certain vocational programs, including medical secretaries, psychology majors, and other programs requiring a basic understanding of human systems.

ANT 152 Anatomy and Physiology II 4 (3-2)

Prerequisite: ANT 151. A continuation of Anatomy and Physiology I. 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 anatomies of the skeletal, muscular, nervous, sensory, circulatory, respiratory, digestive, excretory, endocrine and reproductive systems are studied.

Physiology (PGY)**PGY 212 Human Physiology 5 (5-0)**

Prerequisite: ANT 211 or BIO 101 or department approval. The physiology of the skeletal, 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.

Chemistry (CEM)**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 requiring 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 and selected characteristic preparations and reactions of the most common classes of organic compounds. 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 course designed to parallel the lecture course, CEM 112. Complements the student's grasp of organic principles through practical experiences which directly relate to the material presented in CEM 112. Students should enroll in this course only if they also enroll 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 recommended. This course is designed to provide an understanding of the chemistry of life processes. Emphasis is placed on enzymes, amino acids, nucleic acids, blood and urine chemistry, and includes physiological and pathological applications. Required for students pursuing nursing and several other Health Career programs.

CEM 171 General Chemistry Lecture I 4 (4-0)

Prerequisites: High school chemistry and algebra or departmental approval. 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, colloids, and the descriptive chemistry of the noble gases, Group IA and VIIA.

CEM 172 General Chemistry Lecture II 3 (3-0)

Prerequisites: CEM 171 or departmental approval. 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 Groups IIA, IVA, VA and VIA.

CEM 173 General Chemistry Lecture III 3 (3-0)

Prerequisites: CEM 172 or departmental approval. Students should enroll in CEM 183 concurrently. CEM 173 is the third lecture course in the 170 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 enrollment in CEM 171. CEM 181 is the first in a series of three general chemistry laboratory courses which is designed to accompany lecture courses CEM 171. 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 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 and chemical kinetics.

CEM 183 General Chemistry Laboratory III 2 (0-6)

Prerequisite: Credit or enrollment in CEM 173 and credit in CEM 182. CEM 183 is the third term general chemistry laboratory. It is a self-paced 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 5 (4-3)

Prerequisites: CEM 172 and CEM 182 or equivalent. CEM 241 is the first 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 and aromatic hydrocarbons with an emphasis on nomenclature, preparation, reactions, mechanisms and spectroscopy. Laboratory exercises are selected to give the student experience with the chemicals, techniques and equipment commonly employed in organic laboratories with particular attention given to compounds studied in the lecture.

CEM 242 Principles of Organic Chemistry II 5 (4-3)

Prerequisite: Satisfactory completion of CEM 241. CEM 242 is a continuation of Chemistry 241. Topics include carboxylic acids and their derivatives, carbonyl compounds, lipids, amines, carbohydrates, amino acids and proteins. Nomenclature, preparations and reactions are stressed with increased 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 enzymes, nucleic acids, high-energy compounds and carbohydrate and lipid metabolism.

CEM 251 Organic Chemistry I 5 (3-6)

Prerequisites: CEM 172 and CEM 182 or equivalent. CEM 251 is the first course of a three-term sequence in Organic Chemistry designed primarily for chemistry majors and for those students wishing a rigorous treatment of the subject. The topics parallel those covered in CEM 241, but with greater emphasis on reaction mechanisms, theory, and problem solving. Laboratory exercises are selected to give the student experience with the chemicals, techniques and equipment commonly employed in organic laboratories with particular attention given to compounds studied in the lecture.

CEM 252 Organic Chemistry II 5 (3-6)

Prerequisite: Satisfactory completion of CEM 251. Continuation of CEM 251. Topics parallel those covered in CEM 242 but in greater detail, particularly with regard to mechanisms, theory, problem solving and applications of spectroscopy. Organic qualitative analysis is emphasized in the laboratory.

CEM 253 Organic Chemistry III 5 (3-6)

Prerequisite: Satisfactory completion of CEM 252. Continuation of CEM 252. Topics parallel those covered in CEM 243 but in greater detail in the areas of molecular rearrangements and the chemistry of polyfunctional organic compounds. The laboratory introduces the student to the use of the chemical literature.

Astronomy (AST)**AST 201 Introduction to Astronomy 4 (4-1)**

A non-mathematical survey of astronomy with emphasis on recent discoveries. Topics include the solar system, stellar evolution, quasars, black holes, cosmology, and the expanding universe. Laboratory work includes astronomical topics.

Meteorology (MET)**MET 112 Basic Meteorology 2 (2-0)**

This lecture course provides a basic background in the principles and terminology of meteorology. Includes weather phenomena, instrumentation, weather maps, and simple weather prediction. Science majors should select MET 212.

MET 212 Introduction to Meteorology 4 (2-4)

Prerequisite: NS 121. Introductory study and observations of the atmosphere designed to acquaint the student with the elements of weather, their interrelationships, meteorological instruments and weather maps. General and specific weather phenomena and the climatology of the United States will be considered.

Geology (GE)**GE 201, 202, 203 Geology Field Studies One to Three credits**

Field studies in geology for students concurrently enrolled in one of the traditional geology courses for which extensive outdoor field work is essential. Students should consult the class schedule before enrolling in a field study course. Prerequisites: Concurrent enrollment in GE 221, 222, 223, or 224; or previous completion of an equivalent course.

GE 221 Geology I 4 (3-3)

Minerals and rocks of the earth's crust; constructive and destructive forces, including volcanism, erosion by water, ice, gravity, wind and waves; mountain building; rock deformation; concepts of the earth's structure, origin and

age; history of geology and geologic history. Laboratory consists of either field investigations to nearby areas and a one-weekend extended field trip, or on-campus laboratory activities.

GE 222 Geology II 4 (3-3)

Applies the principles of physical geology to the study of the historical development of the earth from its inception to present time. Topics included are uniformitarianism, fossils and their interpretation, chemical evolution, environments of deposition of rock units, and geologic time. The course includes a laboratory and an extended weekend field investigation.

GE 223 Geology III 4 (3-3)

Traces the historical development of the earth with special emphasis on the North American continent. Topics include the Precambrian, Paleozoic, Mesozoic, and Cenozoic Eras; geologic maps and their interpretation; geotectonics; fossil fuels and mineral resources.

GE 224 Michigan Geology 4 (3-3)

A general survey of the geology of Michigan and its immediate environs. Discussion of the Canadian Shield areas of the northern peninsula along with the development and nature of the Michigan Basin and the Pleistocene Epoch. Emphasis is placed on economic, environmental and special interest aspects of Michigan geology.

Oceanology (OCN)**OCN 225 Basic Oceanology and Limnology 4 (3-2)**

An introduction to the physical and chemical properties of natural waters, wave action, currents, geological structure and formation of ocean and lake basins, marine and fresh water biology, and man's interactions with the natural waters. Two full-day field trips are usually included in the course: one to Lake Michigan and one to a small inland lake.

Natural Science (NS)

A three-course sequence in Natural Science designed to give the student a basic understanding of some of the important scientific principles related to the animate and inanimate world. The audio-visual-tutorial presentation employs a variety of media as an aid to understanding both the empirical and conceptual aspects of science. It will be a better experience for students if the courses are taken in numerical sequence.

NS 121 The Physical World 4 (2-4)

Introduces the fundamental laws, theories, and principles of chemistry and physics. Includes such topics as kinetic, atomic and molecular theory and problems of the physical environment. One year of high school algebra or MTH 012 is recommended.

NS 122 Rocks and Stars 4 (2-4)

Topics include an introduction to astronomy and the Solar System; minerals and rocks, geological processes, and environmental geology.

NS 123 Living World 4 (2-4)

Explores the biology of both external and internal environments. Topics include energy flow in ecosystems, ecological cycles, population growth and regulation, cell structure and function, cell division, and genetics. The lectures emphasize current biological topics such as encephalitis, toxic substances, cancer, and recombinant DNA.

Computer Science (CPS)***CPS 110 Introduction to BASIC for Arts & Sciences 3 (2-2)**

This is an introductory course in the use of ANSI standard BASIC, a computer language. The student will use terminals with a time-sharing mini-computer. Weekly program assignments will prepare students to use the computer in other college courses. Alternative program assignments are available to meet the needs and interests of a variety of Arts and Sciences Majors.

CPS 150 Interactive FORTRAN for Science and Engineering 3 (2-2)

Prerequisite: MTH 164 or equivalent concurrently. The primary emphasis of this course is in the application of FORTRAN programming to Science and Engineering. Students use an interactive computer system with individual terminals. Basic elements of the FORTRAN language are presented; the student interacts with the computer through the terminal. Of special interest to students of physical and biological sciences, mathematics, engineering, and computer science.

CPS 200 BASIC for Scientists and Engineers 3 (2-2)

Prerequisite: MTH 165 and programming experience. The primary emphasis of this course is to apply the language BASIC to engineering and scientific computation. The focus of the course is on applications in mathematics and science. Secondary objectives are to improve programming techniques and style, and to encourage the use of extensions of standard BASIC. Computer projects related to courses will be encouraged. Previous mathematics and programming experience is required. Calculus concepts will be used.

CPS 220 Introduction to Computer Graphics for Science and Engineering 4 (2-2)

Prerequisite: CPS 110 or equivalent. This course is designed to develop skills in the use of computer graphics, to provide knowledge of computer graphics systems, and emphasizes applications of computer graphics programming to Science and Engineering. Of special interest to students of physical and biological sciences, mathematics, engineering, and computer science.

Physics (PHY)**PHY 191 Physics for the Life Sciences 5 (5-0)**

Prerequisite: Intermediate algebra or department approval. A one-term course in general physics designed to fulfill the physics requirement for certain Life Science and Health Career programs such as Respiratory Therapy and X-Ray Technology. Topics include force, motion, and energy; conservation theorems, fluid pressure and flow; wave phenomena; atomic structure and radioactive decay. This course may not be taken in place of a full year of physics; nor satisfy any other general physics requirement unless prior approval is obtained.

PHY 201 Physics (Mechanics and Heat) 4 (4-2)

Prerequisite: Trigonometry or approval of department. 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 motion and equilibrium and their relation to work, energy, and power), as they are applied to solids and fluids. Also includes the principles of heat and thermodynamics and their relationship to the operation of engines.

PHY 202 Physics (Electricity, Magnetism and Wave Motion) 4 (4-2)

Prerequisite: PHY 201 or approval of department. Designed to explain the electrical nature of matter and to investigate its electrostatic and electromagnetic properties. Considers also the properties of waves and their application to sound. Engineering applications are emphasized.

PHY 203 Physics (Optics and Modern Physics) 4 (4-2)

Prerequisite: PHY 202 or approval of department. A course in modern physics designed to present such topics as optics, atomic structure, solid state and nuclear reactions.

PHY 209 Foundations of Physical Science 4 (4-2)

Prerequisite: NS 121 or equivalent. Primarily for students seeking an elementary education certificate. Surveys the theoretical as well as the practical aspects of physics, inorganic and organic chemistry. Methodology of teaching physical science will be included.

PHY 211 Physics (Mechanics and Heat) 4 (4-2)

Prerequisite: Calculus I or its equivalent, or approval of department. Designed to teach the static and dynamic behavior of solids and fluids, using calculus to derive relationships. The first of a series of three courses designed for science and engineering majors.

PHY 212 Physics (Electricity, Magnetism, and Sound) 4 (4-2)

Prerequisite: PHY 211, or approval of department. Designed to teach the basic principles of electricity and sound. Similar to PHY 202 but uses calculus extensively.

PHY 213 Physics (Optics and Modern Physics) 4 (4-0)

Prerequisite: PHY 212 or approval of department. Principles of geometric and physical optics as well as developments in modern physics such as: atomic and nuclear phenomena, relativity, solid state physics, and quantum physics phenomena.

Independent Study in Science (SC)

SC 297, 298, 299 Independent Study in Science One to Five credits

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. Prerequisite: arrangement with an instructor and approval by the Department Chairperson before registration.

Seminars in Science (SC) Variable credit

Seminars are developed from many areas within the disciplines of biology, geology, astronomy, anatomy, physiology, heredity, ecology, chemistry, physics and the other natural sciences. 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.

DEPARTMENT OF SOCIAL SCIENCE

Chairperson: Dr. William H. Heater

The Department of Social Science offers courses under the following course codes:

- SS: Social Science
- GEO: Geography
- PLS: Political Science
- PSY: Psychology
- SA: Sociology/Anthropology
- HUS: Human Services
- CA: Child Advocacy
- CD: Child Development
- ED: Education
- MRA: Mental Retardation Associate
- PS: Public Service
- 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, Social Science III; 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 of the following: SS 101, Social Science I; SS 102, Social Science II; or any Sociology, Anthropology, Psychology, Political Science, or Geography courses other than seminars. Also, up to four (4) credits of Social Science Seminar Series courses with Course Codes numbered over 200 may be selected.

COURSE DESCRIPTIONS

Basic Social Science (SS)

The three-term sequence of courses, Social Science I, II, and III 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.

SS 101 Introduction to Social Science I 4 (4-0)

Survey of major concepts and methods of sociology and anthropology. Emphasis is given to selective aspects of culture, socialization, social stratification, associations, primary groups, collective behavior, population-ecology, and cultural history.

SS 102 Introduction to Social Science II 4 (4-0)

Deals with the economic institutions in their social context. The genesis and development of capitalism are covered, as well as comparisons with other major economic systems. Last portion of the course deals with the principle issues in economic development.

SS 103 Introduction to Social Science III 4 (4-0)

Deals with political behavior and institutions in their social context. Comparative approach is used to provide an understanding of modern political systems. Problems of democracy are examined from several perspectives with special attention given to the implications of political sociology.

SS 104 American Government 4 (4-0)

An analysis of the American political system. Emphasizes federal and state systems, with special attention given to American democracy from local to national levels.

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 Introduction to Social Science II 4 (4-0)

Prerequisite: Invitation only. Same as SS 102; taught on an advanced level in a seminar. Outstanding students will be enrolled by invitation only; they will be notified of their eligibility before registration.

SS 113 Honors Section of Introduction to Social Science III 4 (4-0)

Prerequisite: Invitation only. Same as SS 103 but taught on an advanced level in a seminar. Outstanding students will be enrolled by invitation only; they will be notified of their eligibility before registration.

Geography (GEO)

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, Central America, and the Panama Canal Zone. Focus on distinct characteristics of the various regions.

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.

Political Science (PLS)**PLS 150 American Political Parties and Elections 3 (3-0)**

Deals with the origins, structure 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 action.

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. 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.

Psychology (PSY)**PSY 151 Business Psychology 3 (3-0)**

Will apply principles of psychology to the work environment and those aspects of daily living which influence work. The major emphasis (35% of the course) will be in developing knowledge and behavioral skills required in the process of being interviewed for a job and communicating effectively while at work. Other topics include: needs, attitude change, problem solving, learning, assertive behavior, and working in groups.

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 (3-2)

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. Experiments conducted by students in a laboratory.

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)

Prerequisite: PSY 200 or SS 101. 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 achievement 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.

Sociology/Anthropology (SA)**SA 179 Introduction to Japan 4 (4-0)**

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 a practical introduction to the Japanese language, and guidance in relating to Japanese customs.

SA 200 Principles of Sociology 4 (4-0)

Prerequisite: SS 101 or approval. 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. 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 form 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.

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.

Human Services (HUS)

The Human Services Program is a two-year curriculum which provides skills needed for certain human service career 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.

HUS 101 Introduction to Human Services 4 (4-0)

An overview for the basic programs and social institutions which provide human services. The student will be exposed to both a philosophical as well as practical view of the goals, structure and policies of specific human services institutions and programs in our own community. Focus will be on the sub-specialty areas where human service workers are needed as well as on identifying a variety of curriculum choices for the Associate of Arts Degree.

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 an 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, socio-economic, cultural, and psychological factors related to domestic violence.

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 203 Skills and Methods of Human Services 4 (4-0)

Prerequisites: SS 101 or HUS 101. A course in basic social work methods and generic problem-solving skills used by human service workers in a variety of settings: community service agencies, crisis centers, and residential rehabilitation programs.

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)

Prerequisites: 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, para-professional 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 community-based social agencies and institutions twelve hours per week. Accompanying classroom seminar (HUS 217) serves to integrate field experience with theoretical concepts and principles of human service.

HUS 215 Practicum II 3 (0-12)

Prerequisite: HUS 214. A continuation of HUS 214. Accompanying classroom seminar, HUS 218.

HUS 216 Practicum III 3 (0-12)

Prerequisite: HUS 215. A continuation of HUS 215. Accompanying classroom seminar, HUS 219.

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 Services Delivery Skills 2 (2-0)

Prerequisite: HUS 215 concurrently. The course is designed to help the human services student to identify the systems and resources to link the systems with the people and 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 how to apply for the state certification.

Child Advocacy (CA)

CA 101 Introduction to Child Advocacy 4 (4-0)

Historical look at childhood, discussion of children's rights, both legal and philosophical, philosophy and definition of child advocacy, a look at legislation affecting children, and an overview of advocacy skill and programs.

Child Development (CD)

CD 101 Infants and Toddlers, 0 - 2½ Years 2 (2-0)

Deals with the physiological and physical growth patterns, nutritional requirements, emotional, social, and cognitive skills of children, 0 - 2½ 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 4 (2-8)

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 care-giving 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.

CD 121 The Preschool Child, 2½ - 6 Years 4 (4-0)

Physiological and physical growth patterns, nutritional requirements, and emotional, social and cognitive skills of children, 2½ - 6 years. This would include: 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 2 (2-0)

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)

Prerequisite: 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)

Prerequisite: 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)

ED 101 Curriculum Reinforcement I 3 (3-0)

Role orientation of the teacher aide as a significant person in the reinforcement of the school curriculum. Includes introduction to audio-visual materials, school records, safety, discipline, permissible first aid, and techniques of assisting teachers through dramatic play and story telling.

ED 102 Curriculum Reinforcement II 4 (4-0)

Prerequisite: ED 101. Methods of assisting an elementary teacher in math, reading, evaluation, home visits, parent-teacher conferences, art techniques, and classroom songs and games.

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. Students are offered an opportunity to assist teachers in the schools.

Mental Retardation Associate (MRA)

MRA 101 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 development; definition, causes and treatment; psychosocial development; current service delivery systems; and the role of the Mental Retardation Associate.

MRA 205 Sexuality and the Mentally Retarded 3 (3-0)

Prerequisite: MRA 101. Introduction to the human growth and development of mentally retarded adults. Emphasis is given to developing skills in areas of assessing, planning and implementing social, and sex role training for MR adults.

MRA 211 Supportive Case Management with Families of the Mentally Retarded 3 (3-0)

Prerequisite: MRA 101. Explore theories, principles and practices of positive intervention with families of retarded persons. This course will deal with assessment, counseling techniques, and resource identification and utilization.

MRA 213 Economics of Group Home Management 3 (3-0)

Prerequisite: MRA 205. Course will permit the examination of several significant areas involved in the economics and management of a group home. Included will be nutritional dietary planning, home budgeting, minor home repair, emergency medical care, conflict management and developing a family atmosphere.

MRA 215 Alternative Residential Care 4 (4-0)

Prerequisite: MRA 101. Exploration of residential services available to mentally retarded children and adults. The course will include philosophy of care, behavioral management theories, needs assessment, short term foster care, community involvement and future trends in housing for the mentally retarded.

Public Service (PS)

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 para-professional and mid-management public employees will be emphasized.

Social Work (SW)

[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)

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)

A review and analysis of current models of treatment within programs. Includes review of inpatient, outpatient, Halfway Houses, and occupational programs.

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 LCC. The project must meet academic goals and must include enough supervised learning experiences to be commensurate with the amount of credit requested.

DIVISION OF BUSINESS

Norman Cloutier, Dean

The Division of Business seeks to facilitate growth of an individual as a productive member of a business organization and society. The education provided ranges from preparation in fundamentals to the acquisition of more advanced business skills. Career training, college transfer, and community service programs are offered.

The overall purposes of the Division are: 1) to provide students with career-oriented educational opportunities and 2) to assist the College service-area businesses, industries, educational institutions, labor, and government agencies in meeting their personnel development and training requirements. To achieve these purposes, the Division uses Advisory Committees, consisting of leaders in their fields, to develop an array of programs and courses for satisfaction of individual and group needs.

Single courses, combinations of selected courses, and Certificate or Associate Degree programs are available to prospective students. Courses offered by the Division are creditable towards the award of a certificate or a degree, either as a required course or an elective course, depending upon their relationship to the curriculum. Curricular guides for each program offered in the Division are available in the Counseling Offices and the Departmental Chairpersons' offices. These guides are sometimes modified by the departments to accommodate an individual student's background, goals, and abilities.

The Division of Business' program objectives are:

1. To career-oriented training to equip students with the knowledge and skills necessary to pursue further education or enhance their employment opportunities.
2. To provide opportunities for individuals to upgrade and update occupational and avocational skills.
3. To operate an educational system which uses and coordinates its activities with community resources and which is flexible enough to permit student re-entry.
4. To provide guidance and instruction needed to develop self-direction, expand occupational awareness, and encourage appropriate attitudes about the personal and social significance of work.

Education and training are available in the following occupational/career fields:

Accounting	Law Enforcement
Accounting/Data Processing	Legal Assistant
Administrative Assistant	Legal Secretary
Banking	Management
Computer	Marketing and Sales
Information Systems	Medical Secretary
Computer Operations	Medical
Computer Programming	Transcriptionist
Computer Systems Analyst	Property Assessment
Corrections	Real Estate
Court Reporting	Registered Chef
Credit Union Operations	Secretary
Data Entry	Security
Food Specialist	Small Business Management
General Clerical	Stenographer
Hotel-Motel Management	Transportation Management
Insurance	Travel Agency
Labor Relations/Personnel	Word Processing

Transfer Programs

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

An important function of the Business Division is service to local business, industry, labor and government. The Business Division provides a variety of community service courses and seminars designed to retrain individuals or to upgrade their skills. The Division stands ready to develop tailored courses or programs for specific requirements. Such courses or programs may consist of single or multiple sessions, depending upon need.

Cooperative Internship

Internship is an on-the-job work experience program carefully coordinated and integrated with individual conferences and departmental offerings. The student works part time in business or industry to gain actual experience in a chosen vocational field. With business, industry, government and labor serving as a laboratory staffed with highly competent supervisors cooperating with the College and its Coordinator, an individual curriculum may be developed for any type of position that students, business, government, or industry or labor request.

Placement for this training is made through the Internship Coordinator who makes special arrangements for each student based upon the student's interests and aptitudes. The student will receive course credit (three hours per term) and usually a wage for time spent at work. (Student may average fifteen or more work hours per week.)

Advantages of internship include the development of occupational competency at the skilled or semi-professional level leading to jobs which represent the most rapid growth area of employment in our economy. The combination of theory and actual practice has proven to increase motivation of students, and provides excellent training in human relations. Internship contributes to professional and personal development by providing a basis for decisions in choosing a career, by forcing a realization of personal responsibility for job well done, and by developing maturity. A broader and more meaningful appreciation of practical application of the student's total academic endeavors is also gained. The intern student earns both college credit and wages comparable with other workers in like positions.

To qualify for job placement, students must be able to secure departmental approval through the Coordinator and have completed the necessary basic courses for job entry. The areas of employment are wide and varied, offering challenging opportunities to those students with initiative, interest and skill.

Department of Accounting and Office Programs

Dr. Ronald K. Edwards, Chairperson

The Department of Accounting and Office Programs holds a basic belief in the individual student combined with the appropriate program and the concerned teacher. Its philosophy is deeply oriented in the conviction that the method of instruction should be a system that recognizes the total person's needs, abilities, and motivations. This philosophy is reflected in the Department's policy of maintaining small class sizes for traditional techniques, each of which provides the opportunity for maximum student-teacher contact in the learning situation.

The specific objectives of the Accounting and Office Programs Department lie within this philosophy and reflect the objectives of the Business Division and Lansing Community College as a whole. They are:

- I. To maintain a personalized process of instruction that emphasizes learning and helps to develop integrity, loyalty, and dependability in the students' lives and in future job responsibilities.
- II. To keep subject matter current practical in relation to present business practices so that new learning can be applied to an actual job situation with a minimum of substitution or deviation from classroom activities.
- III. To use the expertise, facilities, and realism of wide variety of community resources in preparing students for the various levels and types of careers in business.
- IV. To provide academic advising to all students, and to assure students the guidance and counseling necessary to develop a self-awareness and self-direction in order to expand occupational aspirations and acquire appropriate attitudes about the personal and social significance of work.
- V. To assure students of services for placing them in the next stage of development whether it be employment or further education. To provide appropriate courses of immediate value for persons re-entering the educational system from the world of work.

General curricular guides for each program offered by the Department are available in the counseling offices and the Departmental Chairperson's office; however, guides are frequently modified by the Department to accommodate an individual student's background, goals, and abilities. The student is encouraged to discuss unique situations with an academic advisor within the Department of Accounting and Office Programs.

Audio-Visual-Tutorial Instruction

The Department of Accounting and Office Programs has developed a system of instruction which provides the opportunity for learning on an individual basis with continuous 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 system, called Audio-Visual-Tutorial, was designed to replace the traditional classroom situation by programming instruction and demonstrations on audio-visual media such as films, slides, and tapes. These individual learning units are made available to students in careers, 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)."

Accounting

Certificate Program

Curriculum Code: 405 Minimum 45 credits

The Accounting Certificate curriculum is designed for students desiring to rapidly acquire those skills for entrance into paraprofessional levels of accounting employment such as account clerks, cashiers, and bookkeepers.

Associate Degree

Curriculum Code: 410 Minimum 90 credits

The two-year 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 will help the student develop habits of critical, 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 the many levels of accounting positions.

Pre-Accounting

Curriculum Code: 412 Minimum 90 credits

The Pre-Accounting curriculum is designed for students preparing to transfer to four-year institutions. Since the requirements vary for different institutions, students should check with the Department for specific course requirements.

Accounting/Data Processing

Curriculum Code: 411 Minimum 105 credits

The Accounting/Data Processing curriculum offers in an Associate Degree program the opportunity to have two full majors - accounting and 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.

Court and Conference Reporting

Associate Degree Program

Curriculum Code: 415 Minimum 90 credits

The two-year Court and Conference Reporting curriculum, which includes the summer between the two regular school years, is an Associate Degree Program to prepare students for the many interesting positions open to shorthand reporters. Some of the occupations for which graduates may qualify are court reporters, conference reporters, hearing reporters, legislative reporters and general free-lance reporters. The program teaches machine shorthand and helps develop the skill necessary for verbatim reporting. In addition, it teaches the legal, medical, and other technical vocabularies and essential information for success on the job. Program begins each fall and spring term.

Insurance - Chartered Life Underwriter

The Chartered Life Underwriter (C.L.U.) courses are conducted under the sponsorship of the Central Michigan Chapter of Chartered Life Underwriters, and the American College of Life Underwriters. Upon completion of the courses, the agent/student is eligible to take the comprehensive C.L.U. examination. When the examination is successfully completed, a Certificate is awarded with the professional designation of Chartered Life Underwriter.

Associate Degree in Business General

Curriculum Code: 401 Minimum 90 credits

While we encourage students to choose a particular major, we realize that some students have not yet made a choice and therefore need an opportunity to sample different areas of business. The General Degree program offers a two-year Associate Degree with courses selected from accounting, business law, economics, office occupations, management, marketing, and labor relations, as well as courses in the liberal arts.

Credit Union Management

In cooperation with the Michigan Credit Union League, Lansing Community College is offering courses leading to the Credit Union Certificate and the Certified Credit Union Executive designations.

General Clerical

Certificate Program

Curriculum Code: 420 Minimum 45 credits

The one-year General Clerical Program is designed for those students who wish to rapidly develop or increase the basic skills necessary for entrance jobs in the modern office. Further courses may be elected on a fulltime basis, or part-time during evenings, which will lead to the Associate Degree.

Administrative Assistant

Associate Degree Program

Curriculum Code: 425 Minimum 90 credits

The Administrative Assistant curriculum offers opportunities for those persons who wish responsible office positions in other than the stenographic areas. Successful graduates of the program are equipped to handle the functions in most offices with efficiency. The program provides for adequate skills to succeed in entry-level positions and adds the business understanding and management training necessary for advancement to supervisory positions. (Formerly Office Management Program)

Legal Assistant

Associate Degree Program

Curriculum Code: 442 Minimum 90 credits

A Legal Assistant is a paraprofessional who will work for a lawyer or law firm performing many duties from office management to preparing case materials for trial. The majority of the graduates will seek employment with legal firms. Opportunities will also be available in banks, real estate offices, welfare offices, credit and collection insurance companies, title insurance companies, abstract offices, and government agencies. The program provides needed background in legal procedures and also allows for ample elective choices to attain individual goals.

Legal Secretary

Associate Degree Program

Curriculum Code: 400 Minimum 90 credits

The Legal Secretary curriculum provides the student with the skills and knowledge necessary to manage the office of an attorney. It develops an understanding of the specialized vocabulary and terminology, in addition to providing the normal secretarial skills. Varied teaching techniques are used including the traditional classroom, one-to-one tutoring, and Audio-Visual courses.

Medical Secretary

Associate Degree Program

Curriculum Code: 445 Minimum 90 credits

The Medical Secretary curriculum 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, extended care facilities, or other health related institutions.

Medical Transcriptionist

Certificate Program

Curriculum Code: 423 Minimum 45 credits

This program combines medical terminology knowledge with typing skills and office procedures to prepare the student for a typist's position in a medical office, hospital, clinic, extended care facility, or other health related institution.

Secretarial Science

Associate Degree Program

Curriculum Code: 435 Minimum 90 credits

The two-year Secretarial Science 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 including the regular classroom, one-to-one tutoring sessions, and Audio-Visual-Tutorial courses.

Stenographic

Certificate Program

Curriculum Code: 430 Minimum 45 credits

This accelerated program for qualified students. It includes instruction and practice in all primary skills and abilities necessary for a wide variety of office occupations. A Certificate is awarded for satisfactory completion of the courses. Further study is possible, full or part-time, for earning an Associate Degree. Varied teaching techniques are used including the regular classroom, one-to-one tutoring sessions, and Audio-Visual-Tutorial courses.

Word Processing

Certificate Program

Curriculum Code: 419 Minimum 45 credits

Word Processing is a program developed to improve the efficiency and effectiveness of business communications. The one-year certificate program is designed for those individuals who wish to develop entry-level, employable skill levels in typewriting, machine transcription, and automated word processing equipment. The word processor produces letters, reports, and other typewritten documents from hard copy and dictation. Varied teaching techniques are used including classroom lecture, one-to-one tutoring sessions, and Audio-Visual-Tutorial courses.

Associate Degree Program

Curriculum Code: 418 Minimum 90 credits

The two-year Word Processing Program prepares the individual for the skills of the word processor in typewriting, machine transcription and advanced automated word processing equipment training. In addition, sufficient background in related areas of business allow the graduate to meet the needs of modern business and to accept the opportunities provided in this exciting field. Varied teaching techniques are used including classroom lecture, one-to-one tutoring sessions, and Audio-Visual-Tutorial courses.

Accounting (ACC)

Accounting & Office 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, and 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)

For general business students who do not plan to transfer to a four-year institution. Emphasis is on accounting terminology, and using accounting information for decision making. Topics covered include financial statement analysis, budgeting, and decision making.

ACC 140 Individual Income Tax 4 (4-0)

A basic course designed to give the skills and knowledge necessary to complete and file all returns required of individual taxpayers. Course covers the basic concepts and terminology required for working with the Federal, State, and Local tax regulations pertaining to individuals. Includes practical experience in filling out all common individual tax forms and schedules.

ACC 210 Principles of Accounting I (AVT) 4 (0-8)

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 and negotiable documents.

ACC 211 Principles of Accounting II (AVT) 4 (0-8)

Prerequisite: ACC 210. Continuation of Accounting 210. Includes payroll and tax accounting, controlling accounts and subsidiary ledgers, accounting systems and internal control, the voucher system, partnerships, corporations, and bonds.

ACC 212 Principles of Accounting III 4 (4-0)

Prerequisite: ACC 211. Continuation of Accounting 211, including analysis and comparison of financial statements, branch accounts, manufacturing companies, cost accounting, budgeting, and sources and application of funds.

ACC 220 Intermediate Accounting I 4 (4-0)

Prerequisite: ACC 212. Covers balance sheet; income and retained earnings statements; in-depth review of the accounting cycle and theory; cash and temporary investments; receivables; current liabilities, present value.

ACC 221 Intermediate Accounting II 4 (4-0)

Prerequisite: ACC 220. Covers inventories, operational assets, and stockholder's equity.

ACC 222 Intermediate Accounting III 4 (4-0)

Prerequisite: ACC 221. Continuation of ACC 221. A study of long-term liabilities, long-term investments, leases, pensions, sources and applications of funds, financial statement analysis.

ACC 230 Cost Accounting I 4 (4-0)

Prerequisite: ACC 212. Explains the cost accountant's role in the organization. Stresses the objectives of planning and controlling routine operations, decision making, inventory valuation, and income determination. Topics 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.

ACC 231 Cost Accounting II 4 (4-0)

Prerequisite: ACC 230. Emphasizes long-range planning, goal setting, and non-routine decision making. Topics include 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.

ACC 240 Federal Taxes I 4 (4-0)

Prerequisite: ACC 212. Shows all aspects of Federal Income Taxes pertaining to individuals. Includes gross income, adjustments from gross income, and itemized deductions. Also, includes basis of assets, capital gains and losses, and various special topics.

ACC 241 Federal Taxes II 4 (4-0)

Prerequisite: ACC 240. An in-depth study of Federal tax laws relating to business and professional organizations. Special topics include partnerships, subchapter S corporations, and estates and trusts.

ACC 250 Advanced Accounting 4 (4-0)

Prerequisite: ACC 222. Areas of emphasis include partnerships, governmental accounting, business combinations as a "pooling of interests" vs. a purchase, and preparation of consolidated statements.

ACC 251 Accounting Seminar 1 (1-0)

8-14 classroom hours on special topics of current interest offered by the department.

ACC 252 Accounting Seminar 1 (2-0)

15-24 classroom hours on special topics of current interest offered by the department.

ACC 253 Accounting Seminar 3 (3-0)

25-34 classroom hours on special topics of current interest offered by the department.

ACC 266 Special Projects/Accounting 1 (1-0)

Prerequisite: Departmental approval. Special projects in accounting requiring 20 to 30 hours of study which is not available through regular courses.

ACC 267 Special Projects/Accounting 2 (2-0)

Prerequisite: Department approval. Special projects in accounting requiring 40-50 hours of study which is not available through regular courses.

ACC 268 Special Projects/Accounting 3 (3-0)

Prerequisite: Department approval. Special projects in accounting requiring 60 or more hours of study which is not available through regular courses.

ACC 271 Principles of Finance 4 (4-0)

Prerequisite: ACC 212. This course emphasizes the short- and long-term decisions a financial manager would face. Topics include 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 275 Financial Decision Simulation Game 4 (4-0)

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 280 Governmental Accounting 4 (4-0)

Prerequisite: ACC 212 or Department approval. 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 covered.

ACC 281 Governmental Budgeting and Institutional Accounting 4 (4-0)

Prerequisite: ACC 212 or Department approval. A continuation of Governmental Accounting offering 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 Department approval. Specific topics covered 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 each year. These courses are designed to prepare candidates for the Michigan Certified Public Accounting Exam. Past candidates who participated in the LCC review courses have had a passing percentage significantly higher than that for 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)****Business (BUS)**

Accounting & Office Programs
Division of Business

BUS 100 Typewriting I (AVT) 3 (0-6)

Mastery of the keyboard, and building speed and accuracy on straight copy. Personal letters, business letters, postcards, themes, and envelopes. Performance levels 25-35 w.p.m.

BUS 101 Typewriting II (AVT) 3 (0-6)

Prerequisite: BUS 100 or equivalent. Improving speed, accuracy and machine operation. Tabulation, manuscripts, footnotes, business letters, and special communication forms. Performance levels 40-50 w.p.m.

BUS 102 Typewriting III (AVT) 3 (0-6)

Prerequisite: Department approval or BUS 101. Improve judgment, skill and accuracy on straight copy and tabulated reports, business forms, programs, speeches, financial statements, job applications, special business letter forms, and new releases. Performance levels 55-65 w.p.m. Electronic typewriter introduced.

BUS 103 Typewriting IV (AVT) 3 (0-6)

Prerequisite: Department approval or BUS 102. Increase speed, skill and accuracy: governmental, medical, and technical reports; accounting reports and forms, and legal documents. Performance levels 65-75 w.p.m. Electronic typewriter introduced.

BUS 104 Beginning Shorthand I 4 (4-0)

Principles of Gregg shorthand. Basic business vocabulary, with emphasis on theory and brief forms. Dictation speed performance levels, 60-80 words a minute (one-minute test) by the end of the term for satisfactory completion.

BUS 105 Intermediate Shorthand II 4 (4-0)

Prerequisite: Department approval or BUS 104. Develops speed and accuracy reading from plates and individual notes with emphasis on dictation skills. Dictation speed performance levels 70-90 words a minute (two-minute test) required for satisfactory completion.

BUS 106 Advanced Shorthand III 4 (4-0)

Prerequisite: Department approval or BUS 105. Emphasis on higher speed in business dictation. Dictation speed performance levels 80-100 words a minute (three-minute test).

BUS 107 Business Machines I (AVT) 1, 2, or 3

Prerequisite: BUS 117. 10-key adding machine, printing calculator, and/or the electronic display and electronic printing calculator; operations of addition, subtraction, multiplication, and division, plus business-type problems dealing in percentages, interest, etc. Amount of credit dependent upon the number of machines the student learns to operate.

BUS 110 Word Processing I 3 (3-0)

Survey of principles, purposes and terminology; equipment categories, implementation procedures, and investigation of career paths in word processing. A concept course—no "hands-on" experience provided.

BUS 111 Word Processing II 4 (2-4)

Prerequisite: BUS 101 AND WRI 102. Transcription practice for production of mailable transcripts using a transcribing machine, while developing proficiency in spelling, punctuation, grammar, and business vocabulary.

BUS 112 Word Processing III 4 (1-6)

Prerequisite: BUS 111. Operation of automatic magnetic card typewriters, and memory typewriters.

BUS 113 Word Processing IV 3 (1-6)

Prerequisite: BUS 111. Operation of text-editing equipment in producing all types of business documents.

BUS 114 Speedwriting I 4 (4-0)

ABC shorthand system for taking notes or dictation. Writing principles and basic vocabulary.

BUS 115 Speedwriting II 4 (4-0)

Develops speed and accuracy in reading and writing individual notes, through timed dictation and transcription.

BUS 117 Business Mathematics 4 (4-0)

Develops skill and accuracy in mathematics: decimals, fractions, aliquot parts, percentages, discounts, inventory, payroll, and interest. An audio-visual-tutorial laboratory class is available to schedule instruction at convenient times on a one-to-one basis.

BUS 119 Office Methods 3 (3-0)

Prerequisite: BUS 101. Clerical office procedures and responsibilities, and the study and evaluation of effective personality traits.

BUS 120 Keyboarding 2 (2-0)

Developing basic keyboarding skill for micro-computer or computer operators to input and retrieve information.

BUS 150 Personal Money Management 3 (3-0)

Basic financial information to help develop and achieve individual financial goals.

BUS 153 Shorthand Refresher 2 (2-0)

Prerequisite: Gregg shorthand, 60 w.p.m. Reintroduces theory, brief forms, word phrases and basic business vocabulary. Refines and increases existing skill, with emphasis on producing accurate transcripts.

BUS 160 Refresher Typing 3 (3-0)

Prerequisite: Previous typing. Basic typing techniques reviewed: typewriter operation, memoranda, personal and business letters, letter styles, vertical and horizontal centering, tables, proofreading, and resumes.

BUS 175 Time Management in the Office (AVT) 1 (0-1)

Includes six modules: using time effectively; tools for managing your time; helping the executive use time effectively; analyzing your working habits; the Office Procedure Manual; and time management simulation.

BUS 185 Secretarial Career Renewal 6 (3-6)

Prerequisite: Previous secretarial experience. To renew and update secretarial skills and knowledge, offering the latest in office techniques. Provides highly concentrated activities in lecture and laboratory work in a period of only seven weeks. For secretaries planning to re-enter the job market after a number of years absence from the field.

BUS 199 Medical Vocabulary (AVT) 3 (0-4)

Spelling, definition, structure and concepts of medical terms from various fields of medicine.

BUS 200 Advanced Shorthand IV 4 (4-0)

Prerequisite: BUS 106. Development of speeds up to 120 w.p.m. and over. For students who can take dictation at 100 words a minute.

BUS 203 Secretarial Procedures and Administration 3 (3-0)

Prerequisite: BUS 103. 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; and handling financial statements, payroll and legal responsibilities.

BUS 204 Business Correspondence 3 (3-0)

Prerequisite: COM 035. Identifies simply written, easy to understand correspondence. Techniques for editing and writing business letters, and writing various types of letters such as requests, persuasion, sales, and refusal.

BUS 206 Legal Terminology/Transcription 3 (0-6)

Prerequisite: Previous typing. Basic legal terminology for general and specialized areas of law; defines legal terms and uses them in legal context.

BUS 207 Medical Terminology and Transcription 3 (1-4)

Prerequisite: BUS 199. Develops skill in defining, writing and transcribing words, phrases, and medical reports using a transcriber and self-correcting typewriter.

**BUS 208 Business Theory for Professional Secretaries 4 (14-0)
2 sections, 4 credits each**

Prerequisite: Employed secretary. Opportunity to prepare for the international CPS examination or improve knowledge and skills in Office Administration and Technology, Communication Applications, Behavioral Science in Business, and Economics and Management.

BUS 210 Administrative Development for Office Personnel 3 (3-0)

Administrative functions of the office: coordination and supervision; writing and editing reports; making speeches; attending meetings; and correspondence. Emphasis on the development of the leadership role for office personnel.

BUS 211 Word Processing Management 4 (4-0)

Prerequisite: Department approval or BUS 113. Managers' and supervisors' roles and responsibilities in word processing; "how-to" techniques in solving cases related to actual business situations.

BUS 215 Records Management I 3 (3-0)

Importance of records management; managing the creation, protection, storage, and disposition of business records; alphabetic indexing; the foundation of other storage methods; selection of proper equipment; and procedures for the operation and control of filing methods and systems.

BUS 216 Records Management II 3 (3-0)

Prerequisite: Department approval or BUS 215. Establishment, implementation, and maintenance of records control programs.

BUS 217 Micro-Records 2 (2-0)

Micro-forms: micro-film, roll film, aperture card, cartridge cassette, and micro-opaques. Benefits of micro-film, considerations for decision making in "should we micro-film?"; retrieval methods, and privacy laws.

BUS 220 Office Management I 3 (3-0)

Prerequisite: Sophomore status or department approval. Principles; office organization and layout; work flow; procedures; standards; personnel and supervision procedures; equipment; centralized services; and automation trends.

BUS 221 Office Management II 3 (3-0)

Prerequisite: Department approval or sophomore status. Automation and trends in the problem areas of social, economic organization, management, feasibility, and automated service centers.

BUS 222 Advanced Medical Transcription 3 (0-6)

Prerequisite: BUS 207. Develops skill in defining, writing, and transcribing words and phrases commonly used in medical language. Transcription of actual medical reports from hospitals.

BUS 231 Business Seminar 1 (1-0)

Classroom instruction on special topics of current interest. 8 - 14 hours.

BUS 232 Business Seminar 2 (2-0)

Classroom instruction on special topics of current interest. 20 - 24 hours.

BUS 233 Business Seminar 3 (3-0)

Classroom instruction on special topics of current interest. 30 - 34 hours.

BUS 240 Office Internship - Seminars 3 (3-0)

Prerequisite: Department approval. Successful completion of basic courses; Placement in an approved training station to earn credits for satisfactory work performance, and earn wages for hours of work. Occupational interests are considered with background or related classes to determine employment arrangements.

BUS 241 Office Internship - Seminars 3 (3-0)

Prerequisite: Department approval. Successful completion of basic courses; Placement in an approved training station to earn credits for satisfactory work performance, and earn wages for hours of work. Occupational interests are considered with background or related classes to determine employment arrangements.

BUS 242 Office Internship - Seminars 3 (3-0)

Prerequisite: Department approval. Successful completion of basic courses; Placement in an approved training station to earn credits for satisfactory work performance, and earn wages for hours of work. Occupational interests are considered with background or related classes to determine employment arrangements.

Court and Conference Reporting (CCR)

Accounting & Offices Programs
Division of Business

First Year CCR - Day Sequence**CCR 101 Machine Shorthand I 6 (8-0)**

Basic touch shorthand computer-compatible theory taught on a Stenograph machine, developing speeds up to 80 wpm.

CCR 102 Machine Shorthand II 6 (8-0)

Prerequisite: Department approval or CCR 101. Additional touch shorthand theory and speed building up to 100 w.p.m.

CCR 103 Machine Shorthand III 6 (8-0)

Prerequisite: Department approval or CCR 113. Intermediate speed building with skills up to 120 w.p.m. Introduction to jury charge and legal abbreviations.

CCR 104 Machine Shorthand IV 6 (8-0)

Prerequisite: Department approval or CCR 103. Advanced speed building up to 140 w.p.m. Medical terminology and dictation.

First Year CCR - Night Sequence**CCR 111 Machine Shorthand I - N 4 (4-0)**

Basic touch shorthand, computer-compatible theory taught on the stenograph machine, developing speeds up to 70 w.p.m.

CCR 112 Machine Shorthand II - N 4 (4-0)

Prerequisite: Department approval or CCR 111. Additional touch shorthand theory and speed building up to 90 w.p.m.

CCR 113 Machine Shorthand III - N 4 (4-0)

Prerequisite: Department approval or CCR 112. Touch shorthand theory and speed building up to 100 w.p.m.

CCR 114 Machine Shorthand IV - N 4 (4-0)

Prerequisite: Department approval or CCR 113. Intermediate speed building with skills up to 110 w.p.m. Introduction to jury charge and legal abbreviations.

CCR 115 Machine Shorthand V - N 4 (4-0)

Prerequisite: Department approval or CCR 114. Intermediate speed building with skills up to 130 w.p.m. Additional jury charge dictation.

CCR 116 Machine Shorthand VI - N 4 (4-0)

Prerequisite: Department approval or CCR 115. Advanced speed building up to 140 w.p.m. Medical terminology and dictation.

Second Year CCR Classes**CCR 211 Q & A I 4 (4-0)**

Prerequisite: Department approval or CCR 104 or CCR 116. Two-voice testimony dictation and speed building; 140 - 160 w.p.m.

CCR 212 Q & A II 4 (4-0)

Prerequisite: Department approval or CCR 211. Two-voice testimony dictation and speed building; 160 - 180 w.p.m.

CCR 213 Q & A III 4 (4-0)

Prerequisite: Department approval or CCR 212. Two-voice testimony dictation and speed building; 180 - 200 w.p.m. Introduction to four-voice testimony.

CCR 114 Q & A IV 4 (4-0)

Prerequisite: Department approval or CCR 213. Two-voice testimony dictation and speed building; Four-voice testimony. 210 - 230 w.p.m. Expert witness testimony dictation.

CCR 221 Jury Charge I 2 (2-0)

Prerequisite: Department approval or CCR 104 or CCR 116. Jury charge dictation and speed building; 130 - 140 w.p.m.

CCR 222 Jury Charge II 2 (2-0)

Prerequisite: Department approval or CCR 221. Jury charge dictation and speed building; 150 -160 w.p.m. Land descriptions, informations and statutes dictation.

CCR 223 Jury Charge III 2 (2-0)

Prerequisite: Department approval or CCR 222. Jury charge dictation and speed building; 170 -180 w.p.m. Argument dictation.

CCR 224 Jury Charge IV 2 (2-0)

Prerequisite: CCR 223. Jury charge dictation and speed building; 190 - 200 w.p.m. Legal opinion dictation.

CCR 231 Literary I 4 (4-0)

Prerequisite: Department approval or CCR 104 or CCR 116. Literary dictation and speed building; 110 - 130 w.p.m.

CCR 232 Literary II 4 (4-0)

Prerequisite: Department approval or CCR 231. Literary dictation and speed building. Specialized terminology dictation.

CCR 233 Literary III 4 (4-0)

Prerequisite: Department approval or CCR 232. Literary dictation and speed building; 130-150 w.p.m. Specialized terminology dictation.

CCR 234 Literary IV 4 (4-0)

Prerequisite: Department approval or CCR 233. Literary dictation and speed building; 160 -180 w.p.m. Specialized terminology dictation.

CCR 240 Court Internship 4 (4-0)

Prerequisite: Q & A speed: 180 w.p.m. Student will spend 20 hours per week recording courtroom trials, conferences, hearings, or depositions with an experienced shorthand reporter and transcribing notes into proper form.

Data Processing (DP)

Accounting & Office Programs
Division of Business

DP 101 Key Punch Training 3 (0-6)

Prerequisite: Previous typewriting: 40 w.p.m. Provides actual practice on the key-punch machine, using practical jobs, including the preparation of program cards and verification of the work on the 129 Data Card Recorder.

DP 103 Data Record Training III 2 (0-4)

Prerequisite: DP 101. Programmed instruction in the operation of the "3742 dual data station" via keyboard to diskette. Expands data entry experience; keyboard skills are improved.

Economics (EC)

Accounting & Office Programs
Division of Business

EC 101 Applied Economics 3 (3-0)

An introductory survey of business economics. Course work focuses attention on the major economic problems and issues within our American economy. Provides an overview and some tools of economic analysis to aid in logical interpretation. Major subject areas relate to an overall look at our economic system; government policy; prices and their application; money; income; and National Income Accounts.

EC 120 Consumer Economics 3 (3-0)

A comprehensive approach to spending inflationary dollars more wisely. Families or individuals, young or old, will be exposed to decision-making information designed to aid the consumer. Topics such as family or personal budgeting, consumer buying, food prices, credit options, investing, money management, and others will be reviewed.

EC 201 Principles of Economics I 4 (4-0)

To develop objective consideration of economic issues and the economic way of thinking, specifically, the knowledge and understanding of how resources are allocated by prices. Consists of 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: EC 201. Deals with the theory of national income, employment, and prices, and with government fiscal and monetary policies designed to influence aggregate economic activity. Also includes the relationship of the domestic economy to international economic activity.

EC 203 Economic/Business History 3 (3-0)

A survey of American economic and business history, change, and growth since the Civil War. Provides 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. Covers the nature of money and the role of the Federal Reserve, the commercial banks, and other financial institutions in determining the money supply. Considers the money market, the capital markets, and the determination of interest rates. Emphasizes the relationship between monetary policy and economic activity.

EC 224 Intermediate Microeconomic Theory 4 (4-0)

Prerequisite: EC 201. 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 way it was covered in EC 201.

EC 266 Special Projects/Economics 1 (1-0)

20 to 30 hours of study in special economics projects, available only with departmental approval.

EC 267 Special Projects/Economics 2 (0-2)

2 credits requiring 40 to 50 hours of study.

EC 268 Special Projects/Economics 3 (0-3)

3 credits requiring 60 or more hours of study.

Insurance (INS)

Accounting and Office Programs
Division of Business

INS 265 Principles of Risk and Insurance 4 (4-0)

This course presents the fundamental principles involved within the business environment for handling risk, with emphasis on those indicating insurance solutions. Covers property-casual, life, and accident and health insurance.

Chartered Life Underwriter (CLU)

Accounting & Office Programs
Division of Business

CLU 101 Individual Life and Health Insurance (Economic Security) 3 (3-0)

An introductory course in the C.L.U. program that investigates life insurance in depth. The several types of life insurance are discussed, including options. Health insurance, probability concepts and mortality tables, and the construction of policies for individuals are treated.

CLU 102 Life Insurance Law and Mathematics 3 (3-0)

The course explains the formation of a life insurance policy within the framework of laws governing contracts and agency. Policy provisions, operation, and contests are presented. Disposition and settlement options are included and government regulations and taxation of companies are discussed.

CLU 103 Group and Social Insurance 3 (3-0)

The nature and development of group insurance including coverage and master contract writing are the basis for the course. It includes health, disability, medical, and social insurance with the benefits and problems encountered with each.

CLU 104 Economics 3 (3-0)

A general overview of our economic system and the forces affecting it. The measurement of income, monetary policy, income determination, prices and problems of economic growth are a few of the topics covered.

CLU 105 Insurance Accounting/Finance 3 (3-0)

The importance and techniques of financial record-keeping and income measurement are presented in detail. Budgeting and methods of financing are covered.

CLU 106 Investments and Family Financial Management 3 (3-0)

Various types of investments are discussed as they relate to family financial planning. Stocks, securities, mutual funds and real estate are among the topics covered.

CLU 107 Income Taxation 3 (3-0)

The federal income tax system with particular reference to the taxation of life insurance and annuities. The income taxation of individuals, sole proprietorships, partnerships, corporations, trusts, and estates.

CLU 108 Pension Planning 3 (3-0)

The forces underlying the pension movement and basic features of plans are discussed. Included are tax considerations and various types of funds.

CLU 109 Business Insurance 3 (3-0)

The basic concepts of proprietorships, partnerships, and corporations are discussed with emphasis on the problems of a variety of corporate agreements and their relation to the insurance industry. Includes management techniques and professional ethics.

CLU 110 Estate Planning and Taxation 3 (3-0)

An introduction to Estate Planning including acquisition, administration, disposition and taxation of property. Federal estate, gift and capital gains taxes are discussed in depth.

Life Training Council (LUT)

Accounting & Office Programs
Division of Business

The Life Underwriters Training Council Program is a four-part pragmatic sales program for currently licensed agents. Applicants must have a company sponsor and have sold at least 50 contracts before enrolling. Besides text and workbook assignments, the student will make sales appointments correlating to the insurance contracts under study. Classroom time is devoted to discussion of these product lines and improving sales techniques based on the previous week's appointments.

LUT 101 LUTC Part I 3 (3-0)**LUT 102 LUTC Part I 3 (3-0)****LUT 103 LUTC Part I 3 (3-0)****LUT 201 LUTC Part II 3 (3-0)****LUT 202 LUTC Part II 3 (3-0)****LUT 203 LUTC Part II 3 (3-0)****LUT 213 LUTC Part III 3 (3-0)****LUT-214 LUTC Part V 3 (3-0)****Law (LAW)**

Accounting & Office Programs
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 to inform the public of its rights and responsibilities in relation to others. The class provides an overview of court decisions on contemporary social issues and discussions regarding the foundations for these decisions. A deeper insight may be gained into 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, and others which prove timely.

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 government. The course contents include 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, LAW 212, LAW 215, LAW 216. Research procedures and methods, including problem analysis. An in-depth treatment of the following Federal, National and/or Michigan research publications: Practice Manuals, Encyclopedias, Digests, Reporters, Statutes, Periodicals, Citators, Treatises, Court Rules, Administrative publications, and others. Research assignments using the above-mentioned publications. Constructing citations using the Michigan Uniform Systems of Citations. Some classes will be held at off-campus libraries.

LAW 121 Legal Writing 4 (4-0)

Prerequisite: LAW 115 and LAW 216. Lecture, class discussion, and writing assignments 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)

A 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 212 and LAW 216. 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 through drafting of Complaints, Answers, Motions for Accelerated Judgment, Motions for Summary Judgment, Interrogatories, Request for Admissions, Pre-Trial Statements, and others. Emphasis on the role of the Legal Assistant in preparing a case for trial. Includes witness preparation, discovery, and preparing exhibits.

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. Emphasis on the role of the legal assistant in preparing for trial and appeals.

LAW 212 Legal Field Specialties 4 (4-0)

Prerequisite: LAW 215 and BUS 101. An overview of specialty areas of law, including drafting of pleadings and related legal instruments. Includes real estate, divorce, 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 to society. Course contents include study of the nature and sources of law, study of courts and court procedure, legal reasoning, crimes, torts, contracts, personal and real property, and bailments.

LAW 216 Business Law II 4 (4-0)

Prerequisite: LAW 215. The nature and law of sales, commercial paper, security devices, agency, employment, partnerships, profit and non-profit corporations, insurance, and the 1972 Michigan Uniform Commercial Code.

LAW 221 Real Estate Transactions 4 (4-0)

Prerequisite: LAW 212. An in-depth treatment of real property and common types of real estate transactions and conveyances. Includes 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 212. Reviews practical problems in probating estates, including all procedures involved in the commencement of probate through closing of the estate. Includes independent probate, supervised administration, and small estates.

LAW 223 Domestic Relations 4 (4-0)

Prerequisite: LAW 212. Divorce, separate maintenance, annuities, paternity proceedings. Includes 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 212. The 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 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, National, and Michigan publications; drafting legal memoranda, opinion letters, and Appellate Brief. An intense, comprehensive course. Some classes will be held at off-campus libraries.

LAW 266 Special Projects/Law 1 (1-0)

A special course available only with departmental approval for special projects in law requiring 20 to 30 hours of study and which are not available through regular courses.

LAW 267 Special Projects/Law 2 (2-0)

Special projects in law which are not available through regular courses. 40 - 50 hours.

LAW 268 Special Projects/Law 3 (3-0)

Special projects in law which are not available through regular courses. 60 or more hours.

Department of Management and Marketing

James E. Person, Chairperson

The Management and Marketing Department, consistent with the goals of Lansing Community College, has a basic commitment to the following objectives:

- I. To provide to pre-professional and career-oriented students a personalized process of instruction as developed by learning-oriented faculty. This faculty will maintain constant evaluation and assessment of themselves and their methods to provide understanding and analysis of our system's response to student needs.
- II. To make all educational subject matter more meaningful and relevant to the individual by structuring and focusing it around a career development theme. The Department will strive to provide all persons completing its programs with the knowledge and skills necessary to pursue further education or enter the labor market with a marketable skill.
- III. To provide an educational system which utilizes and coordinates its activities with community resources being responsive to needs of business, industrial, and governmental community.
- IV. To provide or assure availability to all its students the guidance, counseling and instruction needed to develop self-direction; to expand occupational awareness and aspirations, and to develop appropriate attitudes about the personal and social significance of work.
- V. To perform articulation to assure students of services for placing every person in the next step in individual development whether it be employment or further education. The department will also provide a flexible educational system which provides for re-entry into the educational system from the world of work.

General curricular guides for each program offered by the Department are available in the Counseling offices and the Departmental Chairperson's office; however, these guides are frequently modified by the Department to accommodate an individual student's background, goals, and abilities. The student is encouraged to discuss unique situations with an academic advisor within the Management and Marketing Department.

Assessment Administration

Associate Degree Program
Curriculum Code: 490 Minimum 90 credits

Certificate Program
Curriculum Code: 491 Minimum 18 credits

Sponsored in cooperation with the Michigan Association of Equalization Directors. 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 results in a Certificate in Assessment Administration. 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:

- A. To increase the knowledge and ability of the student relative to property appraisal procedures.
- B. To provide for a more cooperative working relationship between appraisers in adjacent areas.
- C. To acquaint the student with the various sources of information available to appraisal personnel.
- D. To provide an effective and organized training vehicle for professional advancement of personnel in property valuation and assessment administration.
- E. To serve as a basis for certification of personnel in the appraisal field.
- F. To promote standardization of procedures, forms, reports, etc.

Banking Management

Associate Degree Program
Curriculum Code: 492 Minimum 90 credits

Certificate Program
Curriculum Code: 493 Minimum 45 credits

Certificate and Associate Degree Programs in Banking Management are under the sponsorship of the College and the American Institute of Banking (AIB). AIB members also may achieve the AIB Basic and Standard Certificate under the program. The local chapter of the AIB serves as the advisory committee for the program to assure continued relevancy for each course.

Management

Associate Degree Program
Curriculum Code: 470 Minimum 90 credits

Training for management in various fields, determined by needs of students or the community. Classic management duties of planning, organization and control are presented to meet the 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.

Certificate Program
Curriculum Code: 471 Minimum 45 credits

A one-year curriculum in Management is designed primarily for qualified students desiring positions of 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 area is recommended to guide the choice of electives toward the desired goal of the student. A Certificate is granted to those students successfully completing the curriculum.

Certificate in Advanced Management
Curriculum Code: 472 Minimum 45 credits

A Certificate in Advanced Management is designed especially for those who have a degree, or an employment background, who want an intensive program in up-to-date management courses of high level quality and content. Management advisors at the College will tailor a program for participants which takes into account relevant background and future goals. The Certificate in Advanced Management is recognized and accepted for transfer to a number of Michigan colleges and universities, as well as out-of-state institutions.

Cosmetology Management

Associate Degree Program
Curriculum Code: 470 Minimum 90 credits

An Associate Degree Program is offered to students who have completed cosmetology certification requirements. To assure future success, business and management courses are prescribed for individuals desiring this degree.

Labor Relations

Labor Relations has become an essential ingredient in successful management activity. The growth of collective bargaining has created a demand for skilled persons to administer contractual agreements.

New legislation has created additional demands upon administrators who must be equipped to achieve and maintain healthy balance between the pressures of unionized employees and management to ensure the future of their organization and to protect the public welfare.

The need for highly trained men and women in labor relations has seldom been more acute or pronounced. A Certificate will be awarded to all students who successfully complete the basic Labor Relations courses, LR 200, 201, 202 and 203.

Business Development Center (SBDC)

The Lansing Community College Business Division has organized a Small Business Development Center in cooperation with local business, government, and community agencies. The Small Business Development Center will provide service for those interested in starting or improving the management and operation of a small business.

Purpose of the SBDC:

- To contribute to the economic growth and development of the Mid-Michigan area by assisting the small business community;
- To function as a centralized resource to assist small business management;
- To provide information concerning available services and educational programs relating to small business operations.

Information and Services Available Through the SBDC:

The SBDC will provide clients with consultation and information services. Where appropriate, these clients will be referred to agencies and organizations which can provide specialized assistance in starting and/or improving the operation of a small business in Michigan.

Areas of small business support provided by the SBDC and referral agencies include:

- Advising/Counseling
- Economic Forecasting & Analysis
- Licensing
- Laws & Regulations
- Taxes
- Small Business Assistance Seminar & Course Offerings

Transportation and Traffic Management

Associate Degree Program
Curriculum Code: 495 Minimum 90 credits

Certificate Program
Curriculum Code: 496 Minimum 18 credits

Certificate Program (Transportation Law)
Curriculum Code: 497 Minimum 9 credits

A two-year, six-term program in Transportation and Traffic Management is offered in cooperation with the Traffic Club of Lansing. (Associate Degree Program—Curriculum Code 495.)

A Transportation and Traffic Management Certificate Program, in cooperation with the Traffic 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 department. Additional management and general education courses allow a student to earn an Associate Degree in this area. (Certificate Program—Curriculum Code 496.)

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. (Certificate Program—Transportation Law—Curriculum Code 497.)

Management Development Center

The Management Development Center serves organizations, associations, and groups of people in their individual management training needs.

The Center's purposes are:

- To tailor and develop courses and programs to meet the management development and training needs of organizations within the community.
- To provide these courses and programs at the convenience of the organization at the best time and place.
- To assist participants in the on-the-job application of concepts taught in the courses and programs.
- To provide the highest quality training and development possible by seeking out resources which will meet the needs of the organization.

The Management Development Center has instituted and conducted training programs for a variety of community organizations and businesses of all sizes, hospitals, banks, industries, police organizations, other colleges, technical people, systems personnel, and governmental employees.

These training programs consist of specifically prescribed courses and seminars responding to the requests of particular organizations. They may involve any type of training from short courses for small groups of people, to total organizational programs built around implementing a whole new management system.

The Management Development Center, in addition to developing specialized seminars, offers the following supportive services for the management community:

I. Advanced Management Seminars addressing topics of current interest in which guest speakers are brought in to help bridge the gap between theory and practice

II. Total Instruction in Management Effectiveness (TIME Series) Programmed instruction in management which covers materials on a variety of managerial topics that can be taken at the individual's own pace and convenience. (MGT 350 through MGT 394)

III. Resource Material
The Center helps individuals in acquiring material to support their educational needs

Marketing

Associate Degree Program
Curriculum Code: 475 Minimum 90 credits

Offers organized training in retail distribution, wholesaling, 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 and marketing. The primary objective is to train individuals to participate more efficiently in business activities.

Certificate Program
Curriculum Code: 476 Minimum 45 credits

A condensed one-year curriculum in marketing for qualified students. The courses are designed to meet the needs of both students and business. The curriculum has special value to those already employed who desire upgrading or promotion. A Certificate is granted to those students successfully completing this curriculum.

Electives may be chosen from the courses listed in the course description sections of the College catalog. Staff advisors in Business will recommend electives to students in accordance with their needs and goals.

Sales

Associate Degree Program
Curriculum Code: 479 Minimum 90 credits

Offers educational training to develop behavioral science and selling skills necessary for students entering the dynamic and growing 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 growing field of Sales. The object of this two-year program is to train individuals to participate more efficiently in business activities.

Certificate Program
Curriculum Code: 478 Minimum 45 credits

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, and the credits earned are transferable to the two-year Associate Degree Program.

Computer Information Systems

(Data Processing)

Associate Degree Program

Curriculum Code: 450, 452,
486, 487

Minimum 90 credits

Designed to provide trained graduates capable of meeting the increasing demand of the modern business world. These graduates will have acquired an understanding of the concepts, principles, and techniques of data processing together with a working understanding of modern, complex, high-speed data processing machines.

The graduate, schooled in the business applications of data processing equipment, is trained for occupations such as computer operator, coder, computer programmer, applications programming and systems analyst.

Certificate Program

Curriculum Code:

451, 453, 454

Minimum 45 credits

In order to meet the increasing demand for trained data processing personnel, an accelerated program in Data Processing is being offered to qualified students. This one-year program is of special value to those who desire rapid but comprehensive training to enable them to enter the labor market as soon as possible. A Certificate is granted upon completion of this program. Also, the courses may be transferred to the two-year program.

Hotel-Motel and Food Service Management

Associate Degree Program

Curriculum Code:

455, 457, 458

Minimum 90 credits

Certificate Program

Curriculum Code:

456, 459

Minimum 45 credits

Lansing Community College offers both a one-year Certificate and two-year Associate Degree in Hotel-Motel Management and Food Service Management, and a two-year Associate Degree in a Registered Chef Apprenticeship Program sponsored by the Department of Labor and the American Culinary Federation. Certified Hotel Administrator (CHA) courses are also available, sponsored by the American Hotel Motel Association. These programs are designed to prepare the student for mid-management level positions as supervisory personnel in hotels, motels, restaurants, and other hospitality institutions. Specially trained supervisory personnel for positions in hotels, motels, and food service establishments are in demand, and more employers in the industry are showing a preference for college-trained personnel. Predictions are for accelerated growth in the hospitality industry in the 1980's and 1990's.

The student has access to hotels, motels, food service operations, retirement homes, hospitals, clubs, and airline feeding companies. Upon request, hotel-motel management and food service coordinators at the College may arrange for students to obtain full and part-time employment during the school year in the following career-related positions:

Hotel-Motel Management
Assistant Manager Trainee
Front Office Manager
Catering Manager
Assistant Auditor
Sales Representative
Reservation Manager
Entertainment Director
Food Service Management
Assistant Manager Trainee
Food Production Supervisor
Assistant Steward
Dining Room Supervisor
Assistant Steward
Dining Room Supervisor

Assistant Manager—Institutional
Food Service Hostess
Director of School Lunch Programs
Bartending
Chef

Travel and Tourism - Management Specialist

Associate Degree Program

Curriculum Code: 484

Minimum 90 credits

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 of 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.

Community Service Programs

Whatever the need, the Hotel-Motel-Food Service Program is 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 those involved. Instructors and coordinators of special classes include College staff, businessmen, 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.

Law Enforcement

Associate Degree Program

Curriculum Code: 460

Minimum 90 credits

Associate Degree Program

Curriculum Code: 460

Minimum 90 credits
(Dual Career Program)

Associate Degree Program

Curriculum Code: 461

Minimum 90 credits
(Transfer Program)

Associate Degree Program

Curriculum Code: 463

(Natural Resources) Minimum 90 credits
(Transfer Program)

Programs in Law Enforcement and Criminal Justice are designed to prepare men and women for police work, and to assist those now in the field to secure the general technical information necessary for promotion. Modern law enforcement agencies need people with ability and training for police work at local, state or federal levels, and can offer a variety of challenging careers.

The problems of law enforcement are as complex as the society in which we live. The man or woman who chooses a career in this field must have the necessary educational background to cope with these problems on a day-to-day basis. Many challenging careers are open to those who prepare themselves for the opportunity.

Recognizing the growing need for law enforcement personnel, and the need for additional training for those in the field, Lansing Community College has developed a program which can meet both needs. It can prepare a man or woman for entrance into police work, and it can assist those already in the field toward promotion through necessary general and technical training.

The program includes a two-year curriculum leading to the Associate in Arts Degree as preparation for entry into the field. Men and women presently engaged in police work may enroll in any of the specialized law enforcement classes, based upon interest or need. Extensive offerings in Corrections and Security are also available.

The Dual-Career Program is designed for the student who desires an Associate Degree in addition to meeting the minimum Michigan Law Enforcement Officers Training Council standards for employment as a police officer within the State of Michigan.

Corrections

Associate Degree Program

Curriculum Code: 465

Minimum 90 credits
(Transfer Program)

An Associate Degree Program is available in the law enforcement option area of Corrections. Agencies and processes within the correctional system are included in the program as well as technical courses for the corrections practitioner. A broad base of knowledge is afforded to corrections personnel as well as an overview of modern, innovative and progressive correctional processes and institutions. Articulation with universities and the Michigan Criminal Justice Educator's Association has allowed for uniformity in this program as well as assuring its quality and practicality.

Mid-Michigan Law Enforcement Center

This center is a cooperative venture into police education by local police agencies, with Lansing Community College as the setting.

Staff is comprised of Training Officers from Lansing and East Lansing Police Departments; Michigan State University Department of Public Safety, and the Ingham County Sheriff Department. The Training Officers make up the Metro-Police Training Team, and act as coordinators and program developers for the police education-training needs of the Tri-County Area. The operation is a full-time, year-round center of police education. At this time, 32 degree credits are granted for the successful completion of the eleven-week Basic Police Science Program as designated by the Michigan Law Enforcement Officers Training Council.

The Center is available to organize, conduct and coordinate programs on an individual or group basis as education and training needs are expressed.

Security

Associate Degree Program

Curriculum Code: 469

Minimum 90 credits

An Associate Degree Program in Industrial Security is available within the law enforcement area. Recognizing the growing need for security personnel and the need for training for those in the security field, law enforcement, management and technical courses are offered for the security professional. Course work is relevant to the Certified Protection Professional (CPP) designation from the American Society for Industrial Security.

Real Estate

Associate Degree Program

Curriculum Code: 473

Minimum 90 credits

The Real Estate Program can provide the background for persons of all ages to engage in the many activities of the real estate field.

Through a series of courses leading to an Associate Degree, it is possible to specialize in a number of vocations that need experienced and knowledgeable personnel. In many cases, it is possible to "try out" these various activities by working part time.

Some of the specialties in real estate include selling residential, commercial and industrial properties; appraising all types of property; real estate investment counseling; property management; urban planning; industrial planning; serving as housing specialist, mortgage specialist, or advertising specialist in real property; or as closing officer in a real estate brokerage office.

Since the real estate community is involved with the program, the student can benefit from close association with those already in the field who are knowledgeable and willing to give their time.

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.

Pre-Business Administration

Associate Degree Program

Curriculum Code: 480 Minimum 90 credits

The Pre-Business Administration curriculum is designed for students preparing for transfer to a four-year institution to complete work in professional areas of communications, law, management, marketing, business education, professional secretary, engineering, statistics or related business professions. Each university has its own curricular guide for students to follow to allow a smooth, efficient transfer.

American Institute of Banking (AIB)

Management & Marketing Department
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 heightened.

AIB 103 Oral and Written Communications for Bankers 3 (3-0)
Emphasizes identification and analysis of the message, the respondent, and personal communications roadblocks; materials, production, functions, and the situations of speech.

AIB 106 Math for Bankers 3 (3-0)
Fundamental arithmetic tools, fractions, decimals, business documents, payrolls, 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)
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 problems.

AIB 212 Analysis of Financial Statements 3 (3-0)
Characteristics of financial statements and financial statement analysis; minimum 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 217 Advanced Teller Training 3 (3-0)
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.

AIB 221 Branch 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 management.

AIB 223 Bank Management and Supervisory Development 3 (3-0)
The manager's role and the managerial process; developing practical approaches to solving typical management and supervisory problems.

AIB 224 Bank Personnel Management 3 (3-0)
Survey of principles, problems, and practices of modern business, government, and other organizations involved in the handling of employees from recruiting through post-retirement.

AIB 225 Bank Principles of Management 3 (3-0)
Overview of management principles for middle and upper level managers. Includes history of management, theoretical framework and practical applications of management, qualifications of executives, business ethics, and managerial functions.

AIB 230 Marketing for Bankers 3 (3-0)
Concepts and philosophies of marketing; marketing information, research, and target; marketing mix (product strategy, distribution strategy, advertising and sales promotion, personal selling, and pricing strategy); and the methods of marketing 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)
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.

Business (BUS)

Management & Marketing Department
Division of Business

BUS 118 Introduction to Business 4 (4-0)
Principles, problems and practices related to our economic framework. Includes organization, production, marketing, personnel administration, finance, and economics.

BUS 191 Independent Study-Management 1 (0-1)
Prerequisite: Department approval

BUS 192 Independent Study-Management 2 (0-2)
Prerequisite: Department approval

BUS 193 Independent Study-Management 3 (0-3)
Prerequisite: Department approval

**BUS 194 Independent Study-
Management 4 (0-4)**

Prerequisite: Department approval. Special research projects and individual readings to apply past or present aspects of personal and professional experience to their academic area of interest. Minimum of ten hours work per credit required.

BUS 213 Teller Training 4 (4-0)

Reviews activities of a bank teller covering identifications, check cashing, money handling, the teller machine, coin dispenser, and use of the adding machine.

BUS 214 Advanced Teller Training 3 (3-0)

Prerequisite: BUS 213 or DA. 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 223 Management and Supervisory
Development 3 (3-0)**

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 224 Personnel Management 3 (3-0)

Principles, problems, and practices of modern business, government, and other organizations involved in the handling of employees from recruiting through post-retirement.

BUS 225 Principles of Management 3 (3-0)

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 228 Human Relations in
Business and Industry 4 (4-0)**

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 229 Public Relations 3 (3-0)

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 236 Communication Techniques
in Business 3 (3-0)**

Study special business communication areas including public speaking, memo writing, information processing, message construction, perception, persuasion, effects of media, interpersonal and small group communication.

BUS 254 Introduction to Investments 3 (3-0)

Fundamental principles of investing, developing terminology, types of alternate investments available, and personal financial planning.

**BUS 260-265 Transportation and Traffic
Management each 3 (3-0)**

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.

**BUS 269-271 Transportation
Law I-III each 3 (3-0)**

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.

**BUS 272 Transportation and
Hazardous Materials 3 (3-0)**

Historical background of regulations of hazardous material traffic in the United States and an overview of international regulations.

**BUS 274-276 Export and Import
Goods I-III each 3 (3-0)**

Application of export and import techniques and concepts, government regulations, documentation, financial and transportation considerations of the movement of commerce from and to the United States.

**BUS 280 Property Valuation and
Assessment Administration I 3 (3-0)**

History of property tax, public relations, local government financing, property tax law, assessment-valuation concepts and equalization, appeals, assessment, equalization and allocation.

**BUS 281 Property Valuation and
Assessment Administration II 3 (3-0)**

Aerial photography, interpretation, property descriptions, tax law, and residential appraisal.

**BUS 282 Property Valuation and Assessment
Administration III 3 (3-0)**

Valuation concepts; economic concepts of value; cost, market, and income approaches to value; proper procedures, forms, reports, etc.

**BUS 283 Property Valuation and Assessment
Administration IV 3 (3-0)**

Prerequisite: BUS 282 or Equivalent. Appraisal of residential, commercial, agricultural, and personal properties, and proper procedures.

**BUS 284 Property Valuation and
Assessment Administration V 3 (3-0)**

Prerequisite: BUS 283 or Equivalent. Continuation of residential, commercial, agricultural, and personal property appraisals.

**BUS 285 Property Valuation and Assessment
Administration VI 3 (3-0)**

Prerequisite: BUS 280 or Equivalent. Real and personal property appraisals, legal and procedural aspects of appraisal, and appeal procedures. Certificate upon successful completion of the Property Valuation and Assessment Administration courses.

**BUS 290-293 Management
Internship each 3 (3-0)**

Prerequisite: Department 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 operating a business.

BUS 295 Small Business Management 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.

BUS 301 International Business 4 (4-0)

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.

**Corrections (COR)
Management & Marketing Department
Division of Business**

COR III Introduction to Corrections 4 (4-0)

Analysis of agencies and processes within the correctional system, correctional officer behavior and correctional legislation, the courts, rehabilitation, correctional institutions and their operation and administration.

COR III Correctional Law 3 (3-0)

Prerequisite: COR III or department approval. Study current Federal and State laws as they pertain to penal institutions, inmates, and correctional employees; basic corrections laws and inmate rights; policy considerations behind State and Federal law and court decisions.

COR 210 Correctional Institutions 4 (4-0)

Prerequisite: COR III or department approval. Historical development of U.S. correctional institutions; philosophical changes in development; nature and character of modern institutions, including trends; developments and changes in the near future.

COR 212 Correctional Clients 3 (3-0)

Prerequisite: COR III or department approval. Emphasizes the needs and identities of the recipients of correctional services; provides insight into behavior and motivations.

**COR 225 Community Based
Corrections 4 (4-0)**

Prerequisite: COR III or department approval. Agencies that are utilized in a corrections program which keep the offender in the community.

**Computer Information Systems (CIS)
Management & Marketing Department
Division of Business**

**CIS 100 Introduction to
Data Processing 4 (4-0)**

Basic concepts of data processing: what a computer is, how it functions, and its influence on all facets of society.

CIS 104 Personal Computing I 2 (2-1)

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.

CIS 105 BASIC Programming I 4 (4-8)

Prerequisite: MTH 012 or equivalent. A beginning course in computer programming for CIS majors. Covers computer problem-solving techniques using the BASIC programming language.

CIS 106 BASIC II 4 (4-8)

Prerequisite: CIS 105 & CIS 115. Intermediate BASIC language. Special considerations for use on microcomputers. Includes tape and disk files, comparison of different machines, and computer graphics.

CIS 107 BASIC III 4 (4-8)

Prerequisite: CIS 106. Advanced BASIC language, writing a system of business application programs for a microcomputer. Also, disk file usage.

CIS 108 Micro Assembler 4 (4-8)

Prerequisite: CIS 106. Inter-relationship between BASIC and the 6502 micro assembler. Includes interrupt routines, I/O routines, and interfacing techniques.

CIS 109 Personal Computing II 3 (3-1)

Prerequisite: CIS 104. More advanced features of the BASIC language, such as arrays and functions.

CIS 110 FORTRAN for Business 4 (4-8)

Prerequisite: MTH 012. Beginning FORTRAN language for solving non-technical problems. Programming assignments will primarily be business application programs.

CIS 115 Data Processing Math and Logic I 5 (5-0)

Prerequisite: MTH 012 or Equivalent. Reviews basic algebra principles and introduces basic logical forms. Includes flowcharting, set theory, sorting, truth tables, Warnier diagrams, and non-decimal number systems.

CIS 116 Data Processing Math and Logic II 5 (5-0)

Prerequisite: CIS 115. Introduces analytical tools. Includes linear equations, graphing, linear programming, properties and applications of matrices, sequences, series, normal distribution, PERT and CPM networks.

CIS 120 FORTRAN for Science and Engineering 4 (4-8)

Prerequisite: MTH 164. Beginning FORTRAN language for engineering, science, and mathematics majors who wish to use computers for solving technical problems.

CIS 124 APL Programming 4 (4-8)

Prerequisite: MTH 213 or equivalent. Syntax and methods for the programming language APL. Includes operators, functions, array manipulation and applications. Emphasis on mathematical models and applications.

CIS 125 Pascal Programming Language 4 (4-8)

Prerequisite: CIS 115. Write structured programs in Pascal, an ALGOL-like language. Covers queues, stacks, lined-lists, disk files, and live-screen formatting.

CIS 134 Documentation I 4 (4-0)

Prerequisite: CIS 100. Fundamental documentation tools in use on both the systems and programming level.

CIS 136 EDP Operations Control 4 (4-0)

Prerequisite: CIS 100. Computer scheduling and tape library management; machine, personnel, and user scheduling; tape maintenance and inventory; and data security.

CIS 143 Introduction to Operations 4 (4-0)

Prerequisite: CIS 100. Function and responsibilities of the computer operator; includes machine maintenance, console response, and malfunction recovery.

CIS 163 RPG 4 (4-8)

Prerequisite: CIS 105 & CIS 115. Beginning RPG, understanding the language and the ability to program. Includes problem definitions, card procedures, control levels, and multiple-record files.

CIS 164 Advanced RPG 4 (4-8)

Prerequisite: CIS 163. Disk applications and additional RPG features.

CIS 171 COBOL I 4 (4-8)

Prerequisite: CIS 105 & CIS 115. Basic components of the COBOL language applied to write efficient programs.

CIS 172 COBOL II 4 (4-8)

Prerequisite: CIS 171. Includes disk file organization and processing. A program is developed to form and update an ISAM (Index Sequential Access Method) file containing rings and strings.

CIS 173 COBOL III 4 (4-8)

Prerequisite: CIS 172. Advanced additional programming experience in the ISAM data base environment.

CIS 174 COBOL Maintenance 4 (4-8)

Prerequisite: CIS 172. Introduction to the "art" of program maintenance: modifications to existing COBOL programs.

CIS 182 Assembly I 4 (4-8)

Prerequisite: CIS 105 & CIS 115. Introduces machine language concepts and the basic assembly language instructions for the IBM System/370 and System 4300.

CIS 183 Assembly II 4 (4-8)

Prerequisite: CIS 182. 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.

CIS 200 Computers and Society 4 (4-0)

For non-data processing student, general knowledge of computers and how they are affecting our daily lives. Includes principles of computer technology, elementary BASIC programming, and an assessment of the social impact of computers.

CIS 207 EDP Security and Controls I 3 (3-0)

Prerequisite: CIS 100. Types of security and controls over computer systems. Includes administrative, operational, and documentation controls, invasion of privacy, and computer fraud.

CIS 208 EDP Security and Controls II 3 (3-0)

Prerequisite: CIS 207. An in-depth continuation of the concepts begun in CIS 207.

CIS 221 Forms Design and Control 3 (3-0)

Initial phase of recognizing that a form is needed to the 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.

CIS 223 Introduction to Systems Analysis 4 (4-0)

Prerequisite: CIS 100. Concepts and methods of systems analysis. Includes the "systems life cycle," project planning, scheduling estimating, investigation, and analysis.

CIS 224 Structured Design Techniques 4 (4-0)

Prerequisite: CIS 223. Comprehensive review of structured system design techniques and system development management; requirements for developing computerized systems and managing the development process. Emphasis on Warnier systems approach.

CIS 226 Data Base Concepts I 4 (4-0)

Prerequisite: CIS 171. 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.

CIS 230 Minicomputers 3 (3-0)

Prerequisite: CIS 100. Basic characteristics of minicomputer hardware and software design, major hardware systems and software parameters, peripheral devices and turn key operations.

CIS 231 Teleprocessing 4 (4-0)

Prerequisite: CIS 100. Fundamental concepts, hardware and software utilized, and the basic steps in designing a teleprocessing system.

CIS 238 Operating Systems 4 (4-0)

Prerequisite: CIS 182. What operating systems are, why they exist, how they work, and how they interface with the operators and programmers.

CIS 244 Operations Internship I 3 (3-0)

Prerequisite: Department 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 training in a data processing installation.

CIS 245 Operations Internship II 3 (3-0)

Prerequisite: Department approval. Additional experience through 100 more hours of on-the-job training at a different data processing site.

CIS 246 Data Processing Internship 3 (3-0)

Prerequisite: Department approval. Internship for students in the two-year Associate Degree curriculums.

CIS 247 Programming Internship 5 (5-0)

Prerequisite: Department 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.

CIS 301 Data Processing Statistical Applications I 3 (3-0)	CIS 803 Structured Programming 2 (2-0)	HMF 131 Food Production I 5 (5-0)
Analytical probability and statistics. Includes discrete and continuous probability, random variables, the standard density function, and applications.	Module invocation hierarchy from the design phase and the system glossary of the analysis phase to develop coded programs. Warnier diagrams, Nassi Schneiderman charts, structured flowcharts, and psuedocode are used to develop structured programs.	Basic concepts in menu planning, food purchasing, nutrition, sanitation, service, and food storage.
CIS 302 Data Processing Statistical Applications II 3 (3-0)	CIS 804 Data Processing for the Non-Data Processing Manager I (1-0)	HMF 132 Food Production II 5 (5-0)
Prerequisite: CIS 301. Inferential statistics and regression analysis.	Non-technical introduction to the computer revolution as it affects the business world today. Concepts of machines (hardware), programs (software), and the interaction between these and the human factors (systems).	Prerequisite: HMF 131. Applied to quantity operation; managerial methods and concepts utilized in the administration of special food functions. Includes preparation and service of food.
CIS 303 Data Processing Statistical Applications III 3 (3-0)	CIS 811 Data Communication Overview 2 (2-0)	HMF 133 Food Production III 5 (5-0)
Prerequisite: CIS 302. Goodness of fit tests, non-parametric statistics, and computer modeling.	Introduction to data communication terminology and system design. Includes data communication terms and basic concepts.	Prerequisite: HMF 132. Quantity production methods. Includes basic terminology with overview of the entire food production and service area.
CIS 304 Numerical Models I 3 (3-0)	CIS 812 Data Base Overview 2 (2-0)	HMF 135 Quantity Food Purchasing 5 (5-0)
Prerequisite: CIS 303. Numerical analysis. Includes the finite difference calculus, colocation polynomials, and algebraic equations.	Data base management and organization, concepts and terminology of data base, comparisons of state-of-the-art software, the CODASYL proposal, and relational theory.	Standards of quality and quantity as applied to food, beverages, china, glass, silver, linen, furnishings, and supplies. Writing specifications. Procurement policies. Menu planning includes working, selection of items, design and layout, projections of acceptability, and study of market areas. Field project.
CIS 305 Numerical Models II 3 (3-0)	CIS 813 Forms Design and Control 1 (1-0)	HMF 142 Meat Cutting I 5 (5-0)
Prerequisite: CIS 304. Numerical integration, differentiation, and initial value problems.	Develop an awareness of business forms and a fundamental understanding of forms as inputs and outputs of systems; applying the principles of good forms design; and learning to control forms through a forms management program.	Preparing, processing, cutting, and merchandising beef and pork utilizing the basic equipment needed in retail meat cutting.
CIS 306 Numerical Models III 3 (3-0)	CIS 814 EDP Security and Controls 1 (1-0)	HMF 143 Meat Cutting II 5 (5-0)
Prerequisite: CIS 305. Boundary value problems, best fitting functions, mini-max and queuing theory.	Types of controls designed into computerized systems; identifying and evaluating the effectiveness of controls and risks associated with systems lacking these controls.	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.
CIS 311 Educational Computer Applications 3 (3-0)	CIS 815 Microcomputer Comparison 1 (1-0)	HMF 144 Meat Cutting III 5 (5-0)
Prerequisite: CIS 109. Use of computers in the school environment, designed primarily for teachers. Useful classroom techniques and elementary programming.	For persons who are contemplating the purchase of a microcomputer or anyone who would like to learn the present state-of-the-art in microcomputing. Main features of some of the top-selling microcomputers.	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.
CIS 321-322 Advanced Data Processing Concepts each 2 (2-0)	Hotel-Motel-Food Management (HMF)	HMF 170 Menu Design and Layout 3 (3-0)
Prerequisite: Department approval.	Management & Marketing Department Division of Business	Selection of menu items, design and layout, projections of acceptability, and study of market areas. Field project.
CIS 331-332 Advanced Data Processing Concepts each 3 (3-0)	HMF 101 Introduction to Hospitality and Food Service Operations 4 (4-0)	HMF 190 Internship and Seminar 4 (4-0)
Prerequisite: Department approval.	Introduction to the hotel-motel-food service industry, its history, management departments, the industry's responsibilities, and opportunities for employment.	Prerequisite: Department approval. Placement in an approved training facility; credits for satisfactory work performance; wages for hours worked.
CIS 341-342 Advanced Data Processing Concepts each 4 (4-0)	HMF 102 Communications 4 (4-0)	HMF 191 Independent Study-HMF 1 (1-0)
Prerequisite: Department approval	Principles of oral and written communication and how to get your message accepted.	Prerequisite: Department approval.
CIS 351-352 Advanced Data Processing Concepts each 5 (5-0)	HMF 103 Training and Coaching Techniques 4 (4-0)	HMF 192 Independent Study-HMF 2 (2-0)
Prerequisite: Department approval. Advanced study in special non-programming data processing projects. Project completed on independent study basis.	How to develop supervisory skills needed to train employees; devise economical and efficient work methods; improve day-to-day job performance; and assist in setting realistic job performance standards.	Prerequisite: Department approval.
CIS 801 Structured Analysis 2 (2-0)	HMF 112 Introduction to Ground Transportation 3 (3-0)	HMF 193 Independent Study-HMF 3 (3-0)
Development of the system glossary (the major product of the analysis phase and the input document to the design phase, the flow diagram, analysis walk-throughs, team approach to development, nameability, readability, and functionalism.	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.	Prerequisite: Department approval.
CIS 802 Structured Design 2 (2-0)		HMF 194 Independent Study-HMF 4 (4-0)
Development of modules and data communication between modules, construction of a module invocation hierarchy, coupling and cohesion, and distinction between transport and transform modules.		Prerequisite: Department 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)
		Prerequisite: Department approval.

HMF 196 Culinary Art Practicum 1 (1-0) Prerequisite: Department approval.	HMF 212 Hotel-Restaurant Security 3 (3-0) Organization for a security program, protection of the physical facilities, guest protection, emergencies, and internal and departmental security measures.	HMF 235 Travel for Consumers 3 (3-0) Introduction to prepare for domestic and overseas travel for both vacation and business purposes. Covers the travel industry; using travel agents; group and individual travel; travel tips; avoiding potential problems and how to handle actual problems.
HMF 197 Culinary Art Practicum 1 (1-0) Prerequisite: Department approval.	HMF 215 Hotel-Restaurant Marketing 4 (4-0) Applies marketing techniques and concepts to the food and lodging industries to include human factors, consumer demand, planning, and professional considerations.	HMF 251 Wine Appreciation 2 (2-0) 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 198 Culinary Art Practicum 2 (2-0) Prerequisite: Department approval.	HMF 221 Travel Agency Accounting 4 (4-0) Basic travel agency accounting concepts: how financial statements are compiled and interpreted and accounting systems for the travel agency business.	HMF 252 Wines of America 2 (2-0) Survey of the wine growing areas of the United States with emphasis on the varietal selections of California, New York, Michigan and Ohio. Study of wine making, comparative tastings and field trips to acquaint the student with the wine industry in America.
HMF 199 Culinary Art Practicum 2 (2-0) Prerequisite: Department approval. On-the-job apprenticeship training under the supervision of a qualified chef. Practicum conducted by a staff member of LCC; supervised by an appointed member of the Capitol Professional Chefs' Association of Greater Lansing.	HMF 222 Group Travel Operations Unlimited 3 (3-0) Where to find groups, how to organize group travel, and how to expand or start a group travel business.	HMF 254 Mixology 5 (5-0) 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.
HMF 201 Hotel-Restaurant Merchandising 4 (4-0) Presents a practical understanding of the operating statement and precisely where, how, and why the sales effort fits into the total earnings and profit picture of a hospitality operation. Emphasis is on producing business at a profit. It teaches how to measure and gauge accurately the precise worth of every type of business in advance.	HMF 223 Club Management and Service 4 (4-0) Application of decision making techniques using concepts of finance, marketing, labor relations, management, and law in management of public and private clubs.	HMF 256 Practical Bar Management 4 (4-0) Prerequisite: HMF 254. Aspects of the bar business on a management level. Includes merchandising, controls, purchasing, labor, etc.
HMF 203 Hotel-Restaurant Law 4 (4-0) 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 also discussed.	HMF 224 Travel Agency Operations 4 (4-0) Overview of human travel, travel agents today and in the future, airline, bus, automobile, hotel ticketing, computers, and related travel services.	HMF 260 Food Preparation: Basic Cookery 3 (3-0) 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 204 Human Relations/Supervisory Development 4 (4-0) 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.	HMF 225 Tourism 4 (4-0) Introduction to principles of tourism, practices, and philosophies.	HMF 261 Food Preparation: Gourmet/Basic 3 (3-0) Basic cookery using sauces and wines. Preparation of hors d'oeuvres, canapes, fondue, party foods, and meat cookery.
HMF 205 Hotel-Restaurant Management 4 (4-0) 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.	HMF 226 Travel Agency Ticketing/Domestic 4 (4-0) Basic fundamentals of air scheduling, air ticketing, reading and correctly using domestic tariffs and calculating fares.	HMF 262 Food Preparation: Gourmet/Foreign 3 (3-0) Numerous foreign foods prepared and tasted. Includes uses of wines and cheeses.
HMF 206 Front Office Procedures 4 (4-0) 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.	HMF 227 Travel Agency Ticketing/International 4 (4-0) Overview of airline ticketing, routing, and scheduling on an international basis.	HMF 263 Food Preparation: Gourmet/American 3 (3-0) Regional American cuisine; preparing and serving gourmet meals. Menus include garnishes, soups, sauces, entrees, vegetables, and desserts.
HMF 207 Financial Control and Management I 4 (4-0) 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.	HMF 229 Convention Management and Services 4 (4-0) Scope and segments of the convention market, what is required to meet individual needs, and methods and techniques that lead to better service.	HMF 264 Food Preparation: Gourmet/Barbecue 3 (3-0) Meats, vegetables, hors d'oeuvres, salads, and desserts are prepared out-of-doors.
HMF 208 Financial Control and Management II 4 (4-0) Prerequisite: Department approval or HMF 207. Accounting practices and procedures for the restaurant and hotel manager.	HMF 232 Food and Labor Cost Control 3 (3-0) Principles and procedures of effective food, beverage, and labor cost control and their adaptations to any food and beverage operation.	HMF 265 Food Preparation: Gourmet/Potpourri 3 (3-0) A variety of foods and ideas for role as chef.
HMF 211 Business Franchising 4 (4-0) 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.	HMF 233 Food Service Sanitation 3 (3-0) Training in sanitation, hygiene, and food controls, with emphasis on service of food and beverages.	HMF 266 Food Preparation: Chinese Cookery 3 (3-0) Chinese dishes such as sweet and sour pork, chicken almondine, and egg rolls; sauteing and red cooking.
	HMF 234 North American Travel I 4 (4-0) History and development of an area, followed by specific location and identification projects. Major points of tourist interest will be discussed along with climate, ethnic influences, distances, and time zones.	

HMF 267 Food Preparation: Advanced Chinese Cookery 3 (3-0)

More elegant and difficult Chinese dishes, and use of traditional Chinese spices and ingredients.

HMF 268 Food Preparation: Vegetarian Cookery 3 (3-0)

Preparation of nutritious foods using ingredients other than meat: main meals, nutritious snacks, sweets, frostings, beans, seed sprouts, and quick mixes.

HMF 270 Food Preparation: Microwave Cookery 3 (3-0)

Production of various types of food with the microwave oven. Microwave oven capabilities.

HMF 271 Food Preparation: Advanced Microwave Cookery 3 (3-0)

Recipes from microwave cookbook and student recipes; covers technical and theoretical principles of microwave cookery.

HMF 275 Bakery Products 3 (3-0)

Prepare types of baked products, with some cake and pastry decoration.

HMF 276 Advanced Pastry and Decorating Techniques 3 (3-0)

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.

HMF 280 Food Specialities I 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.

HMF 281 Food Specialities III 3 (3-0)

Preparation of soups and sauces from scratch, as well as utilization of convenience foods.

HMF 282 Food Specialities IV 3 (3-0)

Preparation of vegetables and fruits from scratch, as well as utilization of convenience foods.

HMF 285 Food Specialities II 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.

Law Enforcement (LE)

Management & Marketing Department
Division of Business

LE 101 Introduction to Criminal Justice 4 (4-0)

Various fields involved in the criminal justice process; municipal, county, state, and federal organizations. Also, police, prosecutors, courts and corrections, and history and philosophy of the administration of justice.

LE 102 Crime: Causes and Conditions 3 (3-0)

Analysis of causes and control of crime; methods of dealing with criminals and potential criminals; statistics of crime; problems of the juvenile offender; theories of punishment; problems of probation and parole; and the police officer as an agent for the prevention of crime.

LE 103 Criminal Law 4 (4-0)

Prerequisite: Department approval or LE 101. Study of criminal law, including its sources, classification of crimes, the parties and elements of crime, and defenses against criminality. Criminal intent and the criminal act. Application of concepts to specific offenses; how to find and to research the law.

LE 104 Basic Elements of Criminal Investigation 4 (4-0)

Prerequisite: Department approval or LE 103 or LE 203. Fundamentals, including crime scene search; collection and preservation of evidence; identification, firearms identification; casting.

LE 105 Criminal Offense Investigation: Techniques and Procedures 4 (4-0)

Prerequisite: Department approval or LE 104. Investigation of specific crimes, as defined by Michigan law, preparation of cases for prosecution. Courtroom testimony.

LE 106 Juvenile Problems: Control and Prevention 4 (4-0)

Role of the officer in dealing with all aspects of juvenile offenses; legal basis of work with juveniles, and understanding the process involved with persons under the age of seventeen.

LE 107 Juvenile Problems: Control and Prevention Part II 4 (4-0)

Prerequisite: LE 106. Legal and procedural methods when official contact is made; the total spectrum of the juvenile relating to the community and the police.

LE III Stress and Law Enforcement 3 (3-0)

Explores the tension producing conditions of police work and their negative impact upon the officer's health, personality, and family. Examines conflict resolution, communication skills, problem solving models, and relaxation techniques.

LE 113 Women and Men in Criminal Justice 3 (3-0)

Explores the issue of the woman's entrance into the previously all-male work force; a survey of self-awareness, career awareness, and decision-making processes; reducing unnecessary stress.

LE 120 Basic Police Science 5 (5-0)

Prerequisite: Department approval. Fundamental requirements of the patrol officer: human relations, history and philosophy of law enforcement, sex crimes, communications skills, organized crime, media relations, and custodial and rehabilitative facilities.

LE 161 Fraudulent Check Seminar 1 (1-0)

Check identification, personal identification, identification documents, and victim and victim's dilemma.

LE 201 Police Organization and Administration 4 (4-0)

Prerequisite: Department approval. Functional divisions of the modern police department: coordination of activities, communications, recruiting, training, public relations, and the future of law enforcement.

LE 202 Police Management and Supervision 3 (3-0)

Prerequisite: Department approval or LE 201. Management principles for first-line supervisory levels. Covers managerial functions of planning, organizing, directing, coordinating, and controlling; working through policies and procedures; decision making; and the responsibilities of supervisors for overall work performance and employee development and evaluation.

LE 203 Criminal Procedure 4 (4-0)

Prerequisite: Department approval or LE 101. Study pre-trial procedures of the criminal justice process, with emphasis on the United States and Michigan Constitutions. Includes the law of arrest, search and seizure, interrogation and confessions, pre-trial identification processes, effects of illegal police procedures, and the rules of evidence.

LE 204 Highway Traffic Administration 4 (4-0)

Prerequisite: Department approval or LE 201. Michigan Vehicle Code, effective traffic control procedures, elements of "selective" enforcement, parking and intersection control, procedures and policies for vehicle accident investigation, investigation of fatalities, causes, prevention and scope of accident investigation.

LE 205 Current Issues in Criminal Justice 2 (2-0)

Prerequisite: Department approval. Seminar to study and analyze current criminal justice problems.

LE 206 Police Interviewing and Interrogation 3 (3-0)

Prerequisite: Department approval or LE 105. Techniques and tactics in police interviewing and interrogation; the interview process as a method of gathering information; and constitutional law and court decisions regulating interviewing of suspects and criminal offenders.

LE 207 Narcotic Drug Seminar 3 (3-0)

Prerequisite: Department approval or LE 103. History of drug abuse from the 9th century to today's drugs and their abuse. Federal and State laws.

LE 208 Organized Criminal Activities 3 (3-0)

Prerequisite: Department approval. Development and history of organized crime throughout the world and within the United States. Also covers the invisible government of crime as an economic entity, a government within a government, including its funding and operations.

LE 209 Theory of Patrol 3 (3-0)

Prerequisite: Department approval or LE 201. Study of patrol as a basic operation of the police function, responsibilities of the uniform and patrol officers, purposes, methods, types, and means of police patrol, determination of patrol strength, layout of beats, areas, and deployment.

LE 210 Principles of Police Management 3 (3-0)

Prerequisite: Department approval or LE 201 & LE 202. Concepts and principles of management; evolution of the management function applied to actual law enforcement situations and characteristics of an effective law enforcement leader; environment in which a law enforcement manager must function and the need for "managerial flexibility."

LE 215 Report Writing 2 (2-0)

Prerequisite: Department approval. Study and application of principles of effective report writing; importance of reports in the criminal justice system; content, diction, and usage.

LE 231 Directed Independent Study 1 (1-0)

Prerequisite: Department approval.

LE 232 Directed Independent Study 2 (2-0)

Prerequisite: Department approval.

LE 233 Directed Independent Study 3 (3-0)

Prerequisite: Department approval.

LE 234 Directed Independent Study 4 (4-0)

Prerequisite: Department approval. Special research projects and individual readings. Minimum of 10 hours of work per credit.

LE 235 Basic Firearms 4 (4-0)

Prerequisite: Department approval & Sophomore Status. Safety rules and regulations, range procedures, nomenclature and function of the various types of weapons and types of ammunition; provides basic marksmanship. Law Enforcement majors only.

LE 236 Basic Combat Firearms 4 (4-0)

Prerequisite: Department approval & LE 235. Intermediate instruction as a transition from bull's-eye to field and combat shooting.

LE 237 Advanced Combat Shooting 4 (4-0)

Prerequisite: Department approval or LE 236. Michigan Law Enforcement Officers Training Council and combat firing needs.

LE 241 Unarmed Defense 2 (2-0)

Primarily aimed at personal training and conditioning for academy. Includes required police defensive techniques and work with the riot baton. (May be taken three times.)

LE 242 Unarmed Defense 4 (4-0)

Prerequisite: Department approval. Correct and effective methods of pistol, knife, and club disarming; ways to apply come-along techniques; how to use baton and handcuffs; search techniques and legal aspects. (May be taken three times.)

LE 247 Law Enforcement Internship 3 (3-0)

Prerequisite: Department approval. Assignments made to various police departments to study and observe its officers at work. Twelve eight-hour shifts or equivalent hours are scheduled.

LE 248 DNR Officer Internship 15 (0-15)

Prerequisite: Department approval. Eight weeks assigned to a supervising Senior Conservation Officer. Study the organization and staffing of the State Department of Natural Resources and State Conservation Law, review game and fish identification and the functions and services of all Divisions of the State Department of Natural Resources.

LE 249 Law Enforcement Internship Variable

Prerequisite: Department approval. Volunteer time and effort in a variety of community agencies. May include corrections and juvenile work.

LE 301 Criminal Investigation and Procedure 5 (5-0)

Prerequisite: Department approval. Crime scene search, collection and preservation of evidence, firearms identification, casting, investigation of specific crimes, preparing cases for prosecution, and courtroom testimony, plus some hands-on work.

LE 302 Michigan Criminal Law and Procedure 5 (5-0)

Prerequisite: Department approval. Law of arrest, search and seizure, rights and duties of officers and citizens, elements necessary to establish crime and criminal intent, general court procedure, and purposes and functions of criminal law.

LE 303 Patrol Tactics 5 (5-0)

Prerequisite: Department approval. Study of patrol as a basic police function; responsibilities of the uniform and patrol officer; purposes, methods, types and means of police patrol; patrol strength layout, beats, areas, and deployment.

LE 306 Highway Traffic Operations 5 (5-0)

Prerequisite: Department approval. Michigan Vehicle Code, effective traffic control procedures, vehicle stops and occupant control, accident investigation and DUI enforcement.

LE 314 Advanced First Aid 4 (4-0)

Prerequisite: Department approval. Emergency first aid techniques for law enforcement personnel. Procedures for traffic accidents, home accidents, gunshot wounds, heart attacks, and drug overdoses, control of bleeding and care of fractures, techniques of cardiopulmonary resuscitation, emergency childbirth, auto-estriction, and skills of bandaging and splinting.

Labor Relations (LR)

Management and Marketing Department
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: Department 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: Department 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: Department 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)

Understanding of personal needs fulfilled in the work environment, relationship between work and rewards, components of a reward system, and compensation tools and techniques necessary for competency and equity in the administration of compensation.

LR 208 Labor Relations in Government 4 (4-0)

Structure and practice of labor relations in the public sector. Recommended for government employees.

LR 276 Manager's Role in Labor Relations 3 (3-0)

Primarily for line and staff managers with some responsibility for labor-management relations who are involved in any aspect of collective bargaining, preparation of bargaining, or administration of the contract at any level. Seminar.

LR 277 Management's Approach to Equal Employment and Affirmative Action 1 (1-0)

Introduction to intricacies of Affirmative Action and Equal Employment Compliance laws. Practical management approaches, techniques and skills for dealing with the law on a day-to-day basis. Seminar.

Management (MGT)

Management and Marketing Department
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 production, social-environmental influences, organizational structure, interpersonal relationships, control, and motivational systems.

MGT 301 Management Analysis and Decision Making 3 (3-0)

Prerequisite: MGT 300 or Equivalent. Basic understanding of behavioral dynamics and interpersonal relations as they apply to decisions and actions of management. In-depth understanding of managerial relationships and responsibilities. Case study approach.

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 306 Management by Objectives 3 (3-0)

Prerequisite: BUS 223 or BUS 225. Advanced course covering the proper principles, concepts, and practices of the management-by-objective system. Application exercises and units are utilized.

MGT 323 CAM Internship 4 (4-0)

Prerequisite: Department approval. Advanced internship project toward earning a Certificate in Advanced Management. Project must be outside and beyond the student's regular area of responsibility and have employer and departmental approval.

MGT 324 CAM Independent Study 4 (4-0)

Prerequisite: Department approval. A detailed quality report in the student's area of interest, applicable toward Certificate in Advanced Management and approved by the department coordinator.

MGT 328 Interaction-Interpersonal Relations 4 (4-0)

Prerequisite: BUS 228 or equivalent. Interpersonal relationships that develop between individuals, individuals and groups, groups, and management: understanding the individuals; understanding managerial philosophy; modus operandi; and putting it all together with real-world application.

MGT 330 Time Management 3 (3-0)

Key techniques, strategies, and principles for wise utilization of one's time. Developing practical action plans and initiating corrective actions, as needed, to assist in achieving personal and organizational goals.

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)

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, analysis of variance, and estimation and applications of probability theory.

MGT 338 Current Topics in Management 4 (4-0)

Keep abreast 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 & ACC 210. Practical skills to deal with financial matters and communicate with people in finance.

MGT 349 Stress Management 4 (4-0)

Explores tension-producing aspects of today's environment. Stress as the causative factor for many of our physical and psychological problems and suggests methods for harnessing its energy positively.

Total Instruction in Management Effectiveness (T.I.M.E. Series)

The TIME series of courses is designed for those who wish to increase their managerial and marketing skills but 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. (MGT 350 through MGT 399)

MGT 350 Computer Basics for Management 2 (2-0)

Conceptual basis for understanding data handling systems, particularly electronic data processing. Includes computer memory, machine language programming, techniques, analysis of data, and creating data files.

MGT 352 Management Information Systems 2 (2-0)

Basic structure of Management Information Systems. Emphasis on communication with analysts, evaluation of potential effectiveness of systems, data collection, and report generation.

MGT 353 Personal Selling Skills 2 (2-0)

Basic sales process; how to set up sales calls, customer buying habits, and support systems. Not a substitute for MKT 120, but a supplement and an elective.

MGT 355 Purchasing Management 2 (2-0)

Understand purchasing activities within the company. Covers negotiations management, value analysis, goal setting, planning, human relations, and the psychology of management.

MGT 357 Setting and Achieving Personal Goals 1 (1-0)

Define personal goals, identify strengths and weaknesses, overcome obstacles, solve problems, and match personal goals with company goals.

MGT 358 Assertiveness for Career and Personal Success 1 (1-0)

Covers 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)

How to increase concentration and power of retention, and how to organize thinking. Learn to remember facts, important dates, names, figures, reports, details, and speeches. Emphasis 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)

Understanding the communication process in modern business. Includes practical application in speaking, listening, interaction, and various channels of communication. How to receive and interpret feedback in organizations.

MGT 361 A Manager's Guide to Human Behavior 2 (2-0)

Understanding of human behavior applied to management of productive organizations. Includes psychological concepts, interpersonal relations, and group behavior.

MGT 362 Transactional Analysis for Managers 2 (2-0)

Principles and language of Transactional Analysis. How the theoretical approach to TA can be applied in a variety of business situations.

MGT 363 Basic Business Psychology 1 (1-0)

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)

In-depth study of the supervision process for managers at all levels. Includes the planning process, organizational skills, supervision of workers, cost control, and budgeting.

MGT 365 How to Be An Effective Supervisor 1 (1-0)

Supervisory techniques and concepts for new supervisors. Overview of the supervisor's role, planning, delegation of work, decision-making, motivation, and communication.

MGT 366 How To Manage People At Work 2 (2-0)

Aspects of human behavior that relate to the worker. Includes employee needs and productivity potential, motivation, communication, and the control process. Focus on human needs and the employee-manager relationship.

MGT 367 Stress Management 1 (1-0)

Helps students answer the most critical questions about stress: What causes stress inside-outside the organization? How can I recognize stress—and minimize it—in myself and in the people who work for me? What are the consequences of stress if it is left untreated?

MGT 370 Effective Presentation 2 (2-0)

Principles and techniques for effective oral presentation; foundation to build personal presentation and other communicative skills.

MGT 371 How To Run Productive Meetings 2 (2-0)

Training to organize and run policy meetings, creative meetings, sales meetings, information meetings, and problem-solving conferences. Included are twelve questioning techniques to guide and control meetings.

MGT 372 Getting Results Through MBO 2 (2-0)

Basic concepts of Management by Objectives in business organization. Organizational goals are then determined, and objectives are established and implemented.

MGT 373 How To Manage by Objectives 2 (2-0)

Prerequisite: MGT 372. Principles and procedures of managing by objectives, its benefits, and its various applications. Practical operating guide for those who wish to introduce and develop the concept as a management system in their organization. Alternative techniques to those individuals already practicing MBO.

MGT 374 Personnel Management 2 (2-0)

Explores human resource planning, staffing, appraisals, training, development, benefits, wage and salary administration, labor relations, and safety policies.

MGT 375 Zero-Base Planning and Budgeting 1 (1-0)

To help managers and top executives lead an entire company toward a results-based system. Covers terms, planning, decision packages, ranking, implementation, administration, problems, and solutions.

MGT 377 Finance for Nonfinancial Managers 2 (2-0)

Provides the manager with an understanding of finance. Reading and interpreting various financial statements and reports.

MGT 378 Project Management 2 (2-0)

Introduces the basics. How to define authority, responsibility, accountability, quality assurance, quality control, PERT, line of balance, and input output charts.

MGT 379 How To Be A Successful Product Manager 2 (2-0)

For the practicing manager and the future manager. Introduction, marketing, and sales of products; continuous review and analysis of the product or product lines for profitable growth and marketing position.

MGT 380 Problem Solving for Managers 1 (1-0)

How to generate innovative ideas, select the most useful solution, translate solution into practical terms and specific strategies, and gain support for your ideas and put them into action.

MGT 383 Training for Productivity 1 (1-0)

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)

Principles and techniques required for making short-term decisions necessary to operations control. Orientation to analytical methods. Includes capital costs and investment criteria, products and process design, plant location, facilities design, production standards, and man-machine systems.

MGT 385 Modern Production Management II 2 (2-0)

Overview of advantages and disadvantages of distribution systems, high-volume production-distribution systems, intermittent systems, and large-scale project systems. Includes production-inventory systems, forecasting, "systems concepts," quality control, and machine maintenance.

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)

Rules of delegating that guarantee task completion; accountability in measurable terms; matches delegated tasks with abilities; encourages subordinates to make decisions on their own; monitor performance to avert employee frustration.

MGT 391 How To Evaluate Performance and Assess Potential 1 (1-0)

Systems for evaluating an employee's performance and assessing potential. Effective evaluation and assessment increases a manager's ability to judge subordinates accurately, thereby making decisions on promotions, raises, training procedures, morale building, and assignments of tasks easier.

MGT 392 How To Develop Dynamic Leadership 2 (2-0)

Focuses on three styles of leadership. Activities for self-analysis to determine one's personal style of leadership. Compare styles and the consequences of each leadership posture. Suggestions for change of style are provided, and the process for moving toward dynamic leadership is presented.

MGT 393 Labor Relations for Supervisors 2 (2-0)

Understanding of proper administration of a labor contract. Includes arbitration procedure, preparation, appearing as company witness, effective disciplinary procedures and contract provisions. Step-by-step analysis of grievance procedures with emphasis on why and how grievances should be handled.

MGT 394 Managing Labor Relations 2 (2-0)

Understanding of labor/management relationships. Emphasizes labor relations today, negotiations, bargaining power, and advance planning. Aspects of dealing with a union.

MGT 395 Negotiating Your Way to Success 1 (1-0)

How to approach bargaining confidently; timing and association techniques; concessions; communicate positions clearly and precisely; and how to identify real but often hidden needs.

MGT 396 Executive Writing, Speaking, and Listening Skills 1 (1-0)

Tools needed to put ideas across effectively in business situations. Includes interviewing techniques, writing memos and proposals, nonverbal communications, and making presentations.

MGT 398 Using Mathematics As A Business Tool 2 (2-0)

Increase familiarity with formulas and calculations most frequently used in business. 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)

Negotiating steps necessary to produce a legally enforceable contract. Understanding of oral promises made to employees or outside contractors, conditions under which a contract can be legally voided, and analyzes liability under employment contracts.

MGT 937 Interviewing Techniques 2 (2-0)

Skills in planning, preparing, establishing rapport, asking effective questions, closing, and acting upon accumulated information. Improve ability to gather information, counsel and coach employees, conduct job interviews, and appraise performance. MDC Seminar.

MGT 943 Problem Solving 1 (1-0)

Difficulties involved in naming a problem, setting priorities, and the various standards involved with a problem. Focus on the pitfalls commonly encountered by supervisors when solving problems. MDC Seminar.

MGT 958 Management Team Building 1 (1-0)

Principles and practices to help a work group function more effectively; covering leadership, communication, decision-making, and conflict resolution. MDC Seminar.

MGT 962 Power and Risk Management 2 (2-0)

Basic power concepts, and individual leadership styles and their most effective application in the development of a personal profile for risk-taking. MDC Seminar.

MGT 964 Employee Performance and 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. MDC Seminar.

MGT 968 Communication and Management's Role 1 (1-0)

Motivation differences, resolution of conflict, and influencing behavior change. MDC Seminar.

MGT 971 Managing Change in the 80's 2 (2-0)

Building more comfortable working relationships between men and women in the work place and strategies to manage change in the work force and work place most effectively. MDC Seminar.

- MGT 973 Self Assessment** 1 (I-0)
Know how to view yourself. Personal data spelled out, insights about leadership strengths, areas for minor alterations, basis for decisions about developing one's most productive management style. MDC Seminar.
- MGT 975 Supervising for Motivation** 1 (I-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. MDC Seminar.
- MGT 977 Communicating for Results** 1 (I-0)
Prevent failures in oral communication; helpful techniques to aid managers. MDC Seminar.
- MGT 978 Time Management in Business** 1 (I-0)
Systematic approach to managing yourself and others through analyzing and correcting time problems. MDC Seminar.
- MGT 982 Career Development** 1 (I-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. MDC Seminar.
- MGT 983 Project Management** 2 (2-0)
Basic project management skills and concepts. Common project management problems faced in business and organizational environments. MDC Seminar.
- MGT 985 Coaching and Counseling** 1 (I-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. MDC Seminar.
- MGT 986 Pre-Supervisory Training** 1 (I-0)
Skill assessment, transitional issues, management techniques, and creative problem-solving techniques. MDC Seminar.
- MGT 988 Stress Management** 1 (I-0)
Skills to prevent or alleviate the effects of job tension, stress, and burn-out. MDC Seminar.
- MGT 989 Employee Relations for the Manager** 1 (I-0)
Cost efficient and legal approaches to combating turnover, absenteeism, employee grievances, disciplinary problems, and poor performance. MDC Seminar.
- MGT 994 Written Communication Skills for the Manager** 1 (I-0)
Practical work: produce a writing sample, checklist to identify problems, correct the problems, and critiquing and editing another's writing. MDC Seminar.
- 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. MDC Seminar.
- MGT 998 Introduction to Business and Financial Understanding** Variable
Management and marketing functions; legal and financial considerations of running a business and social, ethical, and environmental responsibilities. MDC Seminar.
- Marketing (MKT)**
Management and Marketing Department
Division of Business
- 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: Department approval or MKT 120. 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: Department 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: Department 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)
Activities used by retailers in selling goods to ultimate consumers. Emphasis tailored to the needs and interests of the class.
- 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. Includes copywriting, selection of media, and ways advertisers can approach problems effectively.
- MKT 151 Effective Retail Selling** 1 (I-0)
Opportunity to review, update, and add to their selling skills. Seminar.
- MKT 154 Professional Selling Skills** 1 (I-0)
Skills and techniques necessary to "make the sale." Includes developing a professional approach and process; planning and prospecting; communicating effectively; presenting the product, service or idea; meeting resistance and closing the sale. Seminar.
- MKT 163 Customer Relations** 1 (I-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. Seminar.
- MKT 200 Introduction to Marketing** 4 (4-0)
Study problems and policies of manufacturers, wholesalers, and retailers in the marketing of goods and services. Examines channels of distribution, customer relations, functions of sales departments, price policies and communications. 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 220 Sales Management** 3 (3-0)
Prerequisite: MKT 120 or equivalent. Organization and operation of the sales division within a business enterprise from the viewpoint of management. Planning, organizing, and controlling of the total sales effort are emphasized.
- 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 nontechnical.
- MKT 230 Independent Study-Marketing** 3 (3-0)
Prerequisite: Department approval.
- MKT 231 Independent Study-Marketing** 3 (3-0)
Prerequisite: Department approval.
- MKT 232 Independent Study-Marketing** 3 (3-0)
Prerequisite: Department approval.
- MKT 233 Independent Study-Marketing** 3 (3-0)
Prerequisite: Department 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 Marketing Internship** 3 (3-0)
Prerequisite: Department approval.
- MKT 236 Marketing Internship** 3 (3-0)
Prerequisite: Department approval.
- MKT 237 Marketing Internship** 3 (3-0)
Prerequisite: Department approval.

MKT 238 Marketing Internship 3 (3-0)

Prerequisite: Department approval. An approved training station, earn credits for satisfactory work performance and wages for hours of work related to marketing.

MKT 240 Sales Internship 3 (3-0)

Prerequisite: Department approval.

MKT 241 Sales Internship 3 (3-0)

Prerequisite: Department approval.

MKT 242 Sales Internship 3 (3-0)

Prerequisite: Department approval. An approved training station, earn credits for satisfactory work performance and wages for hours of work related to sales.

MKT 243 Computer Sales Independent Study 3 (3-0)

Prerequisite: Department approval. A project. An in-depth study in an area of interest and report findings. A minimum of 10 hours work per credit is required.

Real Estate (RE)

Management and Marketing Department
Division of Business

RE 270 Real Estate Business Math 3 (3-0)

Interest, percentages, amortization, commission, closing statements, and other real estate problems.

RE 271 Real Estate Business I 3 (3-0)

Facets of the real estate business. Emphasis on points of law and real estate principles useful to the salesperson and broker. Credit toward GRI designation.

RE 272 Real Estate Business II 3 (3-0)

Prerequisite: RE 271 or equivalent. Personal selling, real estate closing and taxation, appraisal techniques, advanced financing, and property management. Broker oriented course. Credit toward GRI designation.

RE 273 Real Estate Investment and Taxation 3 (3-0)

Prerequisite: Department approval or RE 272 & RE 275. Taxation, investment analysis, depreciation, income appraising, investment finance, exchanging, and property management.

RE 274 Real Estate License Examination 3 (3-0)

Intense study in preparation for the Educational Testing Service (ETS) salesperson examination required for licensing in the State of Michigan, as well as the Michigan portion of the sales exam.

RE 275 Real Estate Finance 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 277 Property Management 3 (3-0)

Market and monetary influences on real estate, creating a management plan, merchandising residential space, tenant negotiations, rent, leases, collections, managing apartments and retail stores, store rentals and percentage leases, special purpose management, tenant-owner relations, records accounting, and insurance.

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 280 Real Estate Sales 3 (3-0)

Prerequisite: RE 271 or RE 274. Workshop approach for brokers and salespersons on how to improve techniques of listing and selling single-family homes. Successful sales and listing techniques introduced. First-hand experience by role-playing strategies.

RE 282 Real Estate Broker Preparation 3 (3-0)

Prerequisite: Department approval or RE 272. Prepare prospective brokers for the Educational Testing Service (ETS) State Broker's license exam as well as the Michigan portion of the sales exam. Includes review of brokerage law, closing statement preparation, law of agency, rules and regulations, fair housing, civil rights, financing, and appraisal.

RE 287 Real Estate Independent Study 3 (3-0)

Prerequisite: Department approval.

RE 288 Real Estate Independent Study 3 (3-0)

Prerequisite: Department approval.

RE 289 Real Estate Independent Study 3 (3-0)

Prerequisite: Department approval. For advanced real estate students. Design, research, implement, and draw conclusions about an area of interest in the real estate field. A minimum of 10 hours work per credit.

RE 290 Real Estate Construction Fundamentals 3 (3-0)

Single-family residential construction. Includes construction basics: excavation to finished stages. Architectural styles, mechanical systems, reading blueprints, common problems of houses, site selection, and building materials.

RE 291 Appraisal I 4 (4-0)

Principles, methods, and techniques of real estate appraising with application. This course is sometimes co-sponsored. If co-sponsored by the Lansing Chapter #43—Society of Real Estate Appraisers, receive SREA Course 101 credit.

RE 292 Appraisal II 4 (4-0)

Prerequisite: RE 291. Advanced 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 2 (2-0)

Prerequisite: RE 271 or RE 274. Introduction to land and its elements, land titles and interests in land, abstracts and title insurance, deeds, easements, liens, escrows, and principles of law to transaction.

RE 294 Real Estate Law II 2 (2-0)

Prerequisite: RE 293. Continuation of the concepts in RE 293.

Small Business Management (SBM)

Management and Marketing Department
Division of Business

SBM 210 Marketing for Profit for Small Businesses 1 (1-0)

The marketing concept and the marketing mix (product, promotion, pricing, and place) related to business will be covered. Also sales strategies, planning and research, customer buying patterns, and pricing strategies necessary to produce profit maximization. MDC Seminar.

SBM 212 Loss Prevention 1 (1-0)

Principles and practices in loss prevention—internal and external. Policies and procedures. Includes fraudulent check writing, what to look for in a bad check, and preventing bad checks. MDC Seminar.

SBM 214 Computers in Small Business 1 (1-0)

Includes use for accounts payable, accounts receivable, payroll, inventory control, general ledger, and profit and loss statements. How computer application can meet the needs of various businesses explored. Cost effectiveness of ownership vs. buying computer time. MDC Seminar.

SBM 216 Insurance for Small Business 1 (1-0)

Basic casualty and liability coverage; "business interruption," "key men-women," and "bad debt." Distinguish between economizing and gambling to lower insurance costs. MDC Seminar.

SBM 218 Advertising and Promotion for Small Business 1 (1-0)

Why, where, when, and how to advertise and promote questions will be answered in this seminar. Strategies using various media for an effective advertising and promotional approach will be explored. MDC Seminar.

SBM 220 Financial Management for Small Business 1 (1-0)

Alternative sources of financing available. Profit and cash planning skills required to determine the amount of financing. Prepare to meet financial needs effectively. MDC Seminar.

SBM 222 Employee Relations for Small Business 1 (1-0)

Cost efficient, legal approaches to combating turnover, absenteeism, employee grievances, disciplinary problems, and poor performance in union and non-union settings. MDC Seminar.

SBM 223 Starting a Small Business 1 (1-0)

Facets in starting and operating a small business. Overview of the steps in planning, making decisions, and developing solutions. Accounting system and records required. Assist in making the decision to choose small business management as a possible vocation. MDC Seminar.

SBM 224 Legal Liabilities for Small Business 1 (1-0)

Practical topics include formation, premises, franchising, consumer protection and its effect on business, employee relations, relations with other businesses, and benefits with emphasis on taxation and securities. MDC Seminar.

**SBM 225 Sales and Cost Improvement
for Small Business 1 (1-0)**

Planning for sales, pricing for profit, controlling costs, and budgeting resources. MDC Seminar.

Security (SEC)

Management and Marketing Department
Division of Business

SEC III Introduction to Security 4 (4-0)

History and methods of the profession, including loss prevention theory, risk management, and safety.

SEC II5 Loss Prevention 4 (4-0)

Prerequisite: Department approval or SEC III. Operational areas of security in a framework of theoretical relevance. Risk management, risk control, and risk accountability defined in a usable framework.

SEC II6 Advanced Loss Prevention 4 (4-0)

Prerequisite: Department approval or SEC III & SEC II5. Practical skills development course concentrating on loss prevention survey construction and application in the field. Includes visitation to ongoing quality loss prevention programs.

**SEC 235 Firearms Safety and
Marksmanship 4 (4-0)**

Prerequisite: Department approval. Safety rules and regulations, range procedures, nomenclature, and function of the various types of weapons and types of ammunition. Firing range instruction to attain at least the basic marksmanship qualifications.

Savings and Loan (SL)

Management and Marketing Department
Division of Business

SL I03 Teller Operations 3 (3-0)

Importance of the teller in creating and maintaining good customer relations. Specific operational procedures necessary for successful performance.

SL I04 Savings and Loan Accounting I 3 (3-0)

Accounting, bookkeeping, and auditing functions in a savings association.

SL I05 Savings and Loan Accounting II 2 (2-0)

Prerequisite: SL I04. Accounting procedures including the interrelationship among a savings association's departments in financial statement preparation.

SL II8 Effective Business Writing I 3 (3-0)

Fundamental concepts, correct form, and proper style to write effective business correspondence. Good content organization, correct grammar, and bad-news business letters.

SL II9 Effective Speaking 3 (3-0)

Develop specific skills to become a more effective and confident speaker.

**SL I53 Fundamentals of Savings and
Loan Data Processing 3 (3-0)**

Applying basic data processing concepts to the savings association business.

**SL I60 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 I62 Savings Association Operations 3 (3-0)

Overview of internal operations. Responsibilities of various departments and the interrelationship of all job assignments.

**SL I66 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 I68 Effective Business Writing II 3 (3-0)

Practice writing standard business letters with particular emphasis on letters of persuasion and collection and business reports. Terminology.

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 2II 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 2I5 Real Estate Principles I 3 (3-0)

Principles of real estate administration, including legal and economic characteristics of real estate, real estate markets, appraising methods, and mortgage lending.

SL 226 Human Relations 3 (3-0)

Personalized approach to general psychology. Adapted to a working person's needs and interests. Goals for personal improvement, gain a better understanding of others, and improved interpersonal relationship skills on the job.

SL 243 Commercial Law I 3 (3-0)

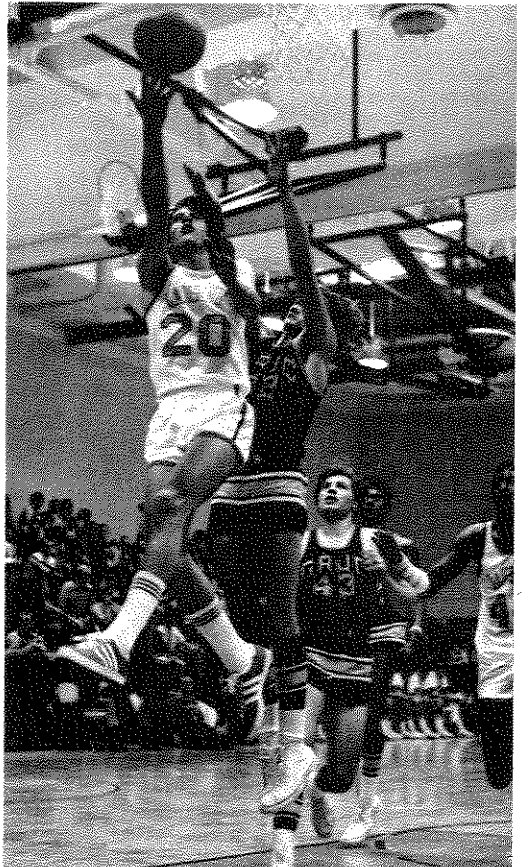
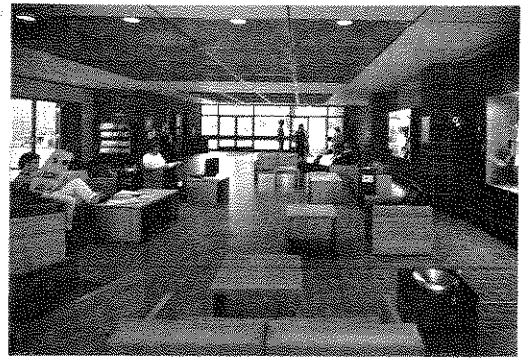
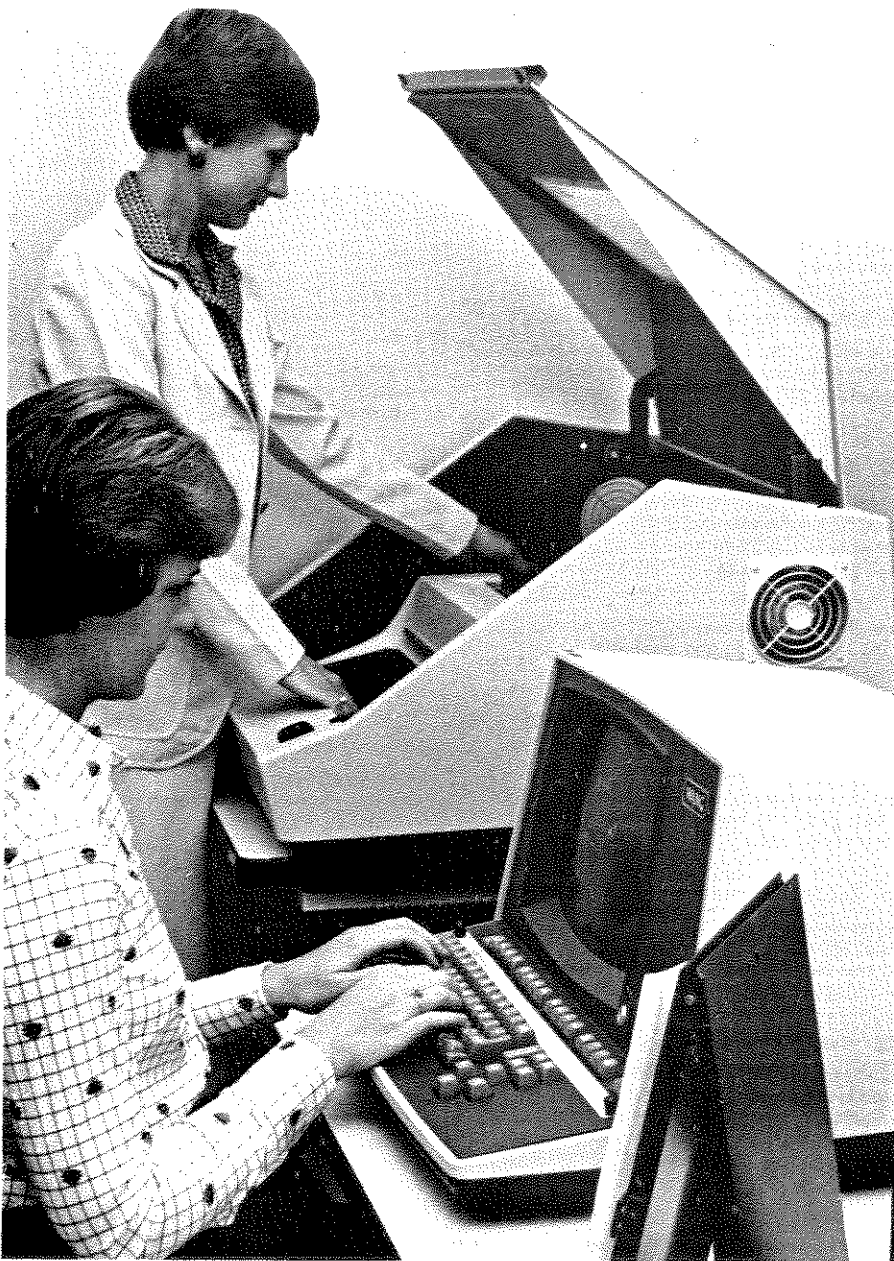
Principles of business law with emphasis on the elements of a contract, such as offer and acceptance, the capacity to contract, considerations, and judicial remedies.

SL 244 Commercial Law II 3 (3-0)

Basic business law principles with emphasis on commercial paper, holders in due course, liability of parties, bank deposits and collection, and security agreements.

**SL 276 Individual Retirement
Accounts/Keogh Plans 3 (3-0)**

For savings counselors, tellers, and savings department supervisors. Background in the legal requirements for establishing and contributing to retirement accounts. Covers IRA's, Spousal IRA's, Rollovers, Simplified Employee Pension Plans (SEPP's), and Keogh's.



DIVISION OF APPLIED ARTS & SCIENCES

William Monroe, Dean

The Division of Applied Arts and 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 or the Dean for further information.

Objectives

Programs in the Division of Applied Arts and Sciences are developed to serve a diversity of needs across the community. These include particular needs of labor, industry, business and government, and of other groups wishing to participate in seminars, courses, or other service educational activities. With the exception of a few continuing education courses in 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.

Career Training:

- to meet specific individual needs through single courses, combinations of selected courses, one-year Certificate Programs, and Associate Degree Career Programs.
- 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.
- to provide an opportunity for industries, governmental agencies, hospitals, or other organizations wishing special courses intended to help their employees perform better in their assigned tasks or to become qualified for advancement to better positions.
- to provide an opportunity for apprentices who wish to enroll in joint "on-the-job" training in cooperation with local employers and related training at the Community College.

In addition to the College staff or full-time faculty, the career programs feature a team of part-time 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.

Currently, the Division of Applied Arts and Sciences offers training in more than 120 careers. These career training opportunities include the following:

Applied Technology Certificate Programs

Alternate Sources of Energy
Appliance Servicing
Auto Body Repair & Painting
Auto Mechanics
Die Maker-Tool and Die maker
Diesel Engine Technology
Glassblowing
Heating and Air Conditioning
Industrial Management
Industrial Technology
Labor Studies
Machine Repair
Machinist, Toolmaker
Millwright
Pipefitter
Plastics
Residential Builder
Sheet Metal
Small Engine Repair
Welder

Applied Technology Associate Degree Programs

Automotive Technology
Auto Body Repair and Painting
Diesel Engine Technology
General Technology
Heating, Air Conditioning and Refrigeration
Industrial Management
Industrial Technology
Labor Studies
Machine Maintenance Technology
Plumber-Pipefitter (Industrial)
Tool Inspection
Tool Making
Tool and Die Making
Welder

Applied Technology Service Trades Apprenticeships

Automotive Body Repair
Automotive Painter
Automotive Servicing
Diesel Mechanics
Small Engine Repair

Applied Technology Building Trades Apprenticeships

Asbestos Worker
Bricklaying
Carpentry
Electrical (Inside)
Electrical (Residential)
Painting and Decorating
Plumbing and Pipefitting

Applied Technology Industrial Trades Apprenticeships

Die Making
Die Sinking
Draftsman
Electrician (Industrial)
Machine Repair
Machinist
Maintenance Machinist
Millwright
Model Making
Numerical Control Programmer
Welding Technology

Engineering Technology

Architectural Technology
Architectural Technology - Solar Option
Avionics Technology
Civil Technology
Industrial Drafting Technology
Electro-Mechanical Technology
Electronics Technology
Electronics Technology - Biomedical Option
Electronics Technology - Digital Option
Fire Sciences Technology
Landscape Architectural Technology
Mechanical Technology
Occupational Safety and Health
Quality Control and Reliability Technology
Truck Driver Training

Health Careers

Adaptive Rehabilitation Programs
-Cardiac - Multiple Sclerosis
-Cancer - Neurological
Advanced Emergency Medical (Paramedic)
Hospital Central Supply Technician
Coronary Care Nursing
Dental Assistant - Associate Degree
Dental Assistant - Certificate
Dental Business Assistant
Dental Hygiene
Emergency Medical Technician
Electrocardiography Technician
Health Education Program
Health Maintenance Program
Hospital Food Services Supervisor
Hospital Ward Secretary
Medical Sonography (Fall, 1984)
Nuclear Medicine Technician
Nursing - "Career Ladder" Program
Nurse - Health Aide

Phlebotomy Technician
Practical Nursing
Psychiatric Technician
Radiation Therapy (Fall, 1983)
Radiologic Technology (Radiographer)
Respiratory Therapist (Associate Degree)
Respiratory Therapy Technician
Surgical Technician

Performing and Creative Arts

Art

Artist/Professionals
Commercial Art
Interior Design

Dance

Modern and Ballet Emphasis

Music

Commercial
Instrumental
Vocal
Applied Lessons
Instrumental
Vocal
Piano Tuning

Theatre

Acting
Costume Design
Directing
Lighting and Sound
Set Design and Construction

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 the LCC Office of Transfer Applications in the Department of Student Development Services in order to achieve maximum transferability.

Associate Degree Programs

Criteria for the Associate Degrees in the Applied Arts and Sciences Division pertain to the following degrees:

Associate-Applied Arts
Associate-Applied Science
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 a 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 104 or SS 105)

Certificate Programs

Certificate programs are designed to meet specialized needs of students in certain fields. A Certificate program duration can vary from a few days for an intensive workshop to an extensive program requiring additional work beyond the Associate Degree programs. These Certifi-

cate programs are described in detail in the departmental sections of this catalog.

Community Service Programs

- Individually designed to satisfy broad segments of the community served
- Ranging from industrial service to production of Broadway musicals
- Locations arranged to suit the needs of the community.

This may include offerings within industry or in other locations within the college service area. Recently, the Division of Applied Arts and Sciences has offered a variety of seminars as part of this community service. These and other seminars can be offered upon request through the office of the Dean of the Division of Applied Arts and Sciences.

Recent seminars have included the following:

Advanced-Electrical Controls
Advanced Special Burner
Apprentice
Automotive Body
Automotive Mechanics
Automotive Service
Drafting
Electronics
Fire Science
Heating and Air Conditioning
Industrial Management (Basic Skills)
Industrial Management
(Front Line Foreman)
Michigan Dept. of State Highway
Oil Burner
OSHA-MIOSHA (Occupational Safety & Health Act-Mich.
Occupational Safety & Health Act)
Safety
Truck Driver
Waste Water (State Health Dept.)
Welding (In-plant)
Welding
Art Lecture
Art Lecture-Art and Industry
Band and LanSymphonic Choir
Dental Radiology

AVIATION TECHNOLOGY

Aviation Technology

(AFT) (AFG) (AFM) (AFP)

This program provides training for students who aspire to become professional pilots. The degree includes all flight training, flight simulator training and associated ground schools to help prepare students for Private, Commercial and Instrument pilot license examinations. The student is encouraged to take electives in Business, Marketing, and Management to fulfill the Associate Degree requirement of 90 credits. The curriculums are fully approved by the Federal Aviation Administration. Curriculum Code 531.

Aviation Maintenance Technology

Associate Degree (AFG) (AFM) (AFP)

This 24 month (144 credit) program is designed to help to prepare the student for a career in the Aviation Maintenance field. Students in this program also work toward the qualifications required to pass the Aviation Administration Examinations and acquire an Airframe and Powerplant Mechanic License.

During the program, students will cover a wide variety of subjects dealing with airplanes, reciprocating engines, turbine and jet engines, propellers, ignition, electrical systems, and hydraulic systems.

Approximately 1900 hours of required classroom, shop and laboratory instruction are divided into: Airframe and Powerplant Mechanic General, 400 hours; Powerplant Mechanic, 750

hours; and Airframe Mechanic, 750 hours. A waiting list is maintained for admission. Curriculum Code 532.

Flight Training (AFT)

Flight Training I through IX progressively trains the student 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. Prerequisite: Department approval, FAA Class II medical certificate. Minimum age: 17 years by start of AFT 202. Each term all new and continuing flight students will be required to meet with the Chief Flight Instructor to reserve a flight time and pay a \$50.00 deposit toward their lab fees for the upcoming term.

Ground Schools (AFT)

Aviation Technology Center
Division of Applied Arts and 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 111 Aviation History I 2 (2-0)

Evolution of aviation and space achievements: individual accomplishments, the role of government, regulations and legislation, and the philosophical interaction between these institutions and our culture.

AFT 112 Aviation History II 2 (2-0)

Evolution of aviation and space achievements: individual accomplishments, the role of government, regulations and legislation, and the philosophical interaction between these institutions and our culture.

AFT 150 Instrument Pilot Ground School 6 (6-0)

Prerequisite: Department approval or AFT 100. Preparation for the FAA Instrument Rating written examination. Instrument ground school training in instrument flying practices and procedures.

AFT 169 Your Body in Flight 1 (6-6)

Prerequisite: Department approval. Wright Patterson AFB field trip for aviation physiology topics; hypoxia, oxygen use, sensory illusion, vertigo, spatial disorientation, stress, drugs, scuba effects, physical fitness and survival. Qualifications certificate upon completion of the high altitude chamber flight. Aviation physical exam (third class or better) must not be more than one year old as of the date of the chamber flight in order to make the high altitude chamber ascent.

AFT 201 Flight Training I 6 (6-0)

Prerequisite: Department approval and 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: AFT 201 and department approval and C-AFT 212. Preparation for the Private Pilot license flight test.

AFT 203 Flight Training III 6 (6-0)

Prerequisite: AFT 202, AFT 212, department

approval, AFT 213 concurrently, AFT 150 concurrently. Builds experience required for the Commercial Pilot license. Involves cross-country flying and instrument skills.

AFT 204 Flight Training IV 6 (6-0)

Prerequisite: AFT 203, AFT 213, AFT 150, department approval, AFT 215 concurrently. Involves cross-country flying and skills in commercial pilot maneuvers.

AFT 205 Flight Training V 6 (6-0)

Prerequisite: AFT 204, AFT 214, AFT 220, department approval, AFT 215 concurrently. Trains the Commercial Pilot applicant in complex aircraft and IFR procedures.

AFT 206 Flight Training VI 6 (6-0)

Prerequisite: Department approval or AFT 205, AFT 214. 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: Department approval or AFT 255. 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: Department approval. Prepares the Certified Flight Instructor (CFI) to achieve the Instrument Flight Instructor rating.

AFT 209 Multiengine Flight Training 2 (2-0)

Prerequisite: Department approval or AFT 217 concurrently. 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: Department approval or AFT 211. Emphasizes VOR and ADF navigational procedures. Includes review of applicable private pilot maneuvers.

AFT 213 Flight Simulator III 2 (1-1)

Prerequisite: Department approval or 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: Department approval or 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: Department approval or AFT 214. Reviews VOR and ADF holding, ILS front and back course approaches, ASR and no gyro approaches, and out communication procedures.

AFT 216 Flight Simulator VI 2 (1-1)

Prerequisite: Department approval or AFT 215. In-depth study of all instrument maneuvers and procedures.

AFT 217 Multi-Engine Flight Simulator 2 (1-1)

Prerequisite: Department 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 aircraft.

AFT 220 Commercial Pilot Ground School 4 (4-0)

Prerequisite: Department approval or AFT 100 and AFT 150. Preparation for completion of the FAA Commercial Pilot written examination. Review of instrument regulations and procedures.

AFT 255 Flight Instructor Ground School 4 (4-0)

Prerequisite: Department approval or AFT 204, AFT 214 and AFT 220. For the FAA Flight Instructor and FAA Flight Instructor Fundamentals written examination. Prepare for the FAA Advanced Ground School instructor's license.

AFT 256 Instrument Flight and Instrument Ground Instructor 4 (4-0)

Prerequisite: Department approval or AFT 155. Preparation for FAA Instrument Ground Instructor written examination and FAA Instrument Flight Instructor written examinations.

AFT 260 Airline Transport Pilot 5 (5-0)

Prerequisite: Department approval. Covers the FAA Airline Transport Pilot written examination. Includes subsonic, transonic, and supersonic aerodynamics, jet engine theory, jet engine operation and performance, high altitude weather, weight and balance calculations, high altitude flight planning, and Federal Aviation Regulations.

AFT 270 Aircraft Engine Overhaul 5 (4-2)

Disassemble aircraft engines, clean and inspect, using Magnaflex Magnaglo magnetic particle inspection system for ferrous, and zygl dye penetrate for non-ferrous type metals. Parts will be repaired, reconditioned or replaced as necessary and engines reassembled.

AFT 271 Aircraft Accessories 4 (2-4)

Identification, inspection, trouble-shooting and operation of accessories. Starters, generators, magnetos, alternators and other accessories are used.

Aviation Mechanics (AFG)

Aviation Technology Center
Division of Applied Arts and Sciences

AFG 100 Aviation Mathematics and Physics 3 (3-0)

Prerequisite: Department 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: Department approval or AFG 100. Basic electrical theory and its application to aircraft and related electrical systems and circuits. Includes A.C. and D.C. currents, magnet-

ism, generators, motors, series, series-parallel, and electrical relay circuits.

AFG 102 Aircraft Drawings 2 (2-0)

Prerequisite: Department approval or AFG 101. Basic drawing applications used in aviation maintenance. Read and interpret drawings and schematics used in production of aircraft parts, components 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: Department approval or AFG 103. 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: Department approval or AFG 104. Aircraft construction and methods of cleaning and preserving aircraft structural materials. The non-destructive inspections are conducted by Zygl, magnaflex, and dye penetrants.

AFG 106 Ground Operation and Servicing 2 (1-2)

Prerequisite: Department approval or AFG 105. 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: Department approval or AFG 106. Explores various aircraft maintenance publications, forms and records. Introduces regulations involving mechanic limitations and rights and maintenance-accepted practices.

Airframe Mechanic (AFM)

Aviation Technology Center
Division of Applied Arts and Sciences

AFM 208 Aircraft Structures I 7 (5-5)

Prerequisite: Department approval or AFG 107. 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: AFM 208. Studies maintenance practices used in construction, inspection, and repair of aircraft metal structures.

AFM 210 Aircraft Welding 3 (2-3)

Prerequisite: Department approval or AFM 209. Explores welding applications and methods used in repairs and inspection of aircraft structures by aviation maintenance techniques.

AFM 211 Assembly and Rigging 6 (4-4)

Prerequisite: Department approval or AFM 210. Covers assembly and rigging of aircraft control structures. Provides practical application to remove, install, and adjust aircraft flight controls by balance, tension, and motion to meet flight safety standards.

AFM 212 Aircraft Fuel Systems 3 (2-2)

Prerequisite: Department approval or AFM 211. Covers the study, analysis, trouble-shooting, and repair of various aircraft fuel systems.

AFM 213 Aircraft Electrical Systems 9 (7-5)

Prerequisite: Department approval or AFN 212. Inspection and repair of aircraft electrical circuits and components.

AFM 214 Aircraft Hydraulics and Pneumatics Systems 4 (3-2)

Prerequisite: Department approval or AFM 213. Inspection, service and repair of aircraft hydraulics and pneumatic systems and components.

AFM 215 Aircraft Landing Gear Systems 4 (3-3)

Prerequisite: Department approval or AFM 214. 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: Department approval or AFM 215. 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: Department approval or AFM 216. 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: Department approval or AFM 217. Inspection systems used to meet conformity certification of aircraft and system components.

Powerplant Maintenance (AFP)

Aviation Technology Center
Division of Applied Arts and Sciences

AFP 219 Engine Electrical Systems 3 (2-3)

Prerequisite: Department approval or AFM 218. Study, analysis, service and repair of engine electrical systems and components.

AFP 220 Ignition Systems 7 (5-5)

Prerequisite: Department approval or AFP 219. Study, analysis, service, and repair of aircraft engine ignition systems and components.

AFP 221 Propeller Systems and Controls 6 (4-4)

Prerequisite: Department approval or AFP 220. Covers study, analysis, service and repair of aircraft engine propellers, systems and controls.

AFP 222 Lubrication Systems 4 (3-2)

Prerequisite: Department approval or AFP 221. Studies aircraft engine lubrication systems and components.

AFP 223 Engine Fuel Systems I 1 (1-1)

Prerequisite: Department approval or AFP 222. Studies and analyzes aircraft engine fuel systems and components.

AFP 224 Engine Fuel Systems II 4 (3-3)

Prerequisite: Department approval or AFP 223. Covers aircraft engine carburetion requirements including the application, service, and repair of carburetors.

AFP 225 Induction and Exhaust Systems 3 (2-2)

Prerequisite: Department approval or AFP 224. 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: Department approval or AFP 225. Explores theory, application and practices used in inspection, tear down, and preventative maintenance of reciprocating engines. Students are involved in the tear down and inspection of opposed type reciprocating engines. Students are involved in the tear down and inspection of opposed type reciprocating engines.

AFP 227 Turbine Engine I 4 (3-2)

Prerequisite: Department approval or AFP 226. Covers the construction and design of various turbine engine powerplants.

AFP 228 Reciprocating Engine II 3 (2-3)

Prerequisite: Department approval or AFP 227. Covers practical installation, removal, and trouble-shooting reciprocating engines and their related systems.

AFP 229 Turbine Engine II 3 (3-2)

Prerequisite: Department approval or AFP 228. Covers practical test cell installation and trouble-shooting turbine engines and their related systems.

AFP 230 Engine Instrument Systems 3 (2-2)

Prerequisite: Department approval or AFP 229. 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: Department approval or AFP 230. Covers inspection requirements of aircraft engine to meet established conformity and standards of airworthiness. Engine system operations and adjustments are conducted by use of FAA and maintenance publications.

Test Preparation Courses

AFG 232 General Test Preparation 2 (2-0)

Prerequisite: Department approval. Reviews all general subjects to assist the student in preparation for the FAA written and practical examination.

AFM 233 Airframe Test Preparation 3 (3-0)

Prerequisite: Department approval. Reviews all airframe subjects to assist the student in preparation for the FAA written and practical examination.

AFP 234 Powerplant Test Preparation 3 (3-0)

Prerequisite: Department approval. Reviews all powerplant subjects to assist the student in preparation for the FAA written and practical examination.

ENGINEERING TECHNOLOGY DEPARTMENT

Edwin C. Bergmann, Chairperson

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 Engineering Technology. These new and revised courses are meeting the challenge of what is being called the robotics era or the explosion of high technology.

This explosion has not been a sudden one since many high technology applications have been evolving and included in programs throughout the past years.

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 Department is providing the educational opportunities to prepare students to be technicians in these new technologies. A program of instruction could be a single course to upgrade themselves in their present position or to begin the selection of a new career. Associate Degree Programs (90 credit hours) prepares the individual to enter a specialized technical position and to be productive with a minimum of additional training after employment.

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.

Curricular guides are available for all Associate Degree programs. Individual programs and courses are described as follows:

Architectural Studies Center

The Architectural Studies Center at Lansing Community College is the largest and most complete program of its type in the nation. The center offers a series of two-year Associate of Science Degree and 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 student, who is interested in working toward a Bachelors or Masters Degree, the necessary preparatory skills needed for successful advanced study.

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.

Architectural Technology Associate Degree (AT)

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. Curriculum code 540.

Landscape Architectural Technology (LAT)

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. Curriculum code 541.

Solar/Energy Technician Option - Architectural Technology (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 work centers 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. Superinsulation 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.

Civil Technology (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, for control of the flow and uses of water.

On the job, the technician works with engineers to find practical uses for scientific discoveries and serves as the link between 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, prepare maps, inspect jobs, and supervise construction. Curriculum code 515.

Transportation Training (TT)

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.

Electro-Mechanical Technology (EM)

Electro-Mechanical technicians are employed as Electricians and Electro-Mechanical Technicians. They perform such duties as setting up

preventive electrical maintenance programs, maintaining electrical apparatus, troubleshooting malfunctioning equipment including programmable automated machinery, installing replacement equipment and proto-typing state of the art machinery. These technicians are also able to advise on the selection of equipment.

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. Curriculum code 572.

Electronics Technology (ET)

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 Electronics

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. Curriculum code 568.

Biomedical Instrumentation

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. Curriculum code 566.

Communications

The Communications Service Technician installs and maintains radio and television transmitting and receiving equipment. Most such occupations require knowledge that is contained in the Federal Communications Commission General Radiotelephone Examination. Lansing Community College offers preparation courses for the examination as well as courses focusing on the troubleshooting of communications equipment. 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. Curriculum code 565.

Avionics

The Avionics Technician maintains, installs, diagnoses and repairs two-way communication systems, radar, navigational aides, instrument landing systems and related systems on private and commercial aircraft and airport installations. The Avionics Program at LCC offers an in-depth series of specialized courses using live equipment and operational simulators to prepare the student for entry into this growing and challenging field. Curriculum code 567.

Industrial Drafting Technology

The Industrial Drafting Technician is a highly trained draftsman-designer with skills in the production of engineering drawings involving the procedures and techniques in tool-die design and product design. Technical training in Industrial Drafting/Design emphasizes in-depth training on CADAM system software. Upon completion of the program, the graduate will be prepared to function as a Draftsman, Engineering Assistant or Computer Graphics System Operator. Curriculum code 545.

Mechanical Technology Associate Degree (MT)

The Mechanical Technology Program allows students to develop a program of study based on individual needs. Course work is determined by occupational goals. Emphasis is typically devoted to machine shop, metallurgy, drafting, math, quality control, safety and management. A core of five Mechanical Technology courses comprises the only required technical subjects. Interested students should consult with their employer and then the Chairperson of the Engineering Technology Department to draw up an educational plan. Curriculum code 570.

Occupational Safety and Health Associate Degree (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, Occupational Safety Health Act-Michigan Occupational Safety and Health Act, and local government agencies 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. Curriculum code 574.

Quality Control and Reliability Technology (QC)

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. Curriculum code 573.

Architectural Technology (AT)

Engineering Technology Department
Division of Applied Arts and 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.

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.

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.

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.

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.

AT 150 Fundamental Issues of the Urban Environment 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 152 Visual Communications I 3 (1-4)

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.

AT 153 Visual Communications II 3 (1-4)

Prerequisite: AT 152. Introduces freehand drawing with charcoal, pencil, pen and ink media emphasizing and developing abilities for perspective sketching and rendering.

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.

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.

- 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.
- 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.
- AT 235 Underground Shelter 4 (3-1)**
Prerequisite: AT 230 or concurrently. 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.
- 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.
- AT 241 Office Practices and Procedures 4 (4-0)**
Prerequisite: AT 230 or concurrently. 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.
- AT 242 Building Utility Systems 4 (4-0)**
Prerequisite: AT 231. Investigates components and arrangement of residential and commercial plumbing and electrical systems. Heating and cooling systems introduced. Emphasizes code and specification requirements.
- 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.
- 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.
- 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.
- AT 249 Preservation and Adaptive Reuse 3 (3-0)**
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.
- 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.
- AT 252 BOCA/Uniform Building Code II 3 (3-0)**
Prerequisite: AT 251. Offers depth in occupancy requirements based on types of construction such as exitway requirements, protection of corridors and multiple dwellings, standards for apartment houses six stories and higher, fire standards and materials requirements.
- 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 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 271 Structural Design 4 (4-0)**
Prerequisite: AT 232 or equivalent. 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 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 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, 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.
- AT 293 Project Laboratory (Architectural) 3 (0-6)**
Prerequisite: Instructor approval. Research, design and construct a project with the guidance of an instructor. For students who have completed basic architectural courses and desire in-depth projects in a particular area of architectural technology.
- AT 296 Project Laboratory (Architectural) 6 (0-12)**
Prerequisite: Instructor Approval. Research, design and construct a project with the guidance of an instructor. For students who have completed basic architectural courses and desire in-depth projects in a particular area of architectural technology.
- Solar/Energy Technician Option**
Architectural Technology (AT)
Engineering Technology Department
Division of Applied Arts and 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.
- 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.
- AT 202 Energy Efficient Design 4 (4-0)**
Survey of modern methods and materials used to improve the energy efficiency of all buildings: superinsulation techniques, solar energy input, energy storage systems, and other concepts are presented along with the Michigan Energy Code.
- 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.
- AT 204 Business Energy Conservation 3 (3-0)**
Prepares technicians to assist in performing commercial and industrial energy audits. Building operation, waste heat recovery, and energy management systems will be studied in developing and implementing a business energy conservation program.
- 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.
- AT 206 School Energy Conservation 3 (3-0)**
Covers performing an energy audit, including heating and cooling equipment efficiency, lighting, energy monitoring and analysis, and developing a school energy awareness and conservation program.
- 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.
- AT 208 Solar Site Seminar 4 (4-0)**
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.

- 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.
- 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.
- 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.
- AT 212 Solar Assisted Heat Pump Design** 4 (3-2)
Prerequisite: AT 203, AT 205, HAC 231. 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.
- AT 213 Solar Project Laboratory I** 3 (1-4)
Prerequisite: AT 202, AT 203, 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.
- AT 214 Commercial Solar Applications** 4 (3-2)
Prerequisite: AT 202, AT 203, 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.
- 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.
- AT 216 Solar Heating Financial Analysis** 3 (3-0)
The economic evaluation and appraisal of solar energy systems, including tax exemptions and credits. For appraisers, insurers, lenders, tax consultants, realtors, and solar design students.
- 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.
- AT 218 Solar Greenhouse** 3 (3-0)
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.
- AT 219 Computer Assisted Solar Design** 4 (3-2)
Prerequisite: AT 203 or AT 215 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.
- AT 220 Residential Energy Auditing - Conservation** 4 (3-2)
Prerequisite: AT 202, high school algebra and geometry, or instructor approval. 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.
- AT 221 Residential Energy Auditing - Solar** 3 (2-2)
Prerequisite: AT 202, high school algebra or instructor approval. 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.
- 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.
- 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.
- AT 224 Photovoltaic Electric Systems** 4 (3-2)
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.
- AT 225 Alternative Energy Systems** 3 (3-0)
Investigates wind power, methane, geothermal, bio-mass, alcohol fuels, wood burning, and active solar along with ocean tides, saline ponds, and nuclear fusion and fission.
- Landscape Architectural Technology (LAT)**
Engineering Technology Department
Division of Applied Arts and Sciences
- LAT 130 Interior Landscaping** 4 (3-2)
Integrates landscape architectural design principles with indoor landscaping. Covers basic identification, culture, placement, use of foliage and flowering plants in the interior environment. Basic physiological plant requirements are stressed.
- LAT 132 Residential Landscaping** 3 (2-2)
Highlights a basic planning approach for improving residential landscaping, solving elementary landscape problems based on proven design, implementation, and maintenance techniques.
- LAT 133 Residential Landscape Maintenance** 3 (2-2)
Focuses on basic residential landscape maintenance techniques. Lawn, groundcover, shrub and tree maintenance methods are highlighted, including basic fertilizing, pruning and weed control. A general course for the homeowner.
- LAT 140 Landscape Plant Materials I** 4 (3-2)
Explores a select group of hardy ornamental plant materials, emphasizing evergreen and deciduous focal, intermediate and overstory trees. Positive landscape characteristics of individual plants will be stressed as they relate to landscape design values. Basic tree identification is developed.
- LAT 141 Landscape Plant Material II** 4 (3-2)
Continues the exploration of hardy plant materials into the realm of a select group of evergreen and deciduous shrubs, groundcovers and vines. Basic plant identification is developed and positive design characteristics of individual plants are stressed.
- 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.
- 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.
- 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.
- LAT 160 Planting Design I** 4 (2-4)
Provides a practical approach for developing elementary planting plan solutions for site planning problems. Stresses basic drafting skills and design techniques and emphasizes the use of indigenous plant materials in problem solving.
- 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.

LAT 164 Landscape Design I 4 (1-6)

Prerequisite: LAT 152. 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.

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.

LAT 170 Site Grading I 4 (2-4)

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.

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.

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.

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.

LAT 261 Planting Design IV 4 (2-4)

Prerequisite: LAT 161. 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.

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.

LAT 265 Landscape Construction Details I 4 (3-2)

Prerequisite: LAT 250. 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.

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.

LAT 276 Landscape Documents and Specifications 4 (3-2)

Prerequisite: LAT 250. Elaborates the principles and relationships between specifications and working drawings. Stresses familiarization with bidding procedures and general contract conditions. Involves practical landscape specification writing.

LAT 277 Landscape Office Practice 4 (3-2)

Prerequisite: LAT 276. Introduces the elements of office business practice and organization, recordkeeping, on-the-job inspection and close out, and initial proposal writing and contract formulation.

LAT 287 Site Layout I 4 (2-4)

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.

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.

LAT 290 Landscape Independent Study 4 (0-8)

Prerequisite: Department approval. Pursue an independent study of research topic relating to Landscape Architectural Technology. Requires submission of a specific study proposal which is individually evaluated and departmentally approved.

Civil Technology (CT)

Engineering Technology Department
Division of Applied Arts and Sciences

CT 101 Construction Materials I 4 (2-4)

Prerequisite: TEC 150 or concurrently. 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.

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.

CT 103 Construction Methods 4 (4-0)

Prerequisite: TEC 150. 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.

CT 108 Civil Construction Plans I 4 (2-4)

Prerequisite: CT 107. Construction plans for buildings, bridges, highways, sewerage, water supply and wastewater systems will be investigated. Representative construction drawings will be prepared. Winter term.

CT 109 Civil Construction Plans II 4 (2-4)

Prerequisite: CT 108. Continuation of CT 108, with further emphasis on construction plans for various types of Civil Engineering Projects with applications in Computer Graphics. Spring term.

CT 111 Soil Testing and Classification 4 (2-4)

Prerequisite: TEC 150 or concurrently. Teaches testing and classification of soils. Includes discussion of basic geologic principles related to soils. Fall term.

CT 112 Hydraulics 4 (3-2)

Prerequisite: TEC 151. Covers hydrostatics, laminar and turbulent flow in pipes and fittings, pump characteristics, venturi meters, cavitation, flow in open channels, orifices, weirs, critical depths, subcritical and critical flow and channel transitions.

CT 113 Hydrology 4 (3-2)

Prerequisite: TEC 151. Covers the analysis of storm water runoff and the design of control devices. Includes discussion of drainage, culverts, stream flow, open channel flow, Bernoulli's theorem, storm water, ground water and water tables.

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: TEC 150 or concurrently. 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.

CT 132 Basic Surveying II 4 (3-2)

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.

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.

CT 201 Construction Costs 4 (4-0)

Prerequisite: CT 103. Gives methods of preparing material takeoffs and labor estimates and applying current unit prices to estimate construction project costs. Covers definitions of cost, reviews construction bidding and specifications, and construction cost estimating.

CT 202 Construction Contracts 4 (4-0)

Prerequisite: CT 201. Explores fundamentals of contract law liability and Worker's Compensation with various contract documents.

CT 211 Highway Technology I 4 (2-4)

Prerequisite: CT 132, TEC 152. Covers plan and profile drawing, highway planning, financing, organization, geometrical design, traffic studies, pavements, mass diagrams, earthwork and costs.

CT 212 Highway Technology II 4 (2-4)

Prerequisite: CT 211. Continuation of CT 211 with discussion on trends in mass transportation systems.

CT 221 Structural Technology I 4 (3-2)

Prerequisite: CT 123. Deals with basic analysis and design techniques related to structural steel bridges and buildings. Emphasizes standard detailing practices.

CT 222 Structural Technology II 4 (3-2)

Prerequisite: CT 221. Stresses basic analysis, design and detailing methods related to reinforced concrete structures.

CT 227 Structural Drafting I 4 (2-4)

Prerequisite: DT 100. Covers standard detailing practice in the preparation of structural drawings and shop drawings for structural steel buildings and bridges.

CT 228 Structural Drafting II 4 (2-4)

Prerequisite: CT 227. Covers standard detailing practice in the preparation of structural drawings for reinforced concrete structures.

CT 231 Advanced Surveying I 4 (2-4)

Prerequisite: CT 133. Covers stake-out of various construction projects, for horizontal and vertical control. Inaccessible distance problems.

CT 232 Advanced Surveying II 4 (3-2)

Prerequisite: CT 231. Covers precise surveying principles, ground and aerial photogrammetry, astronomy and geodetic surveying. Includes the use of tilting levels, theodolites and other precise instruments.

Registration Exam Review Courses (CT)

Engineering Technology Department
Division of Applied Arts and Sciences

**CT 144 Professional Engineering Exam
Engineering Mechanics 2 (2-0)**

Provides a background in statics, kinematics and dynamics as a review for the Registered Professional Engineer Examination. Fall term.

**CT 145 Professional Engineer Exam
- Hydraulics 2 (2-0)**

Offers a background in hydraulics as a review for the Registered Professional Engineer Examination.

**CT 146 Professional Engineer Exam
Strength of Materials 2 (2-0)**

Provides background in strength of materials as a review for the Registered Professional Engineer Examination.

**CT 147 Professional Engineer Exam
- Thermodynamics 2 (2-0)**

Reviews a background in thermodynamics to prepare for the Registered Professional Engineer Examination.

**CT 148 Professional Engineer Exam -
Electricity and Electronics 2 (2-0)**

Offers background in electricity and electronics as a review to prepare individuals for the Registered Professional Engineer Examination.

**CT 149 Professional Engineer Exam
Engineering Economics 2 (2-0)**

Provides a background in engineering economics as a review to prepare individuals for the Registered Professional Engineer Examination.

Computer Graphics (CG)

Engineering Technology Department
Division of Applied Arts and Sciences

CG 100 Basic CADAM Training 4 (2-4)

Prerequisite: DT 100, TEC 150 or equivalent math and drafting skills. A basic interactive computer graphics terminal operations course that introduces the student to the general features and capabilities of the CADAM System. The student will learn to: log-on and log-off the system; create and edit geometry; create moderately detailed mechanical drawings; use dimensions and notes; and obtain hard copy plots. A lab fee is required.

Electro-Mechanical Technology (EM)

Engineering Technology Department
Division of Applied Arts and Sciences

EM 101 Basic Electricity 4 (3-2)

Prerequisite: High school algebra recommended, SAF 200 concurrently. Exploration and survey of modern electrical technology. Covers basic circuit terminology, electrical calculations, basic hand tools, electrical devices, wiring simple circuits, electrical meters, measuring and troubleshooting circuits. All terms.

EM 102 Basic Wiring Installation 3 (2-2)

Prerequisite: EM 101. 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.

EM 103 Electric Motor Maintenance 3 (2-2)

Prerequisite: EM 101 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.

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. Fall and winter term.

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. Winter and spring terms.

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. Spring and summer terms.

**EM 131 Electric Circuits for
Machine Control 4 (3-2)**

Prerequisite: SAF 200 concurrently. Covers components that are used in electric diagrams of industrial equipment and machines using N.E.M.A. and J.I.C. symbols; understanding and use of wiring, schematic and connection diagrams; use of meters to check voltages in circuits, and use of wiring and ladder diagrams to wire motor starting, timing, latching, and other circuits. Relay diagrams up to moderate size will be analyzed. Fall and winter terms.

**EM 132 Electric Circuits for
Automated Machinery 2 (2-0)**

Prerequisite: EM 131 and SAF 200. Continuation of EM 131 as applied to more complex machinery. Analyzes ladder diagrams of automated machinery.

**EM 135 Electrical Prints for Residential
and Commercial Buildings 3 (2-2)**

Covers basic construction prints including power wiring for receptacles and special loads, lighting, service and feeder calculations; standard symbols, variations in symbols and method of representation on prints; use of schedules and specifications. Special applications include low voltage control, intercom, fire alarm, heating and cooling, and overcurrent protection. Emphasis on correlation to the National Electrical Code. Fall term.

**EM 136 Electrical Prints for
Industrial Buildings 3 (2-2)**

Prerequisite: EM 135. Continuation of EM 135 with emphasis on industrial applications. Covers prints for special industrial loads, high voltage service entrance, industrial lighting, signalling and safety systems. Introduction to electrical energy management. Emphasis on correlation to the National Electrical Code. Winter term.

**EM 151 Industrial Static Control
Systems 3 (2-2)**

Prerequisite: EM 132 concurrently. Introduces static control systems used in industry to operate machines and other equipment. Shows how electronic switching circuits can be used to

sequence operations, count parts and operations, etc. Lab work consists of building and operating static circuits that duplicate relay circuits, and using TTL devices to duplicate the popular static systems.

EM 161 Introduction to Programmable Controllers 4 (3-2)

Prerequisite: SAF 200 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 at least three brands of programmable controllers. Fall and winter terms.

EM 162 Troubleshooting Programmable Controllers 4 (2-4)

Prerequisite: EM 161. Find and repair problems in assembled programmable controllers. Typical problems include bad batteries, broken or loose cable connections, blown fuses, and bad modules. Winter term.

EM 163 Advanced Allen Bradley Controller Programming 3 (2-2)

Prerequisite: EM 161. Continuation of EM 161, using more advanced techniques including math functions.

EM 164 Advanced Modicon Controller Programming 3 (2-2)

Prerequisite: EM 161. Continuation of EM 161 using more advanced techniques.

EM 165 Introduction to Robotics 2 (2-0)

Definition of robots from transfer machines to reprogrammable arms. Covers applications of robots, their history and projected trends; terminology used with robots' axes and rotation, programming terminology, and modes of operation; major components of a robotic system, including drive mechanism, electric power circuit, and programming units.

EM 201 Circuit Fabrication Lab 2 (1-2)

Prerequisite: SAF 200, 20 credits in EM and/or ET Technology Programs Build electronic projects (power supplied, music synthesizers, home lighting controllers, etc.) to gain skills in fabrication techniques; order parts, assemble mechanical as well as electrical components. Projects will be provided by instructors; some projects may be proposed by students.

EM 211 DC Motors and Generators 4 (3-2)

Prerequisite: SAF 200, 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. Fall term.

EM 212 Alternators and Single Phase Motors 4 (3-2)

Review of three-phase theory and calculations. Construction and operating characteristics of each motor are investigated in lab. Winter term.

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. Spring term.

EM 218 Industrial Electronics 3 (2-2)

Prerequisite: ET 112, SAF 200, and ET 131 concurrently. Covers solid state devices; transistors, scr's, IC and others that are used in industrial equipment. Emphasizes analog devices.

EM 240 Electrical Estimating 3 (2-2)

Prerequisite: 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. Spring term.

EM 291, 292, 293 Project Labs 1 (0-2), 2 (0-4), 3 (0-6)

Prerequisite: Department 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)

Engineering Technology Department
Division of Applied Arts and Sciences

ET 100 Basic Electronics 4 (2-4)

Prerequisite: High school algebra. Covers the fundamental concepts of electricity to electronic amplification, using transistors. Emphasis on laboratory work.

ET 102 Electronics Drawing 2 (1-2)

Describes a wide variety of electronic components and their characteristics. Schematic diagrams are drawn and practice is given in relating the schematic diagram to the electronic equipment it represents. Focus is on identification of electronic equipment components and how to relate component interconnection to the schematic diagram for the instrument.

ET 111 Electrical Circuits I 5 (4-2)

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 D.C. circuits using the VOM and VTVM, constructing and testing simple meters, and using the oscilloscope to measure the period and amplitude of an A.C. signal.

ET 112 Electrical Circuits II (AC Circuits and Diodes) 5 (4-2)

Prerequisite: ET 111. 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 required.

ET 113 Electrical Circuits III (Transistors) 5 (4-2)

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. Lab fee required.

ET 121 Machine Language Programming 3 (2-2)

Prerequisite: ET 112. 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.

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.

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. Covers specific applications of electronics. Includes rectifiers, filter, shunt and series regulators, junction and MOS field effect transistors, and applications.

ET 212 Electronic Applications II 4 (3-2)

Prerequisite: ET 113 or instructor approval. Covers linear integrated circuits, operational amplifiers and optoelectric devices.

ET 213 Electronic Applications III 4 (3-2)

Prerequisite: ET 113 or instructor approval. Explores thyristors, thyristor triggering devices and circuits, DC and AC motors and generators.

ET 231 Digital Electronics I 5 (4-2)

Prerequisite: ET 113, 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.

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, 8080A, and 8080 processors. Lab work in breadboarding electronic circuits, and using a microcomputer.

ET 233 Digital Electronics III 5 (4-2)

Prerequisite: ET 232. Covers microprocessors including the Z80, 6802, 6800, 8085, 8048, 8086, also discussed are bit slice processors, 16 bit microprocessors, peripheral adapters and a general purpose microcomputer system. Lab work designing a microprocessor based system.

- ET 241 Test Equipment I 4 (3-2)**
Prerequisite: ET 113, ET 131. Covers use, circuitry and adjustment of various pieces of test equipment including power supplies, meters, oscilloscopes, frequency counters and digital multimeters. Lab work in measurements and adjustments on test equipment.
- ET 242 Test Equipment II 3 (2-2)**
Prerequisite: ET 241. Covers operation and circuitry of a logic pulser, current probe, data analyzer, storage oscilloscope, and other pieces of test equipment.
- ET 243 Peripheral Devices 3 (2-2)**
Prerequisite: ET 232, ET 233 concurrently. Covers adapting microprocessors and microcomputers to devices such as printers, floppy disk drives, video monitors and other peripheral devices.
- ET 251 Digital Troubleshooting I 3 (2-2)**
Prerequisite: ET 131, ET 231 concurrently. Introduces basic techniques of troubleshooting; lab experience in troubleshooting basic digital circuits including clocked circuits, counter circuits, multiplexed displays, and other digital circuitry.
- ET 252 Digital Trouble Shooting II 3 (2-2)**
Prerequisite: ET 232, ET 251. Covers use of test equipment and troubleshooting procedures for troubleshooting microprocessor based microcomputer systems. Lab work in writing troubleshooting procedures for microcomputer equipment.
- ET 261 Radio Servicing 5 (3-4)**
Prerequisite: ET 113 or instructor approval. Includes theoretical and practical troubleshooting 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 televisions for repair.
- ET 262 Television Servicing 5 (3-4)**
Prerequisite: ET 261 or instructor approval. Explores principles of operation of black and white television receivers; troubleshooting techniques. Students provide own handtools and radios for repair.
- ET 263 Advanced Television Servicing 5 (3-4)**
Prerequisite: Department approval or ET 262. Troubleshooting and alignment of color circuits. Students provide own handtools.
- ET 264 Audio Systems Servicing 4 (3-4)**
Prerequisite: Department approval or ET 113. Theoretical and practical troubleshooting techniques; vacuum tube and transistor audio circuits; monaural and stereo amplifiers, speaker systems, and program sources. Emphasis on troubleshooting audio amplifiers, measuring power output, distortion, and other characteristics of audio systems.
- 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.
- ET 272 Communications II 4 (3-2)**
Prerequisite: ET 113, ET 271 or instructor approval. Phase locked loops, amplitude modulation, single sideband, frequency modulation, and receiving systems are covered.
- ET 273 Communications III 4 (3-2)**
Prerequisite: ET 272 or instructor approval. Investigates antennas, transmission lines, microwave devices, and transmitting systems.
- ET 283 Biomedical Instrumentation 5 (4-2)**
Prerequisite: ET 242, PGY 212. Transduction of physiological variables to electrical signals and the measurement of these signals with emphasis on instruments used in a hospital.
- ET 290 Aircraft Electrical-Electronics Systems 6 (3-7)**
Prerequisite: ET 113, ET 131 or equivalent. A study of the electrical and electronic systems aboard modern aircraft focusing on the purpose and operation of systems such as ADF, VOR, LOC, radar, radio altimeters, autopilot and all other equipment serviced by the avionics technician. Included is the study of the aircraft electrical system, including aircraft batteries, filtering, DC and AC power systems, inverters and other integral components. Laboratory activities cover thorough 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 specifications will be stressed.
- ET 291 Avionics Navigation and Communication Systems 6 (3-7)**
Prerequisite: ET 290. A study of communications and navigation systems including communication receivers and transmitters, audio systems, VOR/LOC, Glideslope receivers, Marker-Beacons, ADF, RMI, HSI, antennas, and other types of communication and navigation equipment. The student will operate, make performance checks, troubleshoot various types of avionics navigation and communication equipment, and learn the proper use of different types of test equipment found in the aviation industry.
- ET 293 Avionics Pulse Systems 6 (3-7)**
Prerequisite: ET 291. The study of distance measuring equipment (DME) transponders (TXP), weather radar, radar altimeters, radio 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.
- ET 294 Avionics Flight Control Systems 2 (1-2)**
Prerequisite: ET 291, ET 293 concurrently. 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. 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.
- Fire Science Technology (FST)**
Engineering Technology Department
Division of Applied Arts and Sciences
- 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 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 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 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 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.

Industrial Drafting Technology (DT)

Engineering Technology Department
Division of Applied Arts and 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.

DT 101 Industrial Drafting I 4 (2-4)

Prerequisite: DT 100 or previous drafting experience. Concentrates on the interpretation of working drawings and stresses orthographic projection, sectioning, auxiliary views, and dimensioning according to industrial standards. Various problems in each area are to be developed by the student.

DT 102 Industrial Drafting II 4 (2-4)

Prerequisite: DT 101. Emphasizes advanced techniques correlated to demands of industry. Beginning layout practices are covered, and advanced detailing and assembly type drawing is to be completed by each student.

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.

DT 104 Jigs and Fixtures I (Detailing) 4 (2-4)

Prerequisite: DT 101. Explores drawing problems in designing various types of jigs and fixtures.

DT 105 Jigs and Fixtures II (Design) 4 (2-4)

Prerequisite: DT 104. Details the study and design of advanced jigs and fixtures.

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.

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.

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.

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.

DT 160 Lettering I 1 (0-2)

Introduction to lettering techniques with emphasis on letter formation, proportion, uniformity, and composition. A variety of lettering instruments and methods of applying letters using mechanical techniques will be explored.

DT 202 Die Design I (Detailing) 4 (2-4)

Prerequisite: DT 101. Covers detailing of blanking and piercing dies, basic forming dies, and basic trim dies, material types, heat treat requirements, and press requirements as applied to the design.

DT 203 Die Design II (Layout) 4 (2-4)

Prerequisite: DT 202. Includes the design of blanking and piercing dies, forming dies, and trim dies; metals as applied to the type of die; related study in electro-discharge machines, processes, and estimating.

DT 204 Auto Body Design I 4 (2-4)

Prerequisite: DT 103. Techniques and drafting procedures used in automotive industrial drafting rooms; the preponderance of curved lines and surfaces in body design.

DT 205 Auto Body Design II 4 (2-4)

Prerequisite: DT 204. Reviews basic descriptive geometry as applied to automotive true view problems; basic study of simple and compound surface development; and surface development and true view practice applied to current automotive design problems.

DT 208 Plant layout 4 (2-4)

Prerequisite: DT 101 and MT 108 or equivalent. Focuses on drafting procedures as related to plant layout, including building construction and manufacturing processes.

DT 209 Industrial Drafting Lab 2 (0-4)

Prerequisite: Department approval. Gives additional lab time to advanced students. Students who are taking DT 101 or advanced courses are eligible.

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: Department 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: Department 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.

Mechanical Technology (MT)

Engineering Technology Department
Division of Applied Arts and Sciences

MT 108 Materials and Processes in Manufacture 4 (4-0)

Processes include casting, powered metallurgy, hot and cold working processes, plastic molding, welding, machining, and related techniques. Contrasts advantages of mass, moderate and job lot production, and classified materials. Includes cast iron, arc furnaces, lathes, drills, and abrasive jet machining.

MT 201 Processing and Plant Layout 3 (2-2)

Explores machine-part processing techniques, process engineering cost analysis and plant layout methods. A knowledge of basic manufacturing processes is recommended.

MT 209 Strength of Materials 4 (4-0)

Prerequisite: TEC 151 or equivalent. Involves calculating to determine stress, strain torsion, pure bending, compound stresses, failure theories, beam deflection, columns, and connections. Applies basic beam theory equations to simple shafts, beams and columns to determine stress, deflection and/or buckling strength.

MT 210 Kinematics and Machine Elements 4 (4-0)

Prerequisite: DT 101 and MT 209. Investigates motion analysis of linkages, cams and gears. Study of machine components such as camshafts, slides, brakes and clutches.

MT 211 Machine Design 4 (4-0)

Prerequisite: MT 210 and TEC 152 or Equivalent. Examines practical design fundamentals. Strength of materials and kinematics are applied to solve basic machine design problems.

MT 293, 296 Project Laboratories 3 (0-6), 6 (0-1 2)

Prerequisite: Department approval. Advanced courses, recommended for indepth work in mechanical technology. Research, design or construct a mechanical device or mechanism.

Quality Control (QC)

Engineering Technology Department
Division of Applied Arts and Sciences

QC 100 Introduction to Quality Assurance 3 (3-0)

Covers the total quality control function in industry, with emphasis on an overview of the latest concepts of modern manufacturing requirements.

QC 101 Control Methods 3 (3-0)

Prerequisite: QC 100. Basics of chart control and sampling plans for variables and attributes.

QC 102 Total Quality Assurance 3 (3-0)

Basic managerial techniques and functions of a quality inspector.

QC 200 Control Charts 4 (4-0)

Prerequisite: Department approval or QC 101. Application, design and selection of control charts for variables and attributes.

QC 201 Sample Procedures 4 (4-0)

Prerequisite: QC 200. To acquaint the student with the alteration, design and selection of sampling plans for variables and attributes.

QC 202 Basic Reliability 4 (4-0)

Prerequisite: QC 201. Basic fundamentals of reliability techniques.

QC 250 Inspection Metrology and Print Reading 4 (4-0)

Basic concepts of use, care and maintenance of inspection equipment, especially as applied to part print interpretation.

Occupational Safety and Health (SAF)

Engineering Technology Department
Division of Applied Arts and Sciences

SAF 200 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.

SAF 203 Industrial Safety Standards 4 (4-0)

Develops safety attitudes, focusing on physical environment and its proper administration. Primarily directed at first line supervisors, operators, and safety personnel of all levels.

SAF 204 Industrial Hygiene 4 (4-0)

Prerequisite: Department Approval or TEC 202. Introduces the fundamentals of industrial hygiene, a science devoted to the recognition, evaluation and control of environmental factors or stresses in the work place that may cause sickness, impaired health, or significant discomfort to employees or community residents.

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 206 Handling Hazardous Materials 3 (3-0)

Prerequisite: Department approval or TEC 202. Acquaints accident prevention personnel with the fundamental information to judge the degree of hazard and the problems likely to arise whenever hazardous materials are used, stored or transported.

SAF 210 Public Safety and Fire Codes 3 (3-0)

Covers elements involved in developing a basic emergency preparedness plan to promote safety for employees, visitors, and customers, as well as to protect property and operation. Includes chain of command, medical treatment plans, communications systems, shutdown and evacuation procedures.

SAF 211 Material Handling Safety 3 (3-0)

Examines the problems and safe handling techniques involved in the manual and mechanical handling of materials.

SAF 212 Accident Prevention for Motor Vehicle Fleets 4 (4-0)

Deals with all important aspects of preventing accidents in motor fleet operations, driver selection, training and supervision, vehicle safety, record-keeping, and transport of hazardous materials.

SAF 213 Construction Safety Standards 3 (3-0)

Covers Occupational Safety and Health Act Requirements, recognizing, avoiding, and preventing environmental hazards, and developing overall safety awareness to prevent accident in the construction industry.

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) 3 (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.

SAF 294 Safety Administration 3 (3-0)

For managers who are in charge of directing the safety programs in various types of industrial operations, and business concerns.

Technology General (TEC)

Engineering Technology Department
Division of Applied Arts and 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: TEC 150 or equivalent. 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 155 Programming Scientific Calculators for Technicians 2 (2-0)

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 265 Teaching Methods 2 (2-0)

Considers successful methods, materials, equipment, aids, lesson planning, evaluation, community resources and guidance procedures used in teaching occupational subjects.

TEC 204, 205, 206, Technical Internship 207, 208 4 - 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.

Truck Driver Training (TT)

Engineering Technology Department
Division of Applied Arts and Sciences

TT 101 Truck Driver Training

Instruction covers a four-week period, 8:00-5:00, five days a week. Actual driving time is 120 hours with 40 hours of classroom instruction, with an extended road trip during the last week. Applicants must be 18 years of age. Enrollment requirements include a Department of Transportation physical exam, ability to communicate in the English language, both spoken and written, 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 placed on a waiting list, being admitted on a first-come, first-qualified, first-served basis.

A \$100.00 deposit is required with the application to reserve a space in the class desired. 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.

DEPARTMENT OF APPLIED TECHNOLOGY

William Darr, Chairperson

The Department of Applied Technology offers programs and courses providing instruction and training which can lead to a career as craftsman or technician in the building trades, industrial trades, or the service trades. In addition to education leading to a career, students may enroll to take special courses to improve their performance or extend their abilities in their present activity. In general, courses are open to everyone. In some cases, however, preference is given to apprentices and journeymen. Courses may be set up for special groups.

The primary purposes of the Applied Technology Department are to provide: (1) related instruction for all apprentices in skilled trades served by the College area, (2) one-year Certificate Programs to assist individuals preparing

for job entry level positions requiring basic knowledge and skills, (3) two-year Associate Degree programs to give greater breadth and depth, and (4) individual courses to allow individuals to promote and update themselves in their present occupations or develop new career interests. In keeping with the philosophy of the College, the Applied Technology Department strives to serve broad areas of needs. This vocationally-oriented department provides hands-on experience wherever possible. The department also develops programs to assist industry, government and local agencies in upgrading their personnel, and keeping abreast of technological changes.

The Department offers programs 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.

Apprenticeship Training

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.

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 at the Applied Technology Department 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.

Building trades apprenticeships include:

- Asbestos Worker
- Bricklaying
- Carpentry
- Electrical (Inside)
- Electrical (Residential)
- Painting and Decorating
- Plumbing and Pipefitting

Industrial trades apprenticeships include:

- Die Making
- Die Sinking
- Draftsman
- Electrician (Industrial)
- Machine Repair
- Machinist
- Maintenance Machinist
- Millwright
- Model Making
- Plumber-Pipefitter (Industrial)
- Tool Inspection
- Tool Making
- Tool and Die Making
- Welder

Service trades apprenticeships include those of:

- Automotive Body Repair
- Automotive Painter
- Automotive Servicing
- Diesel mechanics
- Small Engine Repair

Seminars

Lansing Community College develops many seminars in an effort to meet the educational needs of the citizens of our community. These seminars are usually designed for companies or groups of individuals. They are offered on or off campus. In turn, they are intended to help upgrade the individual's working effectiveness and assist in developing new skills. Seminars usually consist of lectures or laboratory experience or a combination of both.

Human relations and technical skills are emphasized. Competence in selecting, preparing, utilizing and evaluating tools and methods are usually stressed according to need. Credits earned can usually be applied to appropriate Certificate or Associate Degree programs.

Associate Degree and Certificate Programs Certificate Programs

The one-year Certificate Programs offered by the Applied Technology Department 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 2.00 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 Applied Technology Department.

The following is a partial list of Applied Technology Certificate Programs:

- Alternate Sources of Energy
- Appliance Servicing
- Auto Body Repair & Painting
- Auto Mechanics
- Die Maker-Tool and Die Maker
- Diesel Engine Technology
- Glassblowing
- Heating and Air Conditioning
- Industrial Management
- Industrial Technology
- Labor Studies
- Machine Repair
- Machinist, Toolmaker
- Millwright
- Pipefitter
- Plastics
- Residential Builder
- Sheet Metal
- Small Engine Repair
- Welder

Associate Degree Programs

Courses completed in Applied Technology Certificate Programs are usually transferable toward an Associate Degree of similar nature within the department.

All Associate Degree Programs require a minimum of 90 term-hour credits.

Each student should check with the transfer counselor, to determine the transferability of credits to a particular college or university.

Applied Technology Associate Degree Programs include:

- Automotive Technology
- Auto Body Repair and Painting
- Diesel Engine Technology
- General Technology
- Heating, Air Conditioning and Refrigeration
- Industrial Management
- Industrial Technology
- Labor Studies
- Machine Maintenance Technology
- Numerical Control Programmer
- Welding Technology

Automotive Technology-Associate in Science Degree

Minimum of 90 credits required.

The Automotive Associate Degree Program is designed to develop a service technician who will be able to diagnose, repair and service today's automobiles. This series of courses will provide an individual with job entry skills enabling him/her to seek employment in the Automotive Service industry. Rapidly changing technology, fuel efficient vehicles, emission considerations and mechanic certification laws all require today's technician to be educationally prepared to face these challenges. Students will gain practical experience by working on and servicing live units in the laboratory courses.

Automotive-Certificate Program

The Automotive Certificate Program is designed to provide the student with job entry skills for employment in the automotive industry. The curriculum consists of practical courses providing skills needed to compete in today's job market.

Heating and Air Conditioning-Associate Degree Program

The Heating and Air Conditioning Associate Degree 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.

Heating and Air Conditioning-Certificate Program

The Heating and Air Conditioning Certificate Program is designed to equip the student with job entry skills for employment in the air conditioning industry.

The curriculum will provide the student with a basic knowledge of the field. Students will be working with the total heating and air conditioning system including air purity and humidity under laboratory conditions; and diagnosing and servicing units and testing equipment used in air conditioning.

Industrial Management-Associate in Science Degree Program

Minimum of 90 credits required.

This program is designed to equip an individual with the necessary background and techniques to qualify for positions in industrial management. It is also valuable for current supervisors who may have been promoted from the ranks of labor, offering pertinent courses to assist their development as professional leaders.

Skills and knowledge in human relations, technical areas, proven management theory and practice, and efficient communications are emphasized in practical and usable ways.

The curriculum is offered on a full-time student basis or may be pursued on a part-time schedule to suit the student's work schedule.

NOTE: Those interested in business management may refer to programs and courses offered by the Department of Management and Marketing.

A typical management program may include courses among the following:

ATR 137	Industrial Presses
ATR 142	Applied Metallurgy
ATR 144	Hydraulics and Pneumatics
IM 165	Employer-Employee Relations
EM 101	Basic Electricity
IM 166	Industrial Supervision I
IM 167	Industrial Supervision II
IM 168	Industrial Supervision III
IM 170	Industrial Labor Management Relations
IM 175	Production and Inventory Control
IM 176	Manufacturing Cost Control
IM 179	Leadership Communications
SAF 205	Safety Practices and First Aid

Labor Studies Program

Associate in Science Degree or Certificate Program

A Labor Studies program in the Applied Technology Department has been developed through the efforts of the College and an advisory committee composed of labor representatives.

An Associate Degree in Labor Studies (as well as a one-year Certificate program) is offered. These programs are designed to meet the needs of organized labor in today's ever-changing society. However, the courses are open to everyone.

The Labor Studies programs enable individuals to extend their horizons and apply a rounded view to the solving of the many problems workers face as participants in a technological revolution and as concerned citizens in a changing world. Some of the course offerings in this area are:

- Structure and Administration of Unions
- Collective Bargaining:

 - Negotiating in the Private Sector
 - Collective Bargaining:
 - Negotiating in the Public Sector

For further information regarding Labor Studies programs, contact the Department of Applied Technology.

Numerical Control Programmer-Associate in Science Degree

Minimum of 90 credits required.

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 Augmented Design and Manufacture) 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.

Applied Technology General (ATG)

Applied Technology Department
Division of Applied Arts and Sciences

ATG 110 Custodial Maintenance I 3 (3-0)

Gives a workable knowledge of cleaning techniques and a general knowledge of topics applicable to the trade.

ATG III Custodial Maintenance II 3 (3-0)

Prerequisite: ATG 110. Minor repairs of the physical plant such as plumbing repair, electrical repairs, boiler, grounds, and swimming pool maintenance. Includes introduction to first aid.

ATG II2 Custodial Maintenance III 3 (3-0)

Prerequisite: ATG 110 & ATG III. Emphasis is placed on the role of the custodial supervisor with respect to employer and employee relations.

ATG 121 Glass Blowing I 4 (2-4)

Shows basic properties of glass and procedures of glass blowing. Emphasis on flow control, viscosity, and making objects from glass rods; also torch and furnace stages of annealing. Lab fee.

ATG 122 Glass Blowing II 4 (2-4)

Prerequisite: ATG 121. Instruction in control blowing of glass tubes, methodology of controlling, and designing of shapes. Lab fee.

ATG 123-124 Glass Blowing III-IV each 4 (2-4)

Prerequisite: ATG 122-ATG 123. Continuation of glass blowing techniques, manipulation of molten glass rods, complex designs, weaving of rods, and joining rods to tubes. Lab fee.

- 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, and basic wood finishing are applied to student-made 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, laminating, steam bending, construction techniques, assembly procedures, finishing, and problem solving. Lab fee.
- ATG 134 Shaker Furniture 3 (2-2)**
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 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 143 Fishing Rod and Lure Making 3 (2-2)**
Design and fabrication of fishing rods and lures. Each student is required to fabricate one rod during course. 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 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. Lab fee.
- ATG 151 Building Solar Furnaces 2 (1-2)**
A hands-on course for the builder, designer, and do-it-yourselfer. Gives a brief overview of solar energy utilization followed by a practical design solution and actual construction of a useable air-type solar furnace. Lab fee.
- ATG 152 Building Solar Water Heaters 2 (1-2)**
Intended for the builder, designer, and do-it-yourselfer. Provides an overview of solar energy applications. Novices and advanced students work together in experimental learning. Lab fee.
- ATG 160 Creative Tinsmithing 3 (1-3)**
Design and construction of functional and/or decorative pieces from tin, copper, and brass. Uses basic metal layout procedures, knowledge of malleable qualities of each metal; a combination of old and new tin and coppersmithing procedures, such as "drawing" and "tinning." Lab fee.
- 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.
- ATG 199 Customer Relations 2 (0-2)**
For the service trades. Covers handling customer problems and complaints in a manner satisfactory to both parties.
- Applied Technology Related (ATR)**
Applied Technology Department
Division of Applied Arts and Sciences
- ATR 100 Machine Tool Survey 5 (2-6)**
Lecture covers machine tools used by the machinist. Laboratory offers a variety of hands-on experiences. 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 101 & ATR 102 ("B" or higher) & 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 or department approval. 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.
- ATR 112 Template Making and Model Checking 3 (2-2)**
Prerequisite: DT 100 or DT 110 or department approval. Functions of models, templates, use of the sine bar, height gauge, and aids. Applications of models are described; interpretations and sectioning of drawings are used. Lab fee.
- ATR 113 Die Construction I 3 (2-2)**
Prerequisite: DT 100 or DT 110 or department 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: Department 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 120 Plastics I (Introduction) 4 (4-0)**
An introduction to the classification of plastics, plastic structure, and how plastics are made. Includes the thermoplastic family: acrylic, fluorocarbon, polyamide, P.V.C., A.B.S., styrene, and polypropylene; the thermoset family: urea and melamine, casein, epoxy, phenolic, polyester, silicone, and urethane.
- ATR 121 Plastics II (Processing) 3 (2-2)**
Prerequisite: ATR 120. Includes molding processes such as compression, transfer, injection, extrusions; also, casting processes and thermoforming processes. Foaming, heat sealing, and fabrication are discussed. Lab fee.
- ATR 122 Plastics III (Fabrication and Design) 3 (1-3)**
Prerequisite: ATR 121. Plastic fabrication such as cutting, joining, fastening, and heat sealing. Also, processing plastic by injectionmolding, extrusion molding, blow molding, vacuum forming, and compression molding. Lab fee.
- ATR 127 Machinery Handbook I 4 (4-0)**
Prerequisite: ATR 151. Familiarizes the student with the effective utilization of information contained in the Machinery Handbook.

ATR 130 Blueprint Reading for Die Sinkers 4 (4-0)

Prerequisite: DT 100 or equivalent. Blueprint reading for the die sinking trades. Covers different types of dies, their purposes, and terminology used in the forging industry. Also, transferring information on part prints to forging and trimmer dies.

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, mechanical engineers, and students of Engineering Technology. Lab fee.

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 industrial applications. Lab fee.

ATR 145 Industrial Hydraulics 3 (2-2)

Prerequisite: ATR 144. Continuation of ATR 144. Emphasis on applications of hydraulic circuitry to industrial machinery. Lab fee.

ATR 146 Pneumatic Machine Control Design (Air Logic) 3 (2-2)

Prerequisite: ATR 144. Introduces concept of controlling industrial machinery with air-operated relays and air-logic circuits, emphasizing area of moving-part, air-logic systems. Covers A.N.S.I. symbols, reading ladder type diagrams, signal sensing and conversion, and hands-on assembly of an actual air-logic circuit. Lab fee.

ATR 147 Pneumatic Machine Control Maintenance (Air Logic) 3 (2-2)

Prerequisite: ATR 144. Introduces basic design of valves and relays used in air-logic circuits and symbols used. A "sample circuit" is used for troubleshooting a mock machine setup. Lab fee.

ATR 149 The Metric System 2 (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 in involving areas and volumes. Lab fee.

ATR 151 Applied Algebra 4 (4-0)

Introduces and/or review 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. Application 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.

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. Precision layout work related to gauges and inspection problems. Lab fee.

ATR 206 Numerical Control I - Fundamentals of Numerical Control 4 (3-1)

Prerequisite: ATR 151. 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.

ATR 207 Numerical Control II - Manual Programming for Numerical Control 4 (3-1)

Prerequisite: ATR 206 and ATR 153 or equivalent. Continuation of ATR 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 important part of this course. Lab fee.

ATR 208 Numerical Control III - Introduction to Computer Assisted Programming 4 (3-1)

Prerequisite: ATR 207 or equivalent. 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.

ATR 211 Project Laboratory (Numerical Control) 3 (0-4)

Prerequisite: ATR 206, ATR 207, & ATR 208. Advanced course for those wishing to do in-depth work in the machine shop area after finishing basic prerequisites. The students, guided by an instructor, select individual projects compatible with their field of work. 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)

Shows the fundamentals and operating principles of pumps and pump controls, applications of pump equipment in industry, along with installation, 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.

Applied Technology Seminars (ATS)
Applied Technology Department
Division of Applied Arts and Sciences

ATS 090-099 Pre-Apprenticeship Seminar variable

Designed to assist individuals who need or desire additional background to aid in being considered for apprenticeship training.

ATS 100-109 Apprentice Seminar variable

Arranged for individuals enrolled in apprenticeship programs, and for individual trades or

groups of trades to provide additional knowledge and/or skills to meet current needs.

ATS 110-119 Automotive Seminar variable

Intended for any area related to the automotive field.

ATS 120-129 Building Trades Seminar 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 130-139 Heating and Air Conditioning Seminar variable

Covers cooling, heating, humidifying, filtering, servicing and/or ventilating, etc., for individuals already in the field or interested in any of these areas.

ATS 140-149 Industrial Seminar variable

Intended for any area in industry which could be of benefit to the individuals or industry concerned.

ATS 150-159 Industrial Management Seminar variable

Planned for those presently in management or planning to enter management functions.

ATS 160-169 Welding Seminar variable

Includes maintenance welding, production welding, resistance welding, and/or tool and die welding, etc.

ATS 190-199 Technology General variable

Includes seminars not listed under other headings.

Automotive Trades (AUT)

Applied Technology Department
Division of Applied Arts and Sciences

AUT 100 Auto Service I 4 (2-4)

Basic tools and equipment, safety, lubrication, exhaust systems, 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 course covering batteries, starters, generators, regulators, ignition systems, and chassis wiring. Lab fee.

AUT 111 Tune-Up I 4 (2-4)

Prerequisite: AUT 110 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 110 & AUT 111. A lecture-laboratory course with emphasis on actually tuning engines, and emission controls. Lab fee.

AUT 120 Auto Drive Trains 4 (2-4)

Prerequisite: AUT 100 or concurrent. Servicing clutches, manual shift transmission, 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 troubleshooting 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 138 Snowmobile Repair 3 (2-2)

Basic course covering the proper maintenance and service procedures for a snowmobile. Also included are repairs to the engine and suspension. Lab fee

AUT 140 Auto Brakes 4 (2-4)

Prerequisite: AUT 100 or concurrent. Servicing both regular 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 100 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 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. Practice in 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 4 (2-4)
 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 205 Diesel Owner Maintenance 3 (2-2)
 Introduces diesel concepts to the diesel owner or operator; provides an in-depth understanding of how to operate a diesel engine and perform preventive maintenance. 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 and IA. 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 237 Motorcycle Repair II 4 (2-4)
 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 275 Automotive Maintenance 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 (15)
 Prerequisite: Coordinator 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; coordinator must approve training station and working conditions. Requires one hour per week of related instruction at the College.

Building Trades (BTA)
 (Open to Apprentices Only)
 Dept of Applied Technology
 Division of Applied Arts & 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
BTA 120 (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.

Building Trades (BTJ)
 (Open to Journeymen and Apprentices only)
 Dept of Applied Technology
 Division of Applied Arts & Sciences.

BTJ 128 Journeyman Electricians Welding I 4 (2-4)
 Open to electrical journeymen and apprentices. 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 IA. Open to electrical journeymen and apprentices. 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 Steamfitters. Apprentices to the plumbing or fitting 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.

BTJ 162 Journeyman Pipefitters Welding III 4 (2-4)
 Prerequisite: BTJ 161. Continuation of BTJ 161.

Building Trades (BTR)
 (Open to Anyone)
 Dept of Applied Technology
 Division of Applied Arts & 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 106 General Home Maintenance II 3 (2-1)

For home owners, vacation home owners, and general maintenance personnel. Subjects include lecture and demonstrations in plumbing, carpentry, electricity, painting, paper hanging, heating, and masonry. Lab fee

BTR 107 Commercial Property Maintenance 3 (1-3)

Introduces various aspects of commercial property maintenance. Includes basic electricity, framing, roofing, dry wall repair, interior decorating, masonry and asphalt repair, weather, swimming pool maintenance, and blueprint reading. Lab fee

BTR 114 Residential Framing 3 (2-1)

Various types of frame construction includes methods of framing floor openings or stairs, joint sizing, and layout. Wall construction, from layout to assembly: determining stud length, layout of door and window openings, bracing, and sheathing. Lab fee

BTR 115 Framing Square 3 (2-1)

Covers selection, care, and use of the framing square. Class will lay out common, valley, hip and jack rafters, determine the lengths of braces, and use the framing square with a level to determine a polygon. The use of the Essex board measure table is also presented. Lab fee

BTR 117 Practical A.C. Job Theory 3 (2-2)

For the experienced wireman who needs to review topics such as the neutral balance, load calculations (single phase and three phase), Ohm's law, and basic transformer theory. Lab fee

BTR 118 A.C. Theory Review 3 (2-2)

Prerequisite: BTR 117. Topics covered are alternating-current mathematics, vector relationships, resistance, capacitance, inductance, and LCR circuits. Lab fee

BTR 119 Advanced A.C. Theory 3 (2-2)

Prerequisite: BTR 118. A continuation of BTR 118 with extensive work on wye and delta transformers; also covering inductive reactance, capacitive reactance, impedance and power factor correction. Lab fee

BTR 120 Motor Theory Review 3 (2-2)

For the experienced wireman. A review of D.C. machines, single phase A.C. machines, repulsion-induction motors. Also, three phase machines along with the synchronizing of A.C. alternators, renumbering of Y, and wound rotor motors. Lab fee

BTR 121 Control of Industrial Motors 3 (2-2)

Review of two and three wire controls, pilot devices and solenoids, across the line starters, reduced voltage starters, and relays. Each class will design and wire a control system. Lab fee

BTR 122 Solid State Logic 3 (2-2)

A basic logics course for the experienced wireman covering logic elements and their use. Class will be shown how to apply the logic elements to industrial situations. Lab fee

BTR 123 Programmable Controller/Journeyman 3.5(3-1)

Prerequisite: Department Approval. The Allen-Bradley Programmable Controller will be introduced, covering installation, programming and

troubleshooting of the equipment. Lectures and class demonstrations will be presented as a review for the experienced Journeyman Electrician.

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 I 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 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 BTR 214 or IA. Covers tools, materials, estimating and techniques of application. Materials covered will include asphalt shingles, wood shingles and shakes, as well as siding options and introductions to aluminum trim products. Lab fee

BTR 145 Builders License Review 3 (3-0)

Topics relating to the State Builders License will be covered to assist individuals in preparing for the Residential Builders Exam. Materials fee

BTR 146 Build Your Own Cabinets 2 (1-3)

Prerequisite: BTR 140 or ATG 130 or IA. A hands-on experience in building vanities, base cabinets, and wall cabinets. Covers use of tools and machines, cabinet construction, drawer construction, door style options, and formica work. Students supply their own lumber.

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 I 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 IA. Continuation of Building Trades 155 with emphasis on more complex prints. Actual constructions 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, and triangulation pattern development, and current techniques of fabrication. Lab fee

BTR 176 Sheet Metal II 3 (2-2)

Prerequisite: BTR 175 or IA. 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 214 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. Should be scheduled between BTR 114 and BTR 115. 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 240 Interior Trim II 3 (2-2)

Prerequisite: BTR 140. A continuation of BTR 140. Hands-on experience with chair rails, ceiling trim, specialty doors, stairs, railings and related aspects of custom trim work. Lab fee

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.

Heating, Air Conditioning and Refrigeration (HAC)

Applied Technology Department
Division of Applied Arts & 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 psychrometrics, and an introduction to system design and sizing.

HAC 105 Heating and Cooling Schematics 4 (4-0)

Prerequisite: HAC 100 and HAC 101. Read and draw electrical diagrams and develop troubleshooting 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 101/coordinator approval. 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 101. 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 190 Appliance Servicing I 4 (2-4)

The theory and application of basic electricity and electronics will be covered. The student will be shown how to read schematic drawings, properly use hand tools and electronic equipment such as meters, and diagnose malfunctions of electrical circuits on major household appliances. Lab fee

HAC 191 Appliance Servicing II 4 (2-4)

Prerequisite: HAC 190 or HAC 100. Begin work on ranges, dishwashers, and automatic laundry equipment. Use of service manuals is stressed. Lab fee

HAC 192 Appliance Servicing III 4 (2-4)

Prerequisite: Department approval or HAC 191. A more in-depth study of major appliances concentrating on control systems of later model ranges, dishwashers, and automatic laundry equipment. Lab fee

HAC 200 Applied Electricity II 4 (3-1)

Prerequisite: HAC 100. Emphasis is on heating and cooling controls and electric motors. Lab fee

HAC 210 Refrigeration Servicing II 4 (2-4)

Prerequisite: HAC 100 or department approval. Advanced course for those who have completed Refrigeration Servicing I, or who have had some practical experience in the refrigeration servicing field. More complex 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 troubleshooting multiple refrigeration systems.

HAC 211 Refrigeration III 4 (2-4)

Prerequisite: HAC 210. Thorough knowledge of Refrigeration I and Refrigeration II will make the student ready for the move into the light service of commercial units such as reach-ins, walk-ins, display cases. Wiring schematics, defrost systems, pressure controls, 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. Also covered in the course is the introduction of the Absorption Refrigeration System and its uses. Lab fee.

HAC 220 Gas Heating 4 (2-4)

Prerequisite: HAC 100. Knowledge of electrical schematics recommended. Basic components and functions of a gas furnace, with detail on application, theory, troubleshooting, and service of domestic gas heating systems. Lab fee

HAC 221 Oil Heating 4 (2-4)

Prerequisite: HAC 100. 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 troubleshooting in residential oil heating equipment. Lab fee

HAC 222 Hydronics 4 (2-4)

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)

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; soldering and bending control tubing; familiarization with equipment, fittings, and devices in common use. Also, figuring proportional band and authority percentage for controls. Lab fee

HAC 231 Air Conditioning I 5 (4-2)

Prerequisite: HAC 100 & 101. Foundational theories and principles of climate control systems; discussions and demonstrations, in both lab and field. Lab fee

HAC 232 Air Conditioning II 4 (2-4)

Prerequisite: HAC 231. The fundamentals of air conditioning servicing: the testing, repairing and troubleshooting of a variety of residential and commercial systems. Also, the proper air distribution and control devices in both residential and commercial climate control systems. Lab fee

HAC 233 Air Conditioning III 4 (2-4)

Prerequisite: HAC 231 and 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 troubleshooting and use of wiring schematics. Lab fee

HAC 235 Solar Heating and Cooling Technician I 4 (2-4)

Prerequisite: HAC 231 & department approval. Introduction to solar technology fundamentals and their application to the heating and cooling industry; for trades people who will be installing solar equipment in conjunction with standard heating and cooling systems. Lab fee

HAC 240 HAC Sheet Metal 4 (2-4)

Prerequisite: HAC 101. This course is designed to aid the installer in the skills and techniques for residential and light commercial heating and cooling systems. Covered in detail will be gas piping, various types of venting, fiberglass and insulated duct, and general furnace installation procedures. Lab fee

Industrial Management (IM)

Applied Technology Department
Division of Applied Arts & Sciences

IM 165 Employer-Employee Relations 2 (2-0)

Emphasizes interdependence of capital, employees, and managers; ethical guidelines and practices relating to responsibilities of all indi-

viduals in an industrial organization; covers basic principles for review of hiring and termination, wages and working conditions, promotions, conflicts of interest, pricing practices and relations with customers.

IM 166 Industrial Supervision I 3 (3-0)

Develops skills in human relations and communications in industry; gives an analysis of company policies and goals, leadership techniques, organizational structures, planning and controlling of human resources, covers job evaluation, job analysis methods, and techniques for evaluating employee performance.

IM 167 Industrial Supervision II 3 (3-0)

Prerequisite: IM 166. Leadership and training of employees; need for effective labor relations; impact of labor legislation; safety; disciplinary action; grievances; special problem employees; automation; planning work schedules; and time-study fundamentals.

IM 168 Industrial Supervision III 3 (3-0)

Prerequisite: IM 166. Principles and methods of cost controls, improved work techniques, plant housekeeping, equipment and facilities maintenance, product quality control, plant security, self-development, management of time, plus business economics and statistics for supervisors.

IM 170 Industrial Labor-Management Relations 3 (3-0)

Labor-management relationship as practiced in union and non-union industrial situations; labor organization and labor history; responsibilities of both labor and management, covering grievance procedures, collective bargaining, negotiating labor contracts, and arbitration procedures.

IM 175 Production Planning and Control 3 (3-0)

Reviews basic purpose and objectives of production control; demonstrates the interdependence of all manufacturing departments with production control. Also, sales and manufacturing forecasts in the planning activity, and techniques for obtaining valid projections.

IM 176 Manufacturing Cost Control 3 (3-0)

Basic financial concepts as they relate to individual areas of responsibility, with emphasis on application to planning, organizing, and controlling the industrial firm. First-hand experience in developing budgets, controlling cost, analysis of variance, unit cost, performance measurement, and financial decision making.

IM 179 Leadership Communication 3 (3-0)

Develops skills in organizing verbal or written communication, problem solving, motivation through communication, preparing for productive interviews, and overcoming anxieties encountered in group communication settings.

IM 180 Industrial Organizational Communications 3 (3-0)

Explores a variety of communications in industry, using basic definitions and models for effective day-to-day communication. Covers building and maintaining employee morale and team work. Also, informal, interpersonal problems, barriers, and pitfalls.

IM 186 Industrial Maintenance Management 3 (3-0)

Develops methods and rationale necessary for establishing and/or improving the maintenance

function in an industrial or institutional setting. Includes techniques of managing both scheduled and unscheduled maintenance and increasing efficiency of maintenance personnel.

IM 187 Time/Work Simplification 3 (3-0)

Introduces principles of time study and work simplification, equipment used, data, and materials required for time study. Provides actual practice of the techniques and calculations incidental to time study.

Labor Studies (LS)

Applied Technology Department
Division of Applied Arts & Sciences

LS 101 History of American Labor 4 (4-0)

Reviews development and history of the American Labor Movement evolution of labor organizations and philosophies; rise of industrial and international unionism; influence of politics and government, and continuing involvement of this section of our society.

LS 102 Structure and Administration of Unions 3 (3-0)

Considers organizational aspects of formal labor unions on local, regional, national, and international levels; jurisdictional lines and administrative responsibilities; eligibility requirements, tenure of office, standing committees, and by-laws; election procedures, constitutional conventions, and democratic procedures and membership functions.

LS 104 Collective Bargaining: Negotiating in the Private Sector 3 (3-0)

Focuses on history, philosophy, and impact of collective bargaining. Emphasizes what a contract covers, legal basis for collective bargaining, fair representation, price and tax source factors, economic pressures, grievance procedures, and the importance of thorough preparation in order to achieve bargaining goals.

LS 105 Collective Bargaining: Negotiating in the Public Sector 3 (3-0)

Examines conditions that give impetus to public sector unionization, as well as factors differing from traditional union issues; legal framework affecting public unions and associations, and recent trends in court decisions. Also, types of unions and associations, applicability in varying situations, and different negotiating goals, techniques, and strategies.

LS 106 Contract Administration/ Private Sector 4 (4-0)

Includes contract content, fringe benefits and non-fringe areas, working conditions, training local union representatives to administer their own contracts, grievance procedure, methods and techniques of grievance handling, fair representation, health and safety clauses, and EEOC procedures. Emphasis on actual grievance handling and role playing. Courses can be tailored to specific contracts upon request of a local union.

LS 107 Contract Administration/ Public Sector 4 (4-0)

Covers same content as LS 106, but as applied to public sector labor agreements.

LS 108 Labor Law 3 (3-0)

Overview of labor laws, both State and Federal, that affect labor directly and where labor is affected as part of society; laws affecting collective bargaining, safety, Worker's Compensation and unemployment compensation, consumer legislation, the Pension Reform Act, EEOC, Social Security, and environment.

LS 201 Arbitration 3 (3-0)

Reviews the grievance procedure to ensure adequate preparation of each grievance for possible arbitration; investigation, interviewing, writing facts, and preparing arbitration cases; selecting an arbitrator, assembling evidence, examination and cross-examination of witnesses, and on-site inspection procedures. Also, the future of arbitration, especially in contract negotiation and contract interpretation.

LS 210 Labor in the Community 4 (4-0)

Examines the role of unions and their members in community development; consumer legislation and education; support of local community fund-raising; political action and rules affecting such activities; non-traditional ways of increasing worker influence in local political and community decision making; remaining cognizant of the needs of new labor constituencies (the young workers, Blacks, Chicanos, Indians); the growing role of women in the union movement.

LS 216 Worker's Compensation 2 (2-0)

Prerequisite: LS 108 recommended. Covers rules, policies, and procedures of Michigan Worker's Disability Compensation Bureau. Examines historical reasons for worker's compensation and current case interpretations.

LS 217 Fair Employment Practices 3 (3-0)

Covers regulations and procedures of Federal legislation and State Department of Civil Rights. Includes hiring, promotion, training, selection, and educational special admissions programs and their ramifications. Course was developed in cooperation with the Michigan Department of Civil Rights and presents the most current developments in the field.

LS 218 Consumer Awareness I 3 (3-0)

Prerequisite: LS 108 recommended. Examines issues shaping the consumer market, saving money by making more well-informed decisions. Includes utility policies, health care delivery, transportation, housing, alternative food delivery systems, energy.

LS 219 Consumer Awareness II 3 (3-0)

Prerequisite: LS 217 recommended. Explores effective change strategies in addressing consumer problems; committee formation and use on specific issues; powers and jurisdictions of State and Federal regulatory agencies; sources of support and issue research; effective publicity and lobbying techniques.

LS 270-9 Leadership Skills Development Classes 1 (1-0)

One-credit workshops in essential areas for union activists:

- LS 270 Communications Skills
- LS 271 Basic Grievance Handling
- LS 272 Health and Safety Grievances
- LS 273 Parliamentary Procedure & Alternatives
- LS 274 Community Services Counseling
- LS 275 Techniques of Political Involvement
- LS 276 Effective Decision Making

LS 280-9 Labor in Modern Society 1 (1-0)

One-credit workshops on current social issues and their impact on labor:

- LS 280 Workers' Role in Society
- LS 281 Quality of Work Life
- LS 282 Rights of Women Workers
- LS 283 Multinational Firms and Unions
- LS 284 Unions and Equal Opportunity
- LS 285 Flexible Work Scheduling
- LS 286 Labor and the Future
- LS 289 Plant Closings

**LS 290 Labor Internship Program/
Special Projects** variable

Work-study with participating locals of organizational development, community action, or research. Progress is evaluated by the local union involved and the Labor Studies Center. Intended primarily for students who have completed the core program.

Quality of Work Life (QWL)

Applied Technology Department
Division of Applied Arts & Sciences.

**QWL 120 Introduction to the
QWL Process** 3 (3-0)

Examines the growing activities in Quality of Work Life programs, context of contemporary industrial relations systems, and issues in the definition, scope, and forms of Quality of Work Life. Case studies will be surveyed to assess effectiveness in implementing Quality of Work Life concepts. Required course in Labor Studies and Industrial Management curriculums.

Special Projects (SPA)

Applied Technology Department
Division of Applied Arts & Sciences.

SPA 101-106 Special Projects One to six

Prerequisite: Department approval. Opportunities for students to enroll in a course at any time. Any course taken under this plan which appears in a Certificate or Associate Degree program may also be inserted as the actual course taken.

Trucks and Heavy Equipment (THE)

Applied Technology Department
Division of Applied Arts & 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

Welding (WLD)

Applied Technology Department
Division of Applied Arts & 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 the flat and horizontal positions. Lab fee

WLD 102 Gas Welding and Brazing 4 (2-4)

Prerequisite: WLD 100. Develops skills and confidence in joining low and medium carbon steels, cast iron, and aluminum. Silver brazing alloys, tobin bronze, general purpose brazing alloys, and the common filler metals are presented. Lab fee

WLD 110 Welding Construction Trades 4 (2-4)

Introduces the types of welding used in building and construction trades. Develops skill in producing welds in all positions along with proper procedures for oxygen and acetylene cutting and welding. Lab fee

**WLD 111 Equipment Fabrication
& Repair** 3 (1-4)

Prerequisite: WLD 100 or IA. Covers safety in welding, use and operation of equipment, fabrication and repair fundamentals. Lab fee

WLD 115 Structural Fabrication 4 (2-4)

Prerequisite: WLD 100, 101, 201 or IA. 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 150 Creative Welding I-II-III 2 (1-2) each

Covers safe and proper use of acetylene and arc welding equipment; and develops skills in designing and executing original creations. 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)

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 may want to seek a proficiency certificate in welding. Lab fee

WLD 205 Tool and Die Welding 4 (2-4)

Prerequisite: WLD 100, 101, 201, 202, and ATR 142 or IA. 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 210 Pipe Welding I 4 (2-4)

Prerequisite: IA. Applies welding skills acquired in prerequisite courses to welding all kinds of pipe, using the shielded metal arc method. Lab fee

WLD 211 Pipe Welding II 4 (2-4)

Prerequisite: WLD 210 & IA. Applies welding skills to welding pipe in all positions. Lab fee

WLD 214 Aircraft Welding 4 (2-4)

(Same as APA 214). Welding applications and practice on aircraft structures, load bearing members and surfaces. Lab fee

WLD 295 Welded Sculpture 4 (2-4)

The use of basic welding techniques in three-dimensional constructions. Concepts of space, form, proportion, balance, composition, motion, etc., are explored through the execution of original designs. Lab fee

**DEPARTMENT OF HEALTH
CAREERS**

Center for Health Education/Rehabilitation

Michael Lenkowski, Chairperson

Programs of Study

The Department currently offers programs* leading to the Associate Degree in Applied Science with major emphasis in:

- Nursing (Career Ladder L.P.N.-R.N.)
- Dental Hygiene
- Dental Assistant
- Radiologic Technology
- Respiratory Therapy Technology
- Advanced Emergency Medical Technology (Paramedic)

And one-year programs leading to the Certificate of Achievement in:

- Practical Nursing
- Dental Assistant
- Respiratory Therapy Technician
- Nuclear Medicine Technician
- Surgical Technician
- Emergency Medical Technician
- Radiation Therapy Technician (Starts Fall 1983)
- Medical Sonography (Ultrasound) Technician (Starts Fall 1984)

And one or two term programs leading to the Certificate of Completion:

- Dental Business Assistant
- Hospital Ward Clerk
- Psychiatric Technician
- Hospital Central Supply Technician
- Home Health Aide
- Hospital Food Service Supervisor
- Phlebotomy Technician

*The length of these programs varies from six 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 these programs are designed to assist the student in qualifying 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 qualify 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, Council on Medical Education 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, Council on Education
- National League for Nursing, Department of Associate Degree Programs in Nursing
- American Association of Operating Room Technicians
- Michigan Board of Nursing
- Michigan Board of Dentistry
- Michigan Department of Public Health, Division of Emergency Medical Services

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 a printed laboratory study-work manual. These study units have been developed by the audio-visual laboratory with all faculty participating to assure effectiveness and pertinence to respective curriculums.

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 intensive orientation in the use of audio-visual laboratory equipment, scheduled study units and laboratory instruction 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.

New Programs, Curriculums, 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.

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 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 has "Full Accreditation" status which is granted by the Commission on Dental Accreditation, American Dental Association. Admission qualifications and basic curriculum are carefully designed to assist the graduate in meeting the responsibilities of the dental hygienist's professional role.

*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.

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. It is the two-year sequence that is Accredited by the Commission on Dental Accreditation.

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 may be obtained from the Admissions Counselor for Health Careers, Admission Office. Additional information about each career option/program may be obtained from the Dental Advisor at the Dental Auxiliary Program Office, 007 A&S Bldg.

Associate Degree Program in Radiologic Technology

Program Director, Ronald Griffith

The Associate Degree Program in Radiologic Technology at Lansing Community College is approved by the American Medical Association's Council on Education. Graduates are eligible for the Associate Degree in Applied Science and are qualified 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.

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 four affiliate and cooperating institutions: Ingham Medical Hospital, Lansing General Osteopathic Hospital, Edward W. Sparrow Hospital, and St. Lawrence Hospital.

Interested students are urged to contact the Admissions Counselor for Health Careers, Admissions Office, for specific requirements for program admission.

Associate Degree Program in Respiratory Therapy

Respiratory Therapy Technician

Program Director, Jerry Rocho

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 of Achievement 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.

Respiratory Therapy courses involve classroom lectures, campus laboratory practice and extensive scheduled hospital practice.

Upon successful completion of seven terms* in the Associate Degree program, the student is awarded an Associate Degree in Applied Science, specializing in respiratory therapy. After completing required work experience in respiratory therapy, an Associate Degree graduate is eligible to take the written and clinical simulation National Registry Examination administered by the National Board for Respiratory Therapy.

Upon successful completion of four terms in the Certificate program, the student is awarded a Certificate of Achievement in respiratory therapy. A Certificate program graduate is eligible to take the National Certification Examination administered by the National Board for Respiratory Therapy.

Certificate program graduates are eligible to apply for re-admission 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 Education

Program Director, Carol Phelan

Courses and seminars in all health disciplines to update skills and knowledge obtained in basic programs, and to enable graduates from basic programs to acquire new skills and knowledge in order to expand their roles, or to assume new roles.

Because new programs are being developed continuously, please contact the department for periodic updates.

Community Services

Courses which meet a need for the community for beginning vocational skills are also offered. Current offerings include; Ward Secretary, Nurse Health Aide, Central Supply Technician, Exceptional Family Aide, Home Health Aide, Basic Psychiatric Technician, Phlebotomy Technician, Dietary Assistant, and Medical Insurance Billing. A series of courses and seminars taught in coordination with the Center for Aging Education for the family in-home care giver, Consumer Health Education.

Emergency Medical Services Program

Program Director, Rexine A. Finn

The Department of Health Careers offers a Basic Emergency Medical Technician (EMT) course, a Specialist EMT course and an Advanced EMT Program as well as First Aid courses, CPR Seminars and continuing education for all EMS personnel.

The Basic EMT Course is approved by the EMS Division of Michigan Department of Public Health and exceeds the nationally recommended D.O.T. curriculum. Upon successful completion of the course 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 Medicine 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. It is the first year of 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 is 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 full time basis. Following successful completion 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 Director, Donna Price

Upon completion of a ten month (3 terms and 1 special term) Program in Surgical Technology, the student will have earned a certificate of achievement 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. 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 admission requirements of the college and of 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.

Practical Nurse-Associate Degree Nursing

Career Ladder in Nursing

Program Director, Pat Lambert

The Career Ladder 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 prerequisite and requisite courses students may exit after the first year and take the Practical Nurse National Council Licensing Examination.

Qualified students will be admitted into the second year to complete the Associate Degree Nursing program. After successful completion of requisite and prerequisite courses students will be eligible to take the Registered Nurse National Council Licensing Examinations.

Courses in the behavioral science, 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 exits out after the first year is required to meet the Department of Health Careers criteria for Practical Nursing students to qualify for certification.

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 is required to meet college criteria for the Associate Degree in Science - Nursing major to qualify for graduation.

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 Depart-

ment. Applicants are admitted to the program on a first qualified, first served basis which may entail a 9-12 month wait after completion of the admission requirements.

Adaptive Rehabilitation and Health Education Program

Program Director, Rosalie Walker

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.

Nursing Programs (NUR)

Health Careers Department
Division of Applied Arts and Sciences

NUR 121 Introduction to Nursing 9 (5-8)

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 10 (5-10)

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 12 (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 219 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 125 Nursing Care Child I 6 (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 5 (3-4)

Prerequisite: NUR 124 and PSY 205. Introduces the adaptive needs and responses of the maternity client, the neonate, and the family during childbearing. 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 1 (1-0)

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.

NUR 220 Transition Course 2 (2-0)

Prerequisite: Admission to ADN program. Introduces the returning Licensed Practical Nurse (LPN) student to the nursing process, POC charting, role transition, and curriculum concepts. Assessment and evaluation of nursing skills will also be done.

NUR 221 Psychiatric Nursing 9 (4-10)

Prerequisite: Admission to ADN program. Introduces psychiatric-mental health concepts. Development of therapeutic nurse-client relationships is emphasized.

NUR 222 Nursing Care Adult II 12 (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 222. 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 222. 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 8 (2.25-11.75)

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 1 (1-0)

Prerequisite: NUR 222, NUR 225 R. 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 Education (CHC)

Health Careers Department
Division of Applied Arts and Sciences

CHC 100 R.N. Refresher 11 (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 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 in NAPNES approved. A minimum grade of 2.5 is required for a certificate.

CHC 103 Dental Hygiene Seminar 2 (2-0)

Periodontal disease states and to study the rationale for various forms of therapy. Aspects of dental anatomy and the recognition of various root deposits and degrees of root smoothness. Eva Reduction System demonstrated. Evaluation of instruments for sharpness and proper shape included.

CHC 104 R.N. Basic Arrhythmia Interpretation 3 (3-0)

Introduce the R.N. and other Allied Health Professionals to the basics of cardiac arrhythmia interpretation. Includes electrophysiology, arrhythmias, clinical pharmacology, pacemakers and cardioversion. Learn to recognize life threatening arrhythmias and to institute chemical and/or electrical intervention.

CHC 107 X-Ray Positioning 3 (3-0)

Roentgenographic positioning of the structures and organs of the body. Precise and detailed information on the various positions and practical instruction and applications in the radiographic laboratory.

CHC 109 Dental Hygiene Update 3 (3-0)

Familiarize the hygienist with periodontal disease states and to review the rationale for various forms of therapy. Aspects of dental anatomy and the recognition of various types of root deposits and varying degrees of root smoothness. Eva Reduction System demonstrated.

CHC 110 X-Ray Update 3 (3-0)

Specifically for the practicing X-Ray Technologist. Acquaint the practitioner with new approaches and methods. Hands-on laboratory experience.

CHC 111 Dental Plaque Seminar 1 (1-0)

For the practicing Dental Hygienist to update and advance existing skills and knowledge of plaque formation, control and removal. Includes a laboratory and evaluation of instruments.

CHC 112 Dental Auxiliary X-Ray 2 (2-0)

For dental auxiliary to update their skills and knowledge of making intraoral radiographs. Includes theory and laboratory practice on a radiographic skull model.

CHC 114 Physical Assessment 3 (3-0)

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 in the care of patients who have an ostomy or abdominal stoma. Includes equipment and suggestions for patient care, rehabilitation, and patient teaching.

CHC 117 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 question-

similar to Certification and Registry Examination question will be extensively used for purposes of self and course assessment.

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 question similar to Certification and Registry Examination question will be extensively used for purposes of self and course assessment.

CHC 125 Medical/Legal Aspects Allied Health 3 (3-0)

Survey of health laws relating to medical care delivery in Michigan. All aspects of emergency care will be covered. Includes lecture, small groupwork sessions on selected topics and a field trip to court.

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 Essentials of Cardiac Nursing 3 (3-0)

Designed for RN's, LPN's and health professionals interested in cardiovascular disorders. Learn specific nursing management of the acutely ill, the convalescent cardiac patient, including the rehabilitation process. Cardiovascular anatomy and physiology serves as a basis for analyzing types of heart disease and determining nursing management. Cardiac drugs and lab data are related to management of heart disease as well as equipment such as pacemakers, central venous pressure units, and Swan-Ganz monitoring.

CHC 132 Competency Based Education 3 (2-2)

Introduce vocational educational instructors with the concept and various aspects of Competency Based Education as defined by the State Board of Education. Includes participant assignments in the A-V tutorial lab and several workshop sessions, the construction and writing of performance objectives, objective-referenced testing, learning activities, and follow-up.

CHC 134 RN Neurologic Assessment 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 135 Respiratory Therapy Reg. Update 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.

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 0.5 (6 total)

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 total)

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 189 Pressure Tracings for Nurses 1 (1-0)

Hemodynamic monitoring. Normal pressure wave forms are discussed and contrasted with abnormal patterns. Specific cardiac pathology which may alter normal wave forms. Each type of abnormal configuration presented in detail. Case studies and many practice tracings to apply classroom information. All students should have a basic understanding of cardiac pathology and monitoring equipment.

CHC 210 Pharmacology Math for Nurses 0.5 (6 total)

For the RN, LPN, or student in nursing curriculum. The course will include a basic math update and will familiarize the student with drug dosages, I.V. calculations and pediatric dosages.

CHC 191 Current Concepts in Ostomy Management 0.5 (6 total)

A workshop to provide the Health Professional with information necessary to care for the patient with a stoma. Four concurrent sessions on equipment, patient care suggestions, rehabilitation and patient education are offered.

- 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 197 Pediatric RN Respiratory Care 3 (3-0)**
Primarily for pediatric nurses in any area of clinical practice. Focuses on normal function of the respiratory system, common types of respiratory pathology and treatment approaches-including types of respiratory therapy. Application of class content to nursing practice. Practice sessions for practical "hands on" experiences.
- 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 199 Arthritis Facts 1 (1-0)**
Information on various arthritis diseases, management techniques and community resources. For arthritis patients and families and allied health students and professionals. Topics include rheumatoid arthritis, osteoarthritis, lupus, surgery and gout.
- CHC 200 Emergency Nursing Legal Issues 3 (3-0)**
Explore the relevance of legal issues, concepts or laws to typical situations encountered in emergency nursing. Actual charts, forms, procedures and kits from local hospitals to illustrate both strengths and weaknesses of the emergency system.
- 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 in mental health care. Includes personality development theories; "underactive" and "overactive" behavior disorders; neuroses and fixations; medical and non-medical treatment approaches; the role of mental health nurses.
- 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 Management Techniques of Health Professionals 3 (3-0)**
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 total)**
Up-to-date information on intravenous technique, solutions, and intravenous medications. Various types of equipment used and hands-on experience included.
- CHC 207 Nursing Interventions in Emotional Crises 0.5 (6 total)**
A seminar for nurses in any area of practice, who may come in contact with emotionally stressed patients. Learn to recognize cues to emotional stress or inappropriate behavior. Techniques for dealing with patients in emotional crises are explored.
- 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 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 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 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 Patient Education for Nurses and Allied Health Personnel 2 (2-0)**
Stresses application to any area of clinical practice. Focus on informal teaching situations includes the how and why of patient education; how adults learn; planning, executing and evaluating effective teaching exchanges.
- 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 232 Renal Nursing Seminar II 1 (1-0)**
For any RN, LPN or health care professional. Specific information about kidney dysfunction. Review basic anatomy, physiology, and functions of the kidney prior to. Focus on renal pathology and related treatment strategies. Importance of nursing assessment and management stressed.

- 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 234 Advanced Pacemaker II 1 (1-0)**
Prerequisite: CHC 233 or department approval. Advanced level seminar is intended to follow CHC 233. A continuation of specialized information about the functioning of pacemakers and the nursing monitoring and management of patients on pacemakers. Specific problems with pacing, clues to pacemaker malfunction and nursing troubleshooting maneuvers and techniques are explored in detail.
- CHC 235 ACLS Recertification Seminar 1.0 (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 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 244 Dental Hygiene Occlusion 1 (1-0)**
For the practicing dental hygienist. The anatomy and physiology of the masticatory system. Types of occlusal classification and examinations. Procedures for mounting and analyzing casts discussed.
- 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 280 TMJ Dysfunction 1 (1-0)**
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 total)**
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 1.5 (1.5-0)**
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 total)**
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 total)**
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 total)**
Infectious agents or groups of agents transmissible to the patient and personnel in the dental operatory, routes, survival on surfaces at 25o 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 total)**
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 1 (1-0)**
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 koda-chromes. 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.
- Dental Assistant (DA)**
Health Careers Department
Division of Applied Arts and Sciences
- DA 110 Dental Assistant Seminar 2 (2-0)**
Prerequisite: Admission to program. Dental/medical terminology, information and concepts of the Dental Team, Michigan Dental Law, professional dental organizations, dental specialty practices and dental history.

DA 120 Introduction to Clinical Dental Assisting 5 (3-4)

Prerequisite: DHA 110, 111, 112. 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 & Pathology 4 (3-2)

Prerequisite: DHA. Basic head and neck anatomy, oral embryology, dental histology and general oral pathology to the field of dentistry.

DA 130 Clinical Dental Assisting I 6 (1-9)

Prerequisite: DA 120. Practice four-handed chairside dental assisting procedures with emphasis on general restorative procedures (i.e., amalgams, composites). Correlate clinic practice and procedure information with private practice and field experience.

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.

DA 210 Clinical Dental Assisting II 7 (1.5-11)

Prerequisite: DA II concurrently.

DA 211 Dental Materials 4 (2-4)

Prerequisite: DA 210 concurrently. Selection, manipulation and evaluation of dentistry materials. Laboratories materials prepared by the dental assistant.

DA 220 Advanced Dental Assisting Procedures 9 (4-6)

Prerequisite: DA 210. Continuation of chairside assisting techniques. Emphasis on duties and responsibilities of dental assistant in specialty and expanded functions of the Registered Dental Assistant.

DA 221 Dental Office Management 2 (2-0)

Prerequisite: DA 210. Office procedures relating to appointment management, recall systems, correspondence, telephone techniques, record keeping, pre-paid dental care plans and dental payment plans and inventory control.

DA 230 Clinical Dental Assisting III 11 (1-22)

Prerequisite: DA 220. Continuation of DA 220. Additional practice in four-handed chairside procedures. Emphasis on RDA functions. Introduce testing techniques and construction. Field experience procedures and progress also discussed.

Dental Business Assistant (DBA)

Health Careers Department
Division of Applied Arts and 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. 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. Identification of instruments, sterilization and disinfection procedures, processing and mounting dental radiographs, and description of dental team members.

DBA 003 Dental Office Methods 4 (2-6)

Prerequisite: DBA 001 and typing experience. 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). Simulated exercises and 40 hours experience in dental office.

Dental Hygiene (DH)

Health Careers Department
Division of Applied Arts and Sciences

DH 110 Dental Hygiene Seminar 2 (2-0)

Prerequisite: Department approval. Dental/medical terminology. 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: Department approval. Study the embryology and microscopic anatomy of human tissues. Emphasis on formation of the face, oral cavity, and dental structures.

DH 120 Introduction to Clinical Dental Hygiene 7 (3-8)

Prerequisite: DHA 110, 111, 112. Introduction to selection and application of prophylaxis instrument sharpening, taking medical and dental histories, and performing oral examinations. 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. 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, and injuries and neoplasms.

DH 123 Dental Emergency Procedures 3 (2-2)

Prerequisite: DHA 111, 112. Dental office emergencies. Emphasis on prevention, prompt recognition and effective emergency care. Laboratory experience in monitoring vital signs, recognizing and handling emergency situations and cardio-pulmonary resuscitation treatment.

DH 130 Clinical Dental Hygiene I 7 (1-12)

Prerequisite: DH 120, 122. Clinical instruction and practice in basic dental hygiene services; recognition and recording of oral conditions, medical history, patient education, prophylaxis, fluoride treatment, sterilization, and desk procedures.

DH 131 Dental Hygiene Procedures 3 (2-2)

Prerequisite: DH 120. A continuation of didactic information and skills. Emphasis on treatment planning, patient home care, periodontal examination, caries detection, instrument sharpening, and clinical photography. Lab instruction: application of didactic information in a clinical setting.

DH 210 Clinical Dental Hygiene II 7 (1-12)

Prerequisite: DH 130. Continuation of DH 130. Additional practice in dental hygiene clinical skills. Reviews preventive dental hygiene procedures and treatment planning of more complex dental needs (deepscaling, root planing, amalgam polishing, diet counseling and myofunctional therapy.)

DH 211 Advanced Dental Hygiene Procedures 4 (2.5-3)

Prerequisite: DH 130, DHA 122. Study advanced clinical dental hygiene procedures. Emphasis on root planing, nutritional counseling, soft tissue curettage, and ultrasonic instrumentation. Lab experience includes practice of these procedures on patients or typodonts.

DH 212 Periodontic 3 (3-0)

Prerequisite: DHA 111, DH 111

DH 213 Dental Health Education 2 (2-0)

Prerequisite: DHA 110, DH 130. 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. Audiovisual aids for delivering oral health care.

DH 214 Clinical Oral Pathology 2 (2-0)

Prerequisite: DH 130, DHA 131. Case histories to formulate a differential diagnosis of an unknown oral lesion and propose a rational approach for evaluation and treatment of the patient. Oral surgery practices and procedures.

DH 220 Clinical Dental Hygiene III 7 (1-12)

Prerequisite: DH 210, 211. Clinical dental hygiene procedures continued. Emphasis on advanced procedures and skills; i.e., diet counseling, root planing, margination. Correlate clinic experiences and information with private practice and coordinate needs and requirements of the clinical experience. Update emergency procedures, periodontal charting, and instrument sharpening.

DH 221 Dental Materials and Methods 4 (2.5-3)

Prerequisite: DH 210, 211. Terminology, selection, manipulation and evaluation of materials. Emphasis on laboratory activities for procedures performed and materials used by the hygienist.

DH 223 Public Health Dentistry 2 (2-0)

Prerequisite: DH 213. Review scientific literature, epidemiology to dentistry, principles of public health and health care delivery systems. Compare dental health care via community and private practice systems are compared.

DH 229 Testing Styles & Inventory 2 (2-0)

Prerequisite: Department approval. Introduction to testing techniques, test construction and item analysis. Inventory 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. Correlate clinic experiences.

DH 231 Dental Specialties 4 (3-4)

Prerequisite: DH 220, DHA 112. Reviewing procedures and practices of dental specialists. Information for providing oral hygiene care for special needs patients. Observe procedures in dental specialty offices.

DH 232 Ethics and Jurisprudence 2 (2-0)

Prerequisite: DH 220. 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. Implement a dental health education program utilizing assessment, planning, implementation and evaluation processes. Observe and prepare an investigative report on a community health agency/practice.

Dental Hygiene - Dental Assistant (DHA)

Health Careers Department
Division of Applied Arts and Sciences

DHA 110 Oral Health Practices 4 (2-4)

Prerequisite: Department approval. Introduction to dental operator, aseptic techniques, caries and periodontal disease processes and oral hygiene procedures to prevent diseases. Maintaining oral health.

DHA 111 Oral Anatomy I 4 (2-4)

Prerequisite: Department approval. Study of dental nomenclature, anatomic form, gross structure and function of human primary and permanent teeth, laboratory and AVT sessions. 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: Department approval. Introduction to dental procedures, use and maintenance of dental instruments and equipment, and basic chair side assisting procedures.

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.

DHA 131 Dental Radiography 5 (3-4)

Prerequisite: DHA 111, DA/DH 121. Production and emission of dental x-radiation, indications for exposure, techniques of exposure, processing, evaluation and interpretation of dental radiographs. Laboratory practice in exposing, processing, mounting and evaluating radiographs.

DHA 132 Nutrition and Oral Health 2 (2-0)

Prerequisite: DHA 110. Identification, function metabolism and sources of specific nutrients required for normal development. Application of principles to the individual needs and to concerns of the dental auxiliary. Providing nutritional and diet information to patients emphasized.

Emergency Medical Services Program (EMT)

Health Careers Department
Division of Applied Arts and 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 106 Terminology and Report Writing 2 (2-0)

Basic medical terminology and proper methods of filing ambulance report forms.

EMT 108 Emergency Pharmacology 3 (3-0)

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 109 EMT Clinical 4 (0-8)

Prerequisite: EMT Course and EMT 109. Students must have successfully completed an EMT course and the EMT physical assessment course before registering for EMT 109. EMT course "hands-on" experience in patient care. Simulations to practice EMT skills. Clinicals at assigned facilities in nursing homes and hospitals, for supervised experience.

EMT 110 Introduction to Emergency Services 2 (2-0)

Prerequisite: Department approval or current EMT. Introduction and overview of existing medical emergency services and supporting agencies. Role of Emergency Medical Technicians reviewed in relation to the physician, emergency room personnel, law enforcement agencies and the community.

EMT 111 CPR Seminar 0.5 (4-4)

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)**EMT 113 Basic EMT II 6 (4-4)**

Sequence 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 is eligible to take the State examination for licensure.

EMT 114 EMT Refresher 3 (3-0)

Designed to prepare the Basic EMT to meet requirements for relicensure. An MDPH approved refresher.

EMT 116 EMT Physical Assessment 4 (3-2)

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 historytaking, 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 historytaking.

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 130 EMT Vital Signs-IPS Triage-Injuries 0.5 (6-0)**EMT 131 EMT Airway-Oxygen Management-Psyc. Emerg. 0.5 (6-0)****EMT 132 Spinal Injury & Back Management-Psyc. Emerg. 0.5 (6-0)****EMT 133 Medical Emergencies-Fractures/Splinting 0.5 (6-0)****EMT 134 Shock M.A.S.T., Childbirth, Pediatrics 0.5 (6-0)****EMT 135 Extrication, Terminology/Report Writing 0.5 (6-0)****EMT 136 Trauma Simulation 0.5 (6-0)****EMT 137 Medical Simulation 0.5 (6-0)**

Continuing Education Seminars for the Basic EMT or EMT Specialist designed to meet relicensure requirements. Students may elect to take as many as needed to fulfill Continuing Education requirements. Completing all fulfills the requirements for the 3-year licensure period.

EMT 201 EMT Specialist I 4 (4-0)**EMT 202 EMT Specialist II 3 (0-6)**

Designed to prepare the Basic EMT for the EMT Specialist for functioning within a limited Advance Life Support System. Intravenous therapy and airway management to include esophageal airway and endotracheal intubation.

Advanced Emergency Medical Technician (ESA)

Health Careers Department
Division of Applied Arts and Sciences

ESA 201 Advanced EMT/Paramedic I 14 (9-10)

Prerequisite: Admission to the Program

ESA 202 Advanced EMT/Paramedic II 14 (6-16)

Prerequisite: ESA 201

ESA 203 Advanced EMT/Paramedic III 14 (6-16)

Prerequisite: ESA 202. Designed to prepare a Basic EMT as an Advanced Emergency Medical Technician (Paramedic). All phases of cardio-pulmonary resuscitation, cardiac monitoring, defibrillation, airway or gastric intubation, relief of pneumothorax, and administration of specific drugs and intravenous fluids. Three terms of concentrated study including classroom and

clinical experiences. Hospital clinical experience includes observations and selected participation in the Emergency Department, Intensive Care Unit, Coronary Care Unit, Surgery and the Recovery Room. Clinical Ambulance experience is also provided.

Emergency Care (ER)

Health Careers Department
Division of Applied Arts and Sciences

ER 100 Basic 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 106 Sports Emergencies 1 (1-0)

Directed toward parents, coaches, student trainers, and athletes. Emphasizes recognition and initial care of injuries, especially life threatening conditions, until medical help arrives.

ER 111 CPR Instructor's Course 1 (1-0)

Instruction in methods of teaching CPR. An instructor-trainer from the American Heart Association teaches the course. Students should have Current BCLS certification.

Health Careers (HC)

Health Careers Department
Division of Applied Arts and Sciences

HC 101 Nurse Aide 9 (4.5-9.0)

Concepts and skills in patient care tasks. Includes theory, related audio-visual units for skills, practice laboratory sessions, evaluation sessions and clinical practice. Final evaluation will include ability to perform skills, apply theory to practice. Upon completion students' with a 2.5 grade or higher will receive a certificate of achievement.

HC 107 Nurse Assistant Seminar I 2 (2-0)

Prerequisite: Previous experience as a nursing assistant. Anatomy and physiology of all body systems, concepts of basic and advanced nursing care skills and communication and clinical observation skills. Limited to sixteen students. The successful completion of HC 107 and 108 will lead to a certificate of achievement.

HC 108 Nurse Assistant Seminar II 2 (2-0)

Prerequisite: HC 107. Includes relating normal anatomy and physiology to the pathophysiology of certain disease conditions. Recognition of clinical signs and symptoms and application of specific nursing care measures. Upon completion with a 2.5 grade or better, the student will receive a certificate of achievement.

HC 110 Home Health Aide 9 (6-6)

Prepares for entry level positions as home health aides. Also includes community agency observation and clinical component. Includes psycho-social development related to specific medical situations such as a Home health Aide might encounter in a home nursing setting. Upon completion of the course the student with a 2.5 grade or better will be awarded a certificate of achievement.

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 112 Living with Cancer Ed. I 2 (2-0)

A seminar for a person who has, or who has had a cancer experience, or family, and/or friends. The focus will be on: the disease process and treatment patterns, information regarding community resources and planning for the future. Content is provided by health professionals.

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 116 Parent Health Education II 1 (1-0)

The infant from 18 months to 5 years of age. For are parents and/or care givers to children. Includes basic body structure and function, growth and development, identification of health problems, first-aid, CPR, and community resources.

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 micor-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 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 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 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.

Allied Health Careers (AHC)

Health Careers Department
Division of Applied Arts and 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 discussed.

AHC 104 Patient Care Principles 5 (3-4)

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, to develop a new way of thinking about disease processes.

AHC 108 Trauma Surgical Anatomy 5 (5-0)

For Surgical Technology and Emergency Medical Technology programs. A basic course in structure and the functions of systems of human body with emphasis on how these pertain to clinical applications. Does not meet the requirements for a full anatomy or physiology course.

AHC 110 Surgical Asepsis 3 (3-0)

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)

For basic Allied Health Curriculum. Focus is on the sudden alteration of body processes due to trauma, unusual reactions to drugs or to medical procedures, and the possibility of psychiatric or medical emergencies. Includes pathophysiology of emergencies, initial responses and necessary follow-through.

Surgical Technology (ST)

Health Careers Department
Division of Applied Arts and Sciences

ST 101 Introduction to Surgical Technology 6 (4-4)

Prerequisite: Department approval. 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 106 Clinical Practicum 3 (0-3)

A June mini-practicum with cooperating hospitals to assure minimum requirements are met. Consists entirely of clinical practice. Meet five days a week, for two-week period.

Respiratory Therapy (RT)

Health Careers Department
Division of Applied Arts and 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 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 5 (0-10)

Prerequisite: RT 105. Involves more clinical time 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 (Bennett MA-I and Bourns BEAR-I), adjunctive support (PEEP, IMV, Optimal PEEP, etc.), advanced CPR, artificial airways and airway management, and thoracic suction principles.

RT 104 Clinical Respiratory Therapy II 5 (4-0)

Prerequisite: RT 101. Reemphasizes 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 10 (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 4 (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)

Health Careers Department
Division of Applied Arts and 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 5 (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 cardio-respiratory 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 neoplasm 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.T. Registry Exams.

RTA 206 Clinical Respiratory Therapy V 5 (0-16)

Prerequisite: RTA 204. Continuation of clinical rotation as listed for RTA 202.

Radiologic Technology (RXT)

Health Careers Department
Division of Applied Arts and Sciences

RXT 100 Introduction to X-Ray Services 3 (3-0)

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 5 (3-4)

Prerequisite: Department approval. Review the structure and organs of the body. Topographic anatomy and detailed information on the posi-

tions for pediatric and adult x-ray procedures. Application in a radiographic room. Includes are the nomenclature of positioning, bones of the extremities, pelvic girdle, thorax, and basic abdominal viscera.

RXT 112 Radiographic Positioning II 13 (6-20)

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. Clinical component is also included.

RXT 113 Radiographic Positioning III 12(3-26)

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: Department approval. 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 2 (2-0)

Prerequisite: MTH 102 or E. 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 2 (2-0)

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 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 211-212-213 Clinical Practice I 11 (1-32)

Prerequisite: RXT 113, GPA 2.00 or more in major. Three-term of 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 214- Comprehensive 215 Experience I 11 (1-32)

Prerequisite: RXT 213. Two-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.

PERFORMING AND CREATIVE ARTS DEPARTMENT

The Department of Performing and Creative Arts features courses in four disciplines: Art, Dance, Music, and Theatre. The primary objectives of the Performing and Creative Arts Department are to prepare students in developing their skills and capacity for creative expression and to provide the necessary background for further training. Course offerings are designed to meet the goals of the beginning and advanced student in addition to helping indi-

viduals explore their potential for artistic development and achievement.

P.C.A. offers individual courses, one-year certificate programs, two-year Associate Degree programs for visual and performing career, and two-year Associate Degree programs for transfer to four-year colleges and universities.

Housing the visual and performing arts under one academic

"roof" provides the department's students with the unique experience of exploring the interrelationship of all these art forms while at the same time increasing their skills development and expanding their career potential.

Art (ART)

Performing & Creative Arts Dept.
Div. of Applied Arts & Sciences

ART 101 Design I 4 (2-4)

Visual arts. Emphasis on composition and application to black and white; universal principles of design; design theory and vocabulary.

ART 102 Design II 4 (2-4)

Prerequisite: ART 101. Continuation of design problems with emphasis on color theory; two-dimensional surfaces; 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 104 Ceramics I 4 (2-4)

(Pottery) Construction methods; slab, coil, and pinch forms, basic decoration, glazing, and firing techniques.

ART 105 Ceramics II 4 (2-4)

Prerequisite: ART 104. Wheel-throwing techniques using the potter's wheel; hand construction, decoration, and glazing.

ART 106 Ceramics III 4 (2-4)

Prerequisite: ART 105. Development of skill and techniques in wheel throwing and hand construction, glaze formulation, glazing, and decorative techniques.

ART 107 Advanced Ceramics 4 (2-4)

Prerequisite: ART 106. Develops forming and decorating techniques; complex problems are explored; students select one or two methods of working with clay and researching materials for individual work assignments. May be taken three terms for credit.

ART 108 History of American Ceramics 2 (2-0)

Development of American ceramics throughout its history as related to twentieth century ceramics.

ART 109 Raku 4 (2-4)

Introduction to the ancient art of Raku. Includes construction of Raku pottery, glazing used to achieve its special effect, and firing techniques.

ART 110 Ceramic Design I/Form 4 (2-4)

Prerequisite: ART 104. Basic problems of coordinating design and function in making ceramic pieces. Lab course.

ART 111 Jewelry I 4 (2-4)

Introduction to basic techniques of metal-working in creating jewelry and jewelry-scale

objects. Includes forging, forming, soldering, pewter-casting, stone setting, chasing, etching, and engraving.

ART 112 Jewelry II 4 (2-4)

Prerequisite: ART 111. Advanced metal-working techniques include casting with silver, gold, or brass using centrifugal, sand, and vacuum casting, equipment.

ART 113 Jewelry III 4 (2-4)

Prerequisite: ART 112. Review, practice and solving more complicated problems; creating non-jewelry objects, and theatrical or ritual objects; visual aesthetics through the making of objects.

ART 114 Advanced Jewelry 4 (2-4)

Prerequisite: ART 113. Continues the development of metal-working techniques for jewelry and jewelry-scale objects; increasingly complex objects. Students select materials, develop a design, and construct objects, demonstrating visual sensitivity and aesthetic response to form and color. May be taken three terms for credit.

ART 115 Jewelry Casting 4 (2-4)

Prerequisite: ART 111. Exploration and creative use of various casting techniques, advanced stone setting techniques, and the casting, sand-casting, cuttle, bone casting, vacuum casting, and lost wax techniques; principles of design, and techniques of construction. May be taken three terms for credit.

ART 116 Lapidary 2 (1-2)

Cutting and polishing techniques for ten basic gemstones.

ART 118 History of Chinese Ceramics 2 (2-0)

Development of Chinese ceramics throughout history as related to twentieth century ceramics.

ART 122 Off-Loom Weaving 4 (2-4)

Fiber interacements including tapestry weaving on a frame loom or back-strap loom; basketry (coil and plaiting); inkle (band) weaving; card weaving; sprang; finger weaving; knotless netting; spinning and some finishing techniques.

ART 123 Weaving 4 (2-4)

Prerequisite: ART 122. Weaving, theory, threading drafts, tie-ups, and treadlings; use of yarns; color and design; several methods of warping looms; care of a loom; application of techniques to a loom woven project.

ART 125 Experiments in Fibers 2 (1-2)

Exploration of fiber techniques related to weaving but not necessarily involving the interlacement of threads; felt-making, paper-making, and fiber preparation.

ART 129 Sketching 2 (1-2)

Simple drawings of still life arrangements, figures, and plaster casts capturing basic action and character of the subject. Includes a variety of media, perspective, shadow masses, light planes, and proportion.

ART 130 Beginning Drawing 4 (2-4)

Uses a variety of materials including pencil, conte crayon, charcoal and ink in fundamental elements of drawing - line, value, form and texture.

ART 131 Drawing 4 (2-4)

Prerequisite: ART 101 recommended concurrently. A studio course using a variety of tools and methods. Introduces realism, abstract, surrealism, and stream of consciousness, using materials such as pencil, ink, and conte crayon; includes still life, casts, and limited figure work. May be taken three terms for credit.

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 133 Advanced Drawing 4 (2-4)

Prerequisite: ART 131. More complex problems in still life, portraits, landscape, and figure drawing, using variety of tools and materials in black and white and color. May be taken three terms for credit.

ART 134 Sculpture/Portraits 4 (2-4)

Prerequisite: ART 132. A combined course in drawing and sculpting the portrait bust. Includes clay modeling techniques, plaster piece mold making, and hollow casting permanent sculptures.

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 136 Relief Printing I 4 (2-4)

Techniques for printing images from a raised surface. Woodcuts and linoleum block techniques are demonstrated.

ART 137 Relief Printing II 4 (2-4)

Prerequisite: ART 136. More complex problems in relief printing; experiment with aesthetic expression.

ART 138 Etching I 4 (2-4)

Prerequisite: ART 135. Zinc plate etching, techniques in drypoint, hard-ground, soft-ground, and aquatint.

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)

Introduction to paste-up and keyline techniques. Culminating in a keyline and finished comprehensive booklet of the student's own layout design.

ART 144 Studio Practices II 4 (2-4)

Prerequisite: ART 143. Completion of eight mechanicals from layout tissues and camera-ready elements. 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, type indication, and copy-fitting for layout.
- ART 146 Lettering II** 4 (2-4)
Prerequisite: ART 145. Use of type in layout and graphic design with emphasis on type styles, copyfitting, and type indication.
- 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; drawing and rendering architectural exteriors and interiors; drawing and rendering product illustration, 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 communication such as newspaper, labels, brochures, and various printed matter. Includes research, media study, and execution of layouts from "thumbnail" to "comprehensives"; design principles, their effect on the composition and organization, and the role of layout in commercial art procedure.
- 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, 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 identified and compared; relationship of these periods to contemporary arts and crafts.
- ART 157 Art Form Development III** 4 (4-0)
Surveys painting, sculpture, architecture and decorative arts: seventeenth century Baroque, late eighteenth century Neoclassicism and Romanticism, nineteenth century Realism, Impressionism and Post Impressionism, twentieth century Fauvism, Cubism, Dadaism, Surrealism, Abstract Expressionism, and Contemporary Art.
- 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 effect 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. Materials used in designing interiors with emphasis on window treatment, furniture construction, floor coverings, accessories, effects of textiles, and interior plants. 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. 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, ink and prisma; kitchen and bathroom construction detailing including wall sections, stairwells, fireplaces, support systems used in building; uses of building codes and zoning laws; principles of architectural lettering; fundamentals of furniture arranging; electrical and lighting overlay techniques; interior elevations and one-point perspective.
- 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-point and two-point perspective, eyeball sketching, isometrics; 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 and a resume.
- 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 177 Holiday Crafts** 2 (1-2)
Produce items to be used for gifts or as seasonal holiday decorations. Ideas for low-cost objects and foods to be used by volunteer groups in fundraising or sale of items to gift shops and in craft fairs as a part-time career opportunity.
- ART 178 Macrame** 2 (1-1)
The ancient art of knotting, completing several projects for personal use and display. Includes discussion of techniques and opportunities for sale of items.
- ART 179 Soft Sculpture** 2 (1-1)
Construction of stuffed fabric three-dimensional sculpture, manipulation of fabric, problems of three-dimensional design, discussion of potential sale of items.
- ART 180 Creative Stitchery** 2 (1-1)
Introduction to the techniques of stitchery. Discussions of opportunities to sell items through gift shops and craft fairs, and for fundraising or therapy programs.
- ART 181 Needlepoint** 2 (1-1)
Techniques of needlepoint; completion of assigned projects. Discussion of opportunities to sell items through gift shops and craft fairs, and for fundraising and therapy programs.
- ART 186 Quilting** 2 (1-1)
Introduction to quilting. Includes pattern drafting, log cabin, strip piecing, quilting, applique' and crazy quilting; traditional and original quilted pieces.
- ART 187 Advanced Quilting** 2 (1-1)
Prerequisite: ART 186. Advanced drafting techniques for more extensive original works, and refinement of skills for exhibition and professional purposes.
- ART 188 Stained Glass** 3 (2-1)
Introduction to techniques such as copper foil and lead stained glass. Make mirrors, candleboxes, or panels. Includes a discussion occupational opportunities.
- ART 189 Advanced Stained Glass** 3 (2-1)
Prerequisite: ART 188. Examines color hues and lines in glass to select the proper glass for projects such as lamps, panels, and other original items.
- ART 190 Leathercraft** 3 (2-1)
Construction techniques for leather products. Pattern making and design techniques will be discussed, as well as career opportunities.
- ART 191 Woodcarving** 3 (2-1)
Two basic techniques of woodcarving: chip-carving and low-relief carving. Includes wood and tool selection, design elements, carving techniques, and various types of finishes. Discussion of occupational opportunities.
- ART 200 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 201 Painting** 4 (2-4)
Prerequisite: ART 102. Introduction to fine art painting: building stretchers, sizing canvas, mixing paint, resolving painting problems. Oils and acrylics are used to produce a series of canvases in a variety of styles. May be taken three terms for credit.
- ART 202 Portrait Painting** 4 (2-4)
Prerequisite: ART 132 or 201. An introductory course in human portraiture in various media with primary concentration on oil painting.
- ART 203 Advanced Painting** 4 (2-4)
Prerequisite: ART 201 or 202. 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 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 210 Design/Layout II 4 (2-4)**
Prerequisite: ART 150. An overall view of media uses in planning campaigns; step-by-step procedure for creating layouts; procedures for campaign building; and techniques for rendering layouts.
- ART 211 Design/Layout III 4 (2-4)**
Prerequisite: ART 210. Emphasis on three-dimensional graphic design, packaging, and display, using a variety of materials, tools, methods, and techniques.
- ART 212 Design/Layout IV 4 (2-4)**
Prerequisite: ART 211. Production of a portfolio including magazine layout, newspaper layout, brochure layout, billboard layout, package layout, corporate identification, letterhead layout, one-two- and three-fold layout.
- 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. 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 223 Portfolio Preparation/Presentation 2 (1-2)**
Prerequisite: Department Approval. Developing and refining a commercial art portfolio.
- ART 225 Commercial Art Workshop 8 (4-8)**
Prerequisite: Department Approval. All aspects of a campaign from client procurement, planning, meeting client goals and deadlines, and following a project from inception to completion.
- ART 226 Introduction to Medical 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 131 or 132. Introduction to animal illustration. Includes realistic drawing from mounted specimens and live animals as well as the visual presentation of abstract scientific information.
- ART 230 Interior Design IV 4 (2-4)**
Prerequisite: ART 162. Emphasizes the architectural aspects of interior design, focusing on properties, building materials, energy efficiency, efficient utilization of space, and alternative housing design.
- ART 231 Interior Design V 4 (2-4)**
Prerequisite: ART 230. Emphasizes contract design. Includes designing commercial interiors integrating client's needs and the socio-psychological aspects of the environment. Also estimating and specifying a contract interior.
- ART 232 Interior Design VI 4 (2-4)**
Prerequisite: ART 231. Examines the fundamentals of the interior design business process: design responsibilities in the profession, incorporation of design ethics in the professional practice.
- ART 233 Interior Design/Textiles 4 (2-4)**
Prerequisite: ART 161. 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 160. A survey of the history of decorative art periods including furniture, architecture, textiles and accessories, covering periods from Ancient through the Renaissance and relating to modern day environments.
- ART 235 Interior Design Workroom Practices I 4 (2-4)**
Prerequisite: ART 162. Examines studio workroom methods and techniques of floor, wall and window coverings, and the sketching 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, wall coverings, workroom procedures, and traffic flow.
- ART 237 Interior Design Sources**
Prerequisite: ART 236. Examines specific resources used in the current design industry and the procedure for setting up job book 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 241 Ceramic Sculpture I 4 (2-4)**
Prerequisite: ART 104. Ceramic sculpture using clay as the material.
- ART 242 Ceramic Sculpture II 4 (2-4)**
Prerequisite: ART 241. Development of more technical expertise in form and content in ceramic sculpture.
- ART 243 Ceramic Sculpture III 4 (2-4)**
Prerequisite: ART 242. A continuation of Ceramic Sculpture II. May be taken two terms for credit.
- ART 244 Glaze Formulation I 4 (2-4)**
Prerequisite: ART 106. Low-fire clay and glaze materials and their uses for formulation.
- ART 245 Glaze Formulation II 4 (2-4)**
Prerequisite: ART 244. High-fire clay and glaze materials and their uses.
- ART 246 Ceramic Design II/Surface 4 (2-4)**
Prerequisite: ART 104. Use of various decoration techniques to augment the finishing of hand made ceramics.
- ART 247 Advanced Ceramic Hand Construction 4 (2-4)**
Prerequisite: ART 104. Development of additional hand construction techniques of native American, African, Japanese, Korean, and other cultures.

ART 249 Kiln Construction 4 (2-4)

Prerequisite: ART 105. Basic kiln construction techniques, the use of various refractory materials, firing techniques, and the use of fuels.

ART 250 Low Fire Ceramic Seminar 4 (2-4)

Prerequisite: ART 104. Introduction to traditional methods of firing software as developed by the native American and African cultures. Hand construction will be the primary method of construction.

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 257 Etching II 4 (2-4)

Prerequisite: ART 138. Review and practice; producing portfolio pieces.

ART 258 Papermaking 4 (2-4)

Introduction to papermaking with emphasis on the art process of pulpmaking; papermaking as a printmaking process via the casting technique; making acid-free paper.

ART 259 Advanced Etching 4 (2-4)

Prerequisite: ART 257. A continuation of Etching II (ART 257). 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 270 Ceramics Independent Study 4 (2-4)

Prerequisite: Department Approval.

ART 271 Ceramics Independent Study 8 (4-8)

Prerequisite: Department Approval.

ART 272 Printmaking Independent Study 4 (2-4)

Prerequisite: Department Approval.

ART 273 Printmaking Independent Study 8 (4-8)

Prerequisite: Department Approval.

ART 274 Commercial Art Independent Study 4 (2-4)

Prerequisite: Department Approval.

ART 275 Commercial Art Independent Study 8 (4-8)

Prerequisite: Department Approval.

ART 276 Art Independent Study 4 (2-4)

Prerequisite: Department Approval.

ART 277 Art Independent Study 8 (4-8)

Prerequisite: Department Approval. Individual pursuit of special projects not incorporated in regular course offerings.

ART 278 Commercial Art Internship 8 (4-8)**ART 279 Interior Design Internship 8 (4-8)****ART 280 Ceramics Internship 8 (4-8)**

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.

Dance (DNC)

Performing & Creative Arts Department
Division of Applied Arts & Sciences

DNC 101 Modern Dance Beginning I 3 (2-1)

Movement exploration in modern dance; exercises in body strength, coordination and control. May be repeated three times for credit.

DNC 102 Modern Dance Beginning II 3 (2-1)

Prerequisite: DNC 101. Covers changing levels, tempos, floor patterns and vocabulary. May be repeated three times for credit.

DNC 103 Modern Dance Intermediate I 3 (2-1)

Prerequisite: DNC 102. Intermediate exercises for body strength, stretch, and balance; elements of direction and design. May be repeated three times for credit.

DNC 104 Dance History III 3 (3-0)

Prerequisite: DNC 105. Emphasis on modern and jazz periods and persons who made major contributions from nineteenth century to the present.

DNC 105 Dance History II 3 (3-0)

History of dance from the development of modern dance and beginning of jazz dance to the present; interrelationships and repetitions of major phases of dance from prehistoric to nineteenth century.

DNC 106 Dance History I 3 (3-0)

History of dance from prehistoric period through the development of ballet; interrelationships repetitions of the major phases of dance throughout.

DNC 107 Beginning Ballet I 3 (2-1)

Basic barre exercises; five basic positions of hands and feet; balance in plie and releve; combinations in centre; International dance terminology. May be repeated three times for credit.

DNC 108 Beginning Ballet II 3 (2-1)

Prerequisite: DNC 107. Basic exercises for strength, balance, and coordination; dance terminology and skills. May be repeated three times for credit.

DNC 109 Intermediate Ballet I 3 (2-1)

Prerequisite: DNC 108. Intermediate barre and centre exercises; adagio sequences with control and balance; pirouettes from fourth, fifth, and second positions. May be repeated three times for credit.

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 113 Introduction to Dance Forms 1 (1-1)

Introduction to fundamentals and basic techniques of ballet, yoga, ethnic, jazz, and modern dance.

DNC 116 Lansing Dance Theatre I 4 (2-4)

Apprenticeship class for Lansing Dance Theatre II; training in technique and style of the Lansing Dance Theatre performing company as preparation for audition. 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 three times for credit.

DNC 121 Folkloric Mexican 2 (1-2)

Prerequisite: Audition. Performing class in Mexican ethnic dance. May be repeated three times for credit.

DNC 123 LCC Dancettes 3 (2-1)

Prerequisite: Audition. Performing company in precision tap drills and jazz routines. May be repeated three times for credit.

DNC 124 Folklorico Colombian 2 (1-2)

Prerequisite: Audition. A performing company in dances of Spain, Mexico, and Latin America, including ballroom-Latin. May be repeated three times for credit.

DNC 125 Lansing Dance Theatre II 4 (2-4)

Prerequisite: Audition. A performing company. Includes current repertory, participation in professional rehearsals, and public performances. May be repeated three times for credit.

DNC 127 Gymnastics/Dance 3 (2-1)

Combines dance and tumbling with gymnastics on floor and balance beam. May be repeated three times for credit.

DNC 128 Gymnastics Dance Intermediate 3 (2-1)

Prerequisite: DNC 127. Intermediate dance and tumbling techniques on floor and balance beam. May be repeated three times for credit.

DNC 129 Gymnastics Dance Advanced 3 (2-1)

Prerequisite: DNC 128. Performance technique and competition; one and one-half minute floor or beam routine at advanced level; gymnastic meets. May be repeated three times for credit.

DNC 133 Tap I 3 (2-1)

Introduction to tap technique; soft-shoe, waltz clog, and variations; rhythmic execution of foot, head, hand, and body movements; history of tap dancing in America. May be repeated three times for credit.

DNC 134 Tap II 3 (2-1)

Prerequisite: DNC 133. Introduction of intermediate tap technique and tap variations; military tap, rhythm tap, and buck and wing; movement, time and space analysis. May be repeated three times for credit.

DNC 135 Tap III 3 (2-1)

Prerequisite: DNC 134. Advanced tap technique; character and novelty tap in traditional musical theatre. May be repeated three times for credit.

- DNC 139 Folk Dance Intermediate 2 (1-2)**
Prerequisite: DNC 147. Folk dancing at intermediate level with selection of Greek, Yugoslavian, Rumanian, Bulgarian, and Israeli dances. No partner required. May be repeated three times for credit.
- DNC 140 Jazz Dance Beginning 3 (2-1)**
Music and dance of American jazz; accents and phrases of jazz music; move-in slides, steps, and turns, with appropriate body accents. May be repeated three times for credit.
- 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 three times 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 three times for credit.
- DNC 143 Hawaiian Dance 2 (1-2)**
Introduction to Hawaiian and Tahitian dances; cultural evolution. May be repeated three times for credit.
- DNC 144 Polkas 2 (1-2)**
Introduction to fundamentals and variations in polkas. Covers music, customs, and background. May be repeated three times for credit.
- DNC 145 Square Dancing 2 (1-2)**
Introduces music and movement in traditional American square dance; ethnic contributions. Partners recommended. May be repeated three times for credit.
- DNC 146 Greek Folk 2 (1-2)**
Greek, Lebanese, Syrian, and Israeli folk dances; music, costumes, customs (as they affect the dance), and variations in style. May be repeated three times for credit.
- DNC 147 Folk Dance 2 (1-2)**
Introduction to Greek, Yugoslavian, Rumanian, Bulgarian, and Israeli folk dances. May be repeated three times for credit.
- DNC 148 Russian Dance 2 (1-2)**
Introduction to Russian folk dancing and its growth to a performing art. Includes Russian character dance in classical ballet and the use of musical instruments such as tambourine, balalaika, and accordion. May be repeated three times for credit.
- DNC 149 African Dance 2 (1-2)**
Introduction to African dance forms (Ashanti, Anlo Ewe, Ghanaia, Akan) rhythmic patterns of music, and geographic origin. May be repeated three times for credit.
- DNC 154 Independent Study I 1 (0-2)**
- DNC 155 Independent Study II 2 (1-2)**
- 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. May be repeated three times for credit.
- DNC 157 Semi Private I 1 (1-0)**
- DNC 158 Semi Private II 2 (2-0)**
- DNC 159 Semi Private III 3 (3-0)**
Prerequisite: Instructor and Department Approval. Intensive technical training for intermediate/advanced dance majors with special problems or areas of skill. May be repeated indefinitely for credit.
- DNC 160 Private I 1 (1-0)**
Prerequisite: Instructor and Department Approval. Intensive technical training for intermediate/advanced dance majors with special problems or areas of special skill.
- DNC 161 Folk Dance/Aerobics 1 (0-3)**
Prerequisite: ARC 160 recommended. Series of ethnic dances to increase mobility, muscle tone, coordination, and cardiovascular efficiency. May be repeated three times for credit.
- DNC 162 Introduction to T'ai Chi 1 (1-1)**
The art of T'ai Chi Ch'uan; basic principles of T'ai Chi, Zazen meditation, T'ue Shou. May be repeated three times for credit.
- DNC 163 Flexibility/Aerobics 1 (0-3)**
Prerequisite: ARC 160 recommended. Progressive physical conditioning, improving endurance and cardiovascular efficiency. May be repeated three times for credit.
- DNC 164 Aerobics Maintenance 1 (0-3)**
Prerequisite: Some experience. Advanced aerobics to increase muscle tone, improve endurance and cardiovascular efficiency. May be repeated three times for credit.
- DNC 165 Dance Exercise/Yoga I 1 (1-1)**
To increase flexibility, strengthen body for good posture, increase mobility, improve breathing and circulation, and promote general good health. This is done through experience and yoga. This course may be repeated three times for credit.
- 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 three times for credit.
- DNC 167 Dance/Yoga Practicum 1 (0-2)**
Body conditioning, review exercises, reinforcement of techniques. May be repeated three times for credit.
- DNC 168 Dance Exercise/Yoga II 1 (1-1)**
Yoga with dance-related exercises. Recommended for dance students, actors, and athletes. May be repeated three times for credit.
- 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 170 Jazz Dance Intermediate 3 (2-1)**
Prerequisite: DNC 170. Music and dance of American jazz; intermediate exercises in jazz movement. May be repeated three times for credit.
- DNC 171 Jazz Dance Advanced 3 (2-1)**
Prerequisite: DNC 170. Advanced exercises in jazz movement; composition and performance. May be repeated three times for credit.
- DNC 172 Introduction to Movement Therapy 3 (2-1)**
Basic concepts, exercises, body posture and process of movement therapy.
- DNC 173 Body Therapies 3 (2-1)**
Major theories of body movement for improved health and personal development. May be repeated three times for credit.
- DNC 174 Body Image 3 (2-1)**
Introduction to body images and the relationship between body tensions and postures and emotional states.
- DNC 175 Movement and Stress 3 (2-1)**
Introduction to the causes of stress, how it affects our bodies, what we can do about it; exercises to facilitate management and relaxation.
- DNC 178 Near Eastern Dance Performing 2 (1-2)**
Prerequisite: Audition. Preparation for public performance, developing a repertory of dances. Student makes costume, creates and presents a fifteen-minute dance solo, and participates in public performances. May be repeated three times for credit.
- DNC 179 Belly Dance/Aerobics 1 (0-3)**
Prerequisite: ARC 160 recommended. Near Eastern Dance exercises to increase flexibility, coordination, muscle tone, and cardio-vascular efficiency. May be repeated three times for credit. Pass/Fail course.
- DNC 180 Dance Applied 3 (3-0)**
- DNC 181 Dance Secondary 2 (2-0)**
- DNC 182 Dance Elective Minor 1 (1-0)**
Prerequisite: Department Approval. Study with instructors in private studios. Credits are determined by the length of instructional period up to three credits. Lab fee.
- DNC 190 Modern Dance Practicum I 2 (1-1)**
Practice and development for body conditioning, review of movements, and reinforcement of techniques. May be repeated three times for credit.
- DNC 191 Improvisation II 2 (1-1)**
Prerequisite: Department Approval. For persons with experience in improvisational techniques; develops form and group spontaneity. May be repeated for credit.
- DNC 192 Improvisation 2 (1-1)**
Prerequisite: Department Approval. Explores the process and techniques of improvisation; personal resources, talent, and solution of improvisational problems leading to a studio performance. May be repeated three times for credit.
- DNC 193 Beginning Ballet Practicum I 2 (1-1)**
Practice and development for body conditioning, review of movement, and reinforcement of techniques. May be repeated three times for credit.

- DNC 194 Ballet/Aerobics 1 (0-3)**
Prerequisite: ARC 160 recommended. To develop flexibility, coordination, muscle tone, and cardiovascular efficiency. May be repeated three times for credit.
- DNC 195 Adagio 3 (2-1)**
Prerequisite: Instr. Approval. Duets, solos, lifts, and precision timing between dancers to improve ability to relate physically to each other. May be repeated three times for credit.
- DNC 196 Modern Dance Practicum 2 (1-1)**
Prerequisite: DNC 103.
- DNC 197 Modern Dance Advanced Practicum 2 (1-1)**
Prerequisite: DNC 201
- DNC 198 Intermediate Ballet Practicum 2 (1-1)**
Prerequisite: DNC 109
- DNC 199 Advanced Ballet Practicum 2 (1-1)**
Prerequisite: DNC 207. Practice and development for body conditioning, review of movement, and reinforcement of techniques. May be repeated three times for credit. Two credits each.
- DNC 200 Adagio Advanced 3 (2-1)**
Prerequisite: Instructor Approval. Advanced duets, solos, lifts, and precision timing between dancers.
- DNC 201 Modern Dance Intermediate II 3 (2-1)**
Prerequisite: DNC 103. Intermediate exercises; sequences in loco-motor, turning, aerial movements, placement, flexibility, and awareness of line. May be repeated three times for credit.
- DNC 202 Modern Dance Advanced I 3 (2-1)**
Prerequisite: DNC 201. Turns, balance exercises, foot patterns, rhythmic patterns, extensions, and advanced improvisational techniques. Includes traditional modern dance productions and performances. May be repeated three times for credit.
- DNC 203 Modern Dance Advanced II 3 (2-1)**
Prerequisite: DNC 202. Review, evaluation, and advanced modern dance exercises and techniques; improvisation, rehearsal techniques, and composition for public performance. May be repeated three times for credit.
- DNC 204 Modern/Men 2 (1-1)**
Prerequisite: Instructor Approval. Introduction to basic modern and ballet movements for men dancers, singers, actors, and athletes to increase body control, physical strength, and agility. May be repeated three times for credit.
- DNC 205 Modern Dance/Aerobics 1 (0-3)**
Prerequisite: ARC 160 recommended. Modern dance exercises for developing flexibility, coordination, muscle tone and cardiovascular efficiency. May be repeated three times for credit.
- DNC 206 Ballet/Men 2 (1-1)**
An introduction to basic ballet movement for men dancers, singers, actors, and athletes, to increase body control, physical strength, and agility. May be repeated for credit.
- DNC 207 Intermediate Ballet II 3 (2-1)**
Prerequisite: DNC 109. Intermediate barre and centre combinations; pique, chaines, and priouettes; basic skills and terms found in International Vocabulary. May be repeated three times for credit.
- DNC 208 Advanced Ballet I 3 (2-1)**
Prerequisite: DNC 207. Variations from classical ballet added to advanced barre and centre exercises; complicated turns, aerial combinations, extensive patterns of adagio and allegro movements; pointe techniques and fundamentals of partnering. May be repeated three times for credit.
- DNC 209 Advanced Ballet II 3 (2-1)**
Prerequisite: DNC 208. Additional variations from classical ballet combined with advanced barre and centre exercises; turns and aerial combinations; adagio and allegro movements; professional performance skills; pointe techniques and advanced partnering techniques. May be repeated three times for credit.
- DNC 210 Pointe Technique 2 (1-1)**
Prerequisite: Instructor Approval. For the advanced female ballet dancer. Stresses development of strength in feet and ankles, elongated line, and classical technique. May be repeated three times for credit.
- DNC 211 Choreography Workshop 3 (2-1)**
Prerequisite: DNC 110 Instructor Approval. Students research, develop, and compose a dance presentation; locate, audition and select dancers; choreograph, rehearse, and develop all creative aspects of the chosen work for public viewing. May be repeated three times for credit.
- DNC 212 Performance Workshop 2 (1-2)**
Prerequisite: Instructor Approval. Students memorize a repertory for production; practice rehearsal techniques; utilize makeup, costuming, and projection techniques for public viewing. May be repeated three times for credit.
- DNC 213 Pointe Technique Intermediate 2 (1-1)**
Prerequisite: DNC 210. For the advanced female dancer. 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 220 Jazz Aerobic 1 (0-3)**
Prerequisite: ARC 160 recommended. Basic jazz movements for developing flexibility, coordination, muscle tone, and cardiovascular efficiency. May be repeated three times for credit.
- DNC 221 Tap Practicum II 2 (1-1)**
Prerequisite: DNC 133.
- DNC 224 Jazz Beginning Practicum 2 (1-1)**
- DNC 225 Jazz Intermediate Practicum 2 (1-1)**
Prerequisite: DNC 140
- DNC 226 Jazz Advanced Practicum 2 (1-1)**
Prerequisite: DNC 171. Practice and development for body conditioning, review of movement, and reinforcement of techniques. May be repeated three times for credit.
- DNC 227 Fencing Beginning 3 (2-1)**
Basic fencing skills, fencing safety, participation in a tournament.
- DNC 228 Fencing Intermediate 3 (2-1)**
Prerequisite: DNC 227. Intermediate fencing skills and concepts.
- DNC 229 Fencing Advanced 3 (2-1)**
Prerequisite: DNC 228. Advanced fencing skills and concepts; complex hand movements with more detailed leg work.
- DNC 231 Dance Accompaniment I 1 (1-1)**
Prerequisite: Instructor Approval.
- DNC 232 Dance Accompaniment II 2 (1-2)**
Prerequisite: Instructor Approval
- DNC 233 Dance Accompaniment III 3 (2-2)**
Prerequisite: Instructor Approval. Instruction and experience in accompanying dance classes and performances. May be repeated three times for credit.
- DNC 240 Pre-classical and Medieval Dance Forms 2 (1-2)**
Movement and dances from eleventh to seventeenth centuries; floor patterns, rhythms, combinations; general history. May be repeated three times for credit.
- DNC 241 Belly Dance Beginning 2 (1-2)**
Basic Belide movement of Mid-Eastern dance; finger zills; structures of music, and history.
- DNC 242 Belly Dance Intermediate 2 (1-2)**
Prerequisite: DNC 241. Intermediate Belide exercises; veil movements and finger zill combinations; improvisation and musical composition.
- DNC 243 Belly Dance Advanced 2 (1-2)**
Prerequisite: DNC 242. Advanced Belide exercises; variations of veil techniques and zill rhythms; history, national influences, and social significance; public performance.
- DNC 260 Dance for Elementary Teachers 3 (2-1)**
Prerequisite: Some experience. Beginning exercises in modern dance, ballet, folk dance, and mime; presenting dance to children; developing classroom projects.
- DNC 265 Makeup Dance/Theatre 3 (2-2)**
Applying makeup properly; effectively using supplies and techniques; evaluating assortment of makeup on the market.
- DNC 266 Makeup Dance/Theatre Practicum 2 (1-1)**
Dance/Theatre techniques and practice in the application of makeup.
- DNC 267 Introduction to Modeling 3 (2-1)**
Introduction of modeling techniques, projection, visual image, and impressions; turns and movements, differences between American and European modeling; requirements, opportunities, and various facets of a modeling career.
- DNC 268 Visual Poise/Modeling 3 (2-1)**
Grace in movement; body posture and control; coordination of clothing for visual poise; adaptation of personal wardrobe.

DNC 270 Personal Grooming/Modeling 3 (2-1)

Personal grooming routines for face, hands, and feet; hairstyle; makeup, and wardrobe.

DNC 271 Modeling II 1 (1-1)

Prerequisite: DNC 267. Advanced movement; developing flair, and personality projection. May be repeated three times for credit.

DNC 272 Disco Modeling 1 (1-1)

Modeling techniques with disco music. May be repeated three times for credit.

DNC 273 Runway Modeling 1 (1-1)

Runway modeling routines; model's turns; stage entrances and exits. May be repeated three times for credit.

DNC 280 Ballroom Bronze I 3 (2-1)

Five basic ballroom dances: fox-trot, rhumba, swing, cha-cha, and waltz. May be repeated three times for credit.

DNC 281 Ballroom Bronze II 3 (2-1)

Prerequisite: DNC 280. Coordination of arm, posture, and head movement with steps; introduction to tango, samba, meringue, and mambo. May be repeated three times for credit.

DNC 282 Ballroom Silver I 3 (2-1)

Prerequisite: DNC 281. Leading or following a partner; blending patterns in fox trot, tango, and waltz at Silver level. May be repeated three times for credit.

DNC 283 Ballroom Silver II 3 (2-1)

Prerequisite: DNC 282. Rhumba, bolero, cha-cha, and samba; developing style and versatility. May be repeated three times for credit.

DNC 284 Ballroom Gold I 3 (2-1)

Prerequisite: DNC 283. Gold level steps in fox trot, tango, and waltz; ballroom terminology; solo demonstration, and freestyle demonstration. May be repeated three times for credit.

DNC 285 Ballroom Gold II 3 (2-1)

Prerequisite: DNC 284. Gold level steps in cha-cha, rhumba, samba, and meringue; developing personal style. May be repeated three times for credit.

DNC 286 Disco 1 (0-2)

Introduction to current styles in American jazz/ballroom dance. May be repeated three times for credit.

DNC 288 Ballroom Competition Team 3 (2-1)

Prerequisite: Instructor Approval. Preparation for competition at regional and national levels; clothing, makeup, music; rules and regulations of American and International standards; competition in area event. May be repeated three times for credit.

DNC 289 Disco Dance II 1 (0-2)

Prerequisite: DNC 286. Advanced American jazz/ballroom dance; technique, style, and presentation. May be repeated three times for credit.

DNC 290 Free-Style Ballroom 2 (1-2)

Prerequisite: DNC 283. Developing and perfecting techniques in free-style exhibition. Includes

principles of competition dancing; advanced movement patterns; public performance. May be repeated three times for credit.

DNC 291 Swing/Ballroom 1 (0-2)

DNC 292 Cha/Cha Ballroom 1 (0-2)

DNC 293 Samba/Ballroom 1 (0-1)

DNC 294 Tango/Ballroom 1 (0-2)

Intensive study in techniques, patterns, music and style. May be repeated three times for credit.

DNC 296 Disco/Aerobics 1 (0-3)

Prerequisite: ARC 160 recommended. Disco dance exercises for strength, mobility, flexibility, coordination, muscle tone, and cardiovascular efficiency. May be repeated three times for credit.

DNC 297 Introduction to Square Dance 1 (0-2)

Introduces music and basic patterns of traditional American square dance; ethnic contributions. May be repeated three times for credit.

Dance Repertory (DNR)
Performing & Creative Arts Dept.
Div of Applied Arts & Sciences

DNR 100 Modern Repertory I 1 (0-2)

Prerequisite: Audition.

DNR 101 Modern Repertory II 2 (1-2)

Prerequisite: Audition

DNR 102 Modern Repertory III 3 (1-3)

Prerequisite: Audition

DNR 103 Ballet Repertory I 1 (0-2)

Prerequisite: Audition

DNR 104 Ballet Repertory II 2 (1-2)

Prerequisite: Audition

DNR 105 Ballet Repertory III 3 (1-3)

Prerequisite: Audition

DNR 106 Tap Repertory I 1 (0-2)

Prerequisite: Audition

DNR 107 Tap Repertory II 2 (1-2)

Prerequisite: Audition

DNR 108 Tap Repertory III 3 (1-3)

Prerequisite: Audition

DNR 109 Jazz Repertory I 1 (0-2)

Prerequisite: Audition

DNR 110 Jazz Repertory II 2 (1-2)

Prerequisite: Audition

DNR 111 Jazz Repertory III 3 (1-3)

Prerequisite: Audition

DNR 112 Spanish Repertory 2 (1-2)

Prerequisite: Audition

DNR 113 African Dance 2 (1-2)

Prerequisite: Audition

DNR 114 Ballroom Performing 2 (2-1)

Prerequisite: Audition

DNR 115 Near Eastern Repertory 1 (0-2)

Prerequisite: Audition. Preparation of dance for performance.

DNR 116 Lanswingers/Dance 2 (0-2)

Prerequisite: MUS 299. Choreography, staging, and instructing students enrolled in LAN-SWINGERS - MUS 198.

DNR 150 Colombian/Begin Ballet Practicum 2 (1-1)

Prerequisite: Instructor Approval. Support for Folklorico Colombian (DNC 124). Barre exercises; centre combinations; synchronizing tempo; spacial relationships; and consistent placement. May be repeated three times for credit.

DNR 151 L.D.T./Intermediate Ballet II 3 (2-1)

Prerequisite: Instructor Approval.

DNR 152 L.D.T./Advanced Ballet II 3 (2-1)

Prerequisite: Instructor Approval. Support for Lansing Dance Theatre (DNC 125). Synchronizing tempo; spacial relationships; consistent placement; barre exercises; centre combinations. May be repeated for credit.

DNR 153 Master Class Ballet - Begin/Low Intermediate ½ (½-0)

Prerequisite: DNC 107.

DNR 154 Master Class Ballet-High Intermediate/Advanced ½ (½-0)

Prerequisite: DNC 109.

DNR 155 Jazz/Tap Masters Class ½ (½-0)

Prerequisite: Some experience. Conducted by professional dancer/instructor in residence, or one who is performing/teaching in the service area. Concentrated sessions of two-to four-day period. One half credit each.

Music (MUS)

Performing & Creative Arts Department
Division of Applied Arts & Sciences

MUS 101 LanSwingers 1 (0-2)

Prerequisite: Instructor Approval. Selected vocal and instrumental ensemble that participates almost exclusively in jazz, swing, and pop choral performance.

MUS 102 Lansing Women's Glee Club 1 (0-2)

An ensemble of women vocalists composed of students and community members; develops general musicianship and provides training in choral singing.

MUS 104 Lansing Men's Glee Club 1 (0-2)

A choral group composed of students and men within the community who perform music of all periods.

MUS 105 Woodwind Ensemble 2 (1-1)

Prerequisite: Some Experience. Provides performance opportunities for woodwind instrumentalists; standard woodwind ensemble literature as well as contemporary transcriptions.

MUS 106 Lansymphonic Choral Society 1 (0-3) 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.	MUS 130 Classical Guitar I 2 (1-1) 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.	MUS 148 Intermediate Piano II 2 (1-1) Prerequisite: MUS 147
MUS 107 Opera Workshop 2 (1-2) Prerequisite: Instructor Approval. An introductory course to the elements of opera as musical theatre.	MUS 131 Flat Pick Guitar 2 (1-1) Prerequisite: Some Experience. Introduces guitarists to the Blue Grass style.	MUS 150 Advanced Piano I 2 (1-1) Prerequisite: MUS 148
MUS 108 Omni Opera Company 1 (0-3) Prerequisite: Audition. A performing ensemble comprised of students who are advanced in vocal training and performing experience. This company performs in the Opera Workshop productions, fall and winter terms, and a full-scale opera each spring term.	MUS 132 Old Time Fiddle 2 (1-1) Prerequisite: Some Experience. Learn 20 fiddle tunes representing different types and styles of fiddling. The tunes will be taught by ear as much as possible, although music will be made available. Tape recorder recommended.	MUS 151 Advanced Piano II 2 (1-1) Prerequisite: MUS 150. Sequential classes in an electronic piano lab. Students progress at own speed. For non-majors.
MUS 110 Lansing Tudors 1 (0-2) Prerequisite: Department Approval. A small selected group of music ally and vocally talented students interested in singing Madrigal music of the 14th through 18th centuries, and other music for small ensembles.	MUS 133 Folk Guitar I 2 (1-1) Prerequisite: Some Experience.	MUS 153 Keyboard Sight Reading I 2 (1-1) Prerequisite: Advanced Beginner.
MUS 111 Barbershop Ensemble 1 (0-2) Prerequisite: Audition. Previous singing experience recommended. Men's performing group in four-part barbershop style.	MUS 134 Folk Guitar II 2 (1-1) Prerequisite: MUS 133. Sequential classes in fingerpicking and flatpicking with emphasis on fingerpicking, both as accompaniment and soloing. Also, basic music theory, ear training, and arranging for the folk musician.	MUS 154 Keyboard Sight Reading II 2 (1-1) Prerequisite: MUS 153
MUS 113 Summer Musical Chorus 1 (0-3) Prerequisite: Audition. LCC's annual summer musical chorus. Members are selected for their acting as well as singing ability and past performance experience.	MUS 135 Blue Grass Guitar 2 (1-1) Prerequisite: Some Experience. For students with some knowledge of folk guitar desiring to be introduced to the Blue Grass style of playing. Student provides own instrument.	MUS 155 Keyboard Sight Reading III 2 (1-1) Prerequisite: MUS 154. Sequential classes to increase fluency and accuracy of keyboard sight reading through four-hand, six-hand, or eight-hand ensemble playing.
MUS 119 Lansing Concert Band 1 (0-3) 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.	MUS 136 Class Organ/Pop 2 (1-1) Class organ instruction in popular music. Students will progress at their own rate.	MUS 156 Keyboard Skills I 2 (1-1) Prerequisite: Advanced Beginner.
MUS 120 Musical Comedy Workshop 2 (1-2) Prerequisite: Audition. Develops musical comedy vocal, acting, and stage movement skills. Students perform in one or more musical comedy numbers as an end-of-term performance project.	MUS 137 Blue Grass Banjo 2 (1-1) Prerequisite: Transfers only. Introduction to Blue Grass style on banjo.	MUS 157 Keyboard Skills II 2 (1-1) Prerequisite: MUS 156
MUS 121 Lansing Chamber Orchestra 1 (0-3) Prerequisite: Audition. Performance experience in standard orchestral literature. This ensemble also accompanies the LanSymphonic Choir concerts and the major opera each year.	MUS 138 Class Piano/Major 3 (2-1) MUS 139 Class Piano/Major 3 (2-1) Prerequisite: MUS 138	MUS 158 Keyboard Skills III 2 (1-1) Prerequisite: MUS 157. Sequential classes in the development of technical keyboard ability.
MUS 122 Jazz Improvisation I 2 (1-1) Prerequisite: Some Experience. An ensemble to develop jazz improvisational skills and techniques.	MUS 140 Class Piano/Major 3 (2-1) Prerequisite: MUS 139. Sequence limited to transfer music majors. Gain keyboard facility, skill in sight reading, and ability to transpose. The electronic piano lab is utilized in both individual and group playing.	MUS 159 Piano Pedagogy/Literature 2 (1-1) Prerequisite: Advanced Beginner.
MUS 123 Jazz Ensemble 2 (1-1) Prerequisite: Instructor Approval. A standard performing ensemble in the jazz idiom. Necessary jazz theory instruction included throughout the course.	MUS 141 Classical Guitar II 2 (1-1) Prerequisite: MUS 130	MUS 160 Piano Pedagogy/Literature 2 (1-1) Prerequisite: MUS 159
MUS 126 Lansing A Cappella Choir 1 (0-3) Prerequisite: Instructor Approval. An advanced performing group, knowledgeable in good tone production, blend and rhythm.	MUS 142 Classical Guitar III 2 (1-1) Prerequisite: MUS 141	MUS 161 Piano Pedagogy 2 (1-1) Prerequisite: MUS 160. Sequential classes for piano Teachers and majors and covering students at elementary and intermediate levels.
	MUS 143 Classical Guitar Ensemble 2 (1-1) Prerequisite: Instructor Approval. Provides opportunity for guitar ensemble playing; groups of three or four play music from renaissance to the present.	MUS 162 Survey/Piano Literature 2 (1-1) Prerequisite: Advanced Skills
	MUS 144 Keyboard Beginner I 2 (1-1) Prerequisite: None	MUS 163 Survey/Piano Literature 2 (1-1) Prerequisite: MUS 162.
	MUS 145 Keyboard Beginner II 2 (1-1) Prerequisite: MUS 144	MUS 164 Survey/Piano Literature 2 (1-1) Prerequisite: MUS 163. Sequential classes to acquaint piano teachers with piano literature suitable for developing musicianship in students at various levels of advancement.
	MUS 147 Intermediate Piano I 2 (1-1) Prerequisite: MUS 145	MUS 165 Classical Guitar Forum 1 (-) Prerequisite: Instructor Approval. Students perform in class at least twice a term, and engage in discussion of a variety of musical topics related to performance. Students not ready to perform are invited to audit.

MUS 170 Introduction to Musicianship III 3 (2-1)	MUS 188 Guitar I 2 (1-1)	MUS 208 Private Instrument/Majors 2 (0-3)
Prerequisite: MUS 169. Sequential 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 189 Guitar II 2 (1-1)	Prerequisite: Audition.
MUS 173 Basic Musicianship 4 (2-3)	Prerequisite: MUS 188. Sequential classes 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 introduced. Provide own instrument.	MUS 209 Private Keyboard/Majors 3 (0-5)
Prerequisite: Transfers Only.	MUS 191 Piano Literature 2 (1-1)	Prerequisite: Audition.
MUS 174 Basic Musicianship 4 (2-3)	Survey of representative works for the piano from 18th-20th centuries with emphasis on stylistic differences between composers as well as musical periods.	MUS 210 Private Keyboard/Majors 2 (0-3)
Prerequisite: MUS 173	MUS 192 Choral Literature 2 (1-1)	Prerequisite: Audition.
MUS 175 Basic Musicianship 4 (2-3)	Survey of representative choral works from 16th-20th centuries, with emphasis on stylistic differences between composers as well as musical periods.	MUS 211 Private Guitar/Majors 3 (0-5)
Prerequisite: MUS 174. A sequence of courses in music theory as a freshman year requirement for a Bachelor of Music or similar four-year college degree including the full series of ear training, sight singing and dictation.	MUS 193 Instrumental Literature 2 (1-1)	Prerequisite: Audition.
MUS 176 Advanced Musicianship 4 (2-3)	Survey of representative instrumental works from 16th-20th centuries with emphasis on stylistic differences between composers as well as musical periods.	MUS 212 Private Guitar/Majors 2 (0-3)
Prerequisite: MUS 175	MUS 194 Vocal Pedagogy 3 (2-1)	Prerequisite: Audition. Private lessons for music transfer students. Enrollment by audition only. Auditions held the first Friday of fall and winter terms, or requested during fall and spring term juries. Students who are not admitted into the 211 or 212 levels are recommended to take private lessons for non-majors and reaudition to meet the admission criteria.
MUS 177 Advanced Musicianship 4 (2-3)	A study of the physiologic and acoustic mechanics of singing, and an overview of the different methodological approaches used in teaching singing.	MUS 213 Private Voice/Non-Majors 3 (0-5)
Prerequisite: MUS 176	MUS 199 Music Appreciation 2 (2-0)	MUS 214 Private Voice/Non-Majors 2 (0-2)
MUS 178 Advanced Musicianship 4 (2-3)	Gives a general knowledge of musical structure, composers, compositions, terms, and the relationships of music to other arts. For non-music majors.	MUS 215 Private voice/Non-Majors 1 (0-1)
Prerequisite: MUS 177. A sequence of courses in music theory as a sophomore year requirement for a Bachelor of Music or similar four-year college degree, including the full series of ear training, sight singing, and dictation.	MUS 200 Basic Music/Elementary Teachers 4 (4-0)	Private instruction for non-major voice students.
MUS 179 Class Voice/Majors 2 (1-1)	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 216 Private Instrument/Non-Majors 3 (0-5)
Prerequisite: Voice Transfers Only. 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. Voice transfers.	MUS 201 Orff Methods 2 (1-1)	MUS 217 Private Instrument/Non-Majors 2 (0-3)
MUS 180 Class Voice/Majors 2 (1-1)	Prerequisite: MUS 200. Supplemental course to MUS 200 designed to give the elementary classroom teacher further musical classroom skills through the demonstration of Orff methods and instruments.	MUS 218 Private Instrument/Non-Majors 1 (0-1)
Prerequisite: MUS 179. Instruction in the phonetic approach to the pronunciation of French designed for singers. The performance of the languages utilizes the song literature of major composers of the French chanson.	MUS 202 Kodaly Methods 2 (2-1)	Private instruction for non-major instrumental students.
MUS 181 Class Voice/Majors 2 (1-1)	Prerequisite: MUS 200. Supplemental to MUS 200 to give the elementary teacher assistance in teaching Kodaly methods of music instruction.	MUS 219 Private Keyboard/Non-Majors 3 (0-5)
Prerequisite: MUS 180. 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 204 Beginning Recorder 2 (1-1)	MUS 220 Private Keyboard/Non-Majors 2 (0-3)
MUS 182 Class Voice 2 (1-1)	Prerequisite: MUS 200. Supplemental course to MUS 200 designed to give the elementary classroom teacher further musical classroom skills through the demonstration of Orff methods and instruments.	MUS 221 Private Keyboard/Non-Majors 1 (0-1)
MUS 183 Class Voice 2 (1-1)	MUS 205 Private Voice/Majors 3 (0-5)	Private instruction for non-major piano or organ students.
Sequence of classes for group and individual work on classic literature and study of vocal techniques such as breathing, tone production, diction, phrasing, and style. Some pop music included.	Prerequisite: Audition.	MUS 222 Private Guitar/Non-Majors 3 (0-5)
MUS 185 Music Reading I 3 (2-1)	MUS 206 Private Voice/Majors 2 (0-3)	MUS 223 Private Guitar/Non-Majors 2 (0-3)
MUS 186 Music Reading II 3 (2-1)	Prerequisite: Audition.	MUS 224 Private Guitar/Non-Majors 1 (0-1)
Prerequisite: MUS 185	MUS 207 Private Instrument/Majors 3 (0-5)	Private instruction for non-major guitar students.
MUS 187 Music Reading III 3 (2-1)	Prerequisite: Audition.	MUS 225 Introduction to Opera 2 (2-0)
Prerequisite: MUS 186. Sequential courses for students with no previous experience in ear training. Covers solfeggio, musical thinking, including rote and mnemonic procedures, and introduction to the principles of sight-reading and the fundamentals of melodic, harmonic and rhythmic dictation.		Various types of opera, operetta, and musical comedy will be studied using films, records, and other source materials.

MUS 230 Church Choir Conducting 2 (1-1)	MUS 244 Pop Studio Production 3 (2-1)	MUS 264 Pop/Rock Independent Study 2 (1-1)
MUS 231 Church Choir Conducting 2 (1-1)	Prerequisite: Department Approval. Introduction to modern multi-channel recording techniques, taught in an off-campus 24-track recording studio. Covers equipment functions, separation techniques, basic tracks and overdubs, and the roles of musicians, producers, and engineers in the pop recording field.	Prerequisite: Department Approval.
Prerequisite: MUS 230. Conducting techniques and church choir literature review.		MUS 265 Pop/Rock Independent Study 4 (2-3)
MUS 232 Music Seminar 1 (1-0)		Prerequisite: Department Approval.
Prerequisite: Department Approval.	MUS 245 Pop Rock Fundamentals 3 (3-0)	MUS 266 Pop/Rock Independent Study 6 (3-6)
MUS 233 Music Seminar 2 (1-1)	Introduction to the patterns behind chords, scales and harmonic movement, and learning to read music.	Prerequisite: Department Approval.
Prerequisite: Department Approval.	MUS 251 Lennon/McCartney 2 (2-0)	MUS 267 Performers Band 2 (0-3)
MUS 234 Music Seminar 3 (2-1)	A 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.	Prerequisite: Instructor Approval. For pop/rock students, with emphasis on developing and upgrading competence and effectiveness as "pop" performers.
Prerequisite: Department Approval. The subject matter, meeting special needs of the students, are approved in advance by faculty, and offered on demand. Acceptable elective credits for curriculum codes 942 and 943.	MUS 252 History of Rock I 3 (3-0)	MUS 268 Lead Guitar 2 (1-1)
MUS 235 Harmonica I 1 (1-1)	Introduction to the varied styles and origins of the music called Rock 'n' Roll, as well as some of the major figures behind it.	Prerequisite: MUS 270 or Department Approval. Introducing the guitarist to the art of playing in time to other players. Charts are arranged to suit the level of the students and are completely written out.
Introductory course demonstrating the sound techniques employed in the mastery of the harmonica.	MUS 253 Business of Music 3 (3-0)	MUS 269 Recording Band 2 (1-2)
MUS 236 Harmonica II 2 (1-1)	Lectures by professional musicians, booking agents, union officials, recording artists, etc. to assist in understanding the pitfalls of the profession, how to avoid them, and how to succeed.	Prerequisite: Audition. Rehearses and records in an eight-track recording studio where such recording techniques as overdubbing, performing to click tracks, mixing and editing, etc. are covered.
Prerequisite: MUS 235 or Equivalent. Introduces blues changes. Perform five blues songs and gain the ability to improvise over standard blues changes.	MUS 254 Pop Band Management 2 (2-0)	MUS 270 Pop Guitar I 2 (1-1)
MUS 237 Class Trumpet 2 (1-1)	Prerequisite: MUS 253 or Instructor Approval. This course is 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 271 Pop Guitar II 2 (1-1)
Fundamental techniques of playing the trumpet.	MUS 255 Class Voice/Pop 3 (2-1)	Prerequisite: MUS 270. Consecutive courses in classroom guitar instruction for the beginner or intermediate to advanced pop rock guitarist. Learn to take solos from records and perform pop guitar ensemble music in the classroom.
MUS 239 Jazz History 2 (2-0)	MUS 256 Class Voice/Pop 3 (2-1)	MUS 272 Pop Vocal Ensemble 2 (0-4)
A general introduction to recorded jazz, each week the class will focus on a different period, style, or group of performers. Attention will be brought to a number of things, including: instrumentation; arrangement; ensemble qualities; unison; counterpoint; call and response; the 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 (or alienate others), etc.	MUS 257 Class Voice/Pop 3 (2-1)	Prerequisite: Instructor Approval. A Pop Rock performing group, the ensemble will concentrate on contemporary pop rock vocal arrangements and the art of backup singing.
MUS 240 Music History I 3 (3-0)	Class and individual work on assigned pop music and study of important vocal techniques in pop, jazz, and rock music. Recommended as a prerequisite to private voice lessons.	MUS 273 Pop Rock Seminar 1 (1-0)
Prerequisite: Sophomore Transfers. Ancient Greece through Romanesque and Gothic periods, concluding with the Renaissance, Greek theory and "ethos"; age of plain song, development of polyphony.	MUS 258 Pop Rock Keyboard 2 (1-1)	Prerequisite: Department Approval.
MUS 241 Music History II 3 (3-0)	MUS 259 Pop Rock Keyboard 2 (1-1)	MUS 274 Pop Rock Seminar 2 (1-1)
Prerequisite: MUS 240. Baroque and classical periods with special attention to fugue, opera, oratorio, sonata, and symphony. Characteristic works analyzed.	MUS 260 Pop Rock Keyboard 2 (1-1)	Prerequisite: Department Approval.
MUS 242 Music History III 3 (3-0)	An 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 275 Pop Rock Seminar 3 (2-1)
Prerequisite: MUS 241. Romantic, impressionistic, and contemporary periods. A comprehensive final examination is administered covering MUS 240-242.	MUS 261 Songwriting 3 (2-1)	Prerequisite: Department Approval. The subject matter, meeting special needs of the students, are approved in advance by faculty.
MUS 243 Introduction to Music Education 3 (3-0)	Prerequisite: MUS 245	MUS 276 Lyric Writing 3 (3-0)
An overview of the elements involved in being a music teacher. Covers basic educational tools as well as historical perspectives of teaching music.	MUS 262 Advanced Songwriting 3 (2-1)	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.
	Prerequisite: MUS 261 or Advanced Skill. Notation practice, song form, harmonization of original melodies, text setting, and lead sheetwriting in creating background music for a documentary film and feature music.	MUS 277 Private Songwriting 1 (0-1)
	MUS 263 Arranging 1 (1-0)	Prerequisite: MUS 245.
	Prerequisite: MUS 245. Planning and writing an arrangement. Includes discussions of ranges and technical possibilities of brass, strings, reeds, and electric instruments, their voicing and performance considerations.	MUS 278 Private Songwriting 2 (0-3)
		Prerequisite: MUS 245.
		MUS 279 Private Songwriting 3 (0-5)
		Prerequisite: MUS 245. Private coaching in writing and copyrighting musical compositions, giving attention and suggestions in harmony, chord substitution, and formal design.

- MUS 280 Rock Percussion 2 (1-1)**
MUS 281 Advanced Rock Percussion 2 (1-1)
 Prerequisite: Advanced Skills. Percussion techniques with emphasis on rock rhythms and concepts.
- MUS 282 Private Voice/Pop Rock 1 (0-1)**
MUS 283 Private Voice/Pop Rock 2 (0-3)
MUS 284 Private Voice/Pop Rock 3 (0-5)
 Private vocal instruction emphasizing pop production.
- MUS 285 Private Instrument/Pop Rock 1 (0-1)**
MUS 286 Private Instrument/Pop Rock 2 (0-3)
MUS 287 Private Instrument/Pop Rock 3 (0-5)
 Private instrumental instruction emphasizing pop technique and style.
- MUS 288 Private Keyboard/Pop Rock 1 (0-1)**
MUS 289 Private Keyboard/Pop Rock 2 (0-3)
MUS 290 Private Keyboard/Pop Rock 3 (0-5)
 Private keyboard instruction emphasizing pop technique and style.
- MUS 291 History of Rock II 3 (3-0)**
 Prerequisite: MUS 252
- MUS 292 Pop Guitar Ensemble 2 (1-1)**
 A performing ensemble of several guitarists playing pop music arrangement. Increasing skills in balance, blend, rhythm and repertoire.
- MUS 293 Bluegrass Ensemble 2 (1-1)**
 Prerequisite: Department Approval. A performing ensemble utilizing the idiom of Bluegrass music.
- MUS 294 Piano Tuning 4 (2-4)**
 Prerequisite: Instructor Approval. Basic knowledge and skills to tune and repair pianos.
- MUS 295 Solo Transcription 2 (1-1)**
 Transcription of material in a variety of styles. Covers chord-scale relationships, rhythmic and melodic phrasing techniques, use of motifs, articulation. Transcribe two projects.
- MUS 296 Introduction to Music Therapy 3 (3-0)**
 An overview of music therapy with emphasis on employment qualifications and opportunities.
- MUS 298 Rhythmic Skills 2 (1-1)**
 Introduction to rhythmic notation and performance. Learn to recognize, perform, notate, and hear rhythmic patterns in various meters.
- MUS 299 Blues Harp 2 (1-1)**
 Prerequisite: Instructor Approval. Introduction to the techniques of playing blues or cross harmonica. No background in the instrument is necessary. Materials provided except for a key of C Diatonic harmonica.
- Theatre (THR)**
 Performing and Creative Arts Department
 Division of Applied Arts and Sciences
- 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 (2-1)**
 A presentational approach to the art of public speaking, in the classroom, in professional situations, or 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 115 Play Production 2 (1-2)**
 Introduces the practical problems of producing a play for church, school, or community, emphasizing fundamental production principles. Class participation includes working backstage on LCC productions.
- THR 116 Playwriting 3 (2-2)**
 Writing for performance with emphasis on developing personal style and understanding of the craft. Covers the purpose of playwriting, theatre vs. literature, genre, style, and technique. Students' works will be considered for possible performance by the theatre program.
- THR 120 Technical Theatre I 3 (2-2)**
 Introduction to the equipment and technology of fundamental stage scenery construction with emphasis on tool usage and safety. Covers the scenic elements of play production, analysis of the beginning basic forms of visual design, and application of basic elements of scenery construction. Requires additional lab time.
- THR 121 Technical Theatre II 3 (2-2)**
 Prerequisite: THR 120. Continuation of THR 120. Students will demonstrate hands-on skills learned in THR 120 with emphasis on carpentry skills and practical rigging experience. Additional lab time required.
- THR 122 Technical Theatre III 3 (2-2)**
 Prerequisite: THR 121. Continuation of THR 121. Students will apply learned skills by assuming at least two technical positions for PCA productions. Positions may include assistant designer, assistant technical director, master carpenter, or properties assistant. Additional lab time required.
- THR 137 Drafting for the Theatre 3 (2-2)**
 Fundamentals of theatrical design and the communication of designs. Students' work will include the preparation of ground plans and orthographic and isometric plans.
- THR 139 Sketching for the Theatre 3 (2-2)**
 A studio course covering the basic drawing techniques and materials used in the theatrical design process.
- THR 150 Oral Interpretation 3 (2-2)**
 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 will be included.
- THR 152 Stage Voice I 2 (2-0)**
 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 (2-0)**
 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 (1-3)**
 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 (1-3)**
 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 164 Fencing Beginning 2 (1-2)**
 Introduces basic skills and concepts of fencing. Fencing safety will also be included. Students will be given a chance to bout in addition to practice sessions.
- THR 165 Fencing Intermediate 2 (1-2)**
 Prerequisite: THR 164. A continuation of THR 164 with further refinement of basic fencing skills and concepts.
- THR 166 Fencing Advanced 3 (2-1)**
 Prerequisite: THR 165. A continuation of THR 165 with further refinement of basic fencing skills and concepts. Complex hand movements with more detailed leg work are introduced.
- THR 167 Fencing Competition 3 (2-1)**
 Prerequisite: THR 164. An extension of beginning fencing, involving a more intense individual critique of specific areas which need improvement for effective performance in local competition.
- THR 168 Fencing Stage 3 (2-1)**
 Prerequisite: Department Approval. Uses and expands on the rudiments of competitive fencing; specifically on movements designed for use on the stage and in choreography.
- THR 170 Sabre 2 (1-2)**
 Prerequisite: THR 164. Introduces basic skills and concepts of sabre fencing with primary emphasis on use in competition. Necessary footwork, handwork, and safety procedures will be demonstrated.

- THR 171 Epee 2 (1-2)**
Prerequisite: THR 164. Introduces basic skills and concepts of epee fencing with primary emphasis on use in competition. Necessary footwork, handwork, and safety procedures will be demonstrated.
- 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 185 Dance for Actors 3 (2-1)**
Dance techniques used in musical theatre productions with emphasis on coordination and ease in movement, body awareness, flexibility, and strength. Instruction includes tap, jazz, soft-shoe, and ballroom dance steps.
- 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 (2-2)**
Prerequisite: THR 187. A continuation of THR 187 with further refinement of basic audition techniques and concepts.
- 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 227 Design for Dance 3 (2-1)**
Introduces student to basic design elements and rendering techniques as they relate to the ballet and modern dance. Course instruction includes analyzing music and dance for thematic content and working with directors and choreographers.
- THR 228 Styles of Scenery and Properties 3 (2-1)**
Includes lectures, labs, and project presentations in the various styles of scenery and properties from Greek through modern theatre. Class gains practical experience in the construction of props and scenery for LCC theatre productions.
- THR 230 Apprentice Theatre Workshop 12 (5-15)**
Prerequisite: Department Approval. An extensive summer apprentice experience in the elementary principals of theatrical production under the supervision of professional actors, directors, and technicians at the BoarsHead Theatre in Lansing. Includes acting, properties, set construction, costuming, and lighting principles. Requires additional lab time.
- THR 231 Theatre Workshop - LCC 6 (2-10)**
A modified summer apprenticeship program designed specifically for high school students but open to all ages. Includes acting, technical theatre, and costuming using the facilities at the college as a laboratory. Requires additional lab time.
- THR 232 Arts Encounter 2 (2-0)**
Prerequisite: Department Approval or THR 251. The Arts Encounter Touring Program is a three-term acting program which offers a well-rounded, diversified opportunity to develop performance skills in children's theatre. Laboratory experience includes workshops for public schools, acting on tour, and a full-scale children's theatre production.
- THR 235 Theatre Special Projects 2 (2-1)**
Prerequisite: Department Approval. Limited to individuals who have been selected as cast members in a scheduled LCC theatre production.
- THR 236 Theatre Special Projects 4 (2-4)**
Prerequisite: Department Approval. Limited to individuals who have been selected as cast members in a scheduled LCC theatre production.
- THR 237 Theatre Special Projects 1 (0-2)**
Prerequisite: Department Approval. Limited to individuals who have been selected as cast members in a scheduled LCC theatre production.
- THR 251 Acting I 3 (2-2)**
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 will 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 will review and practice skills demonstrated, adding more sophisticated techniques as abilities increase. Course may be repeated up to three times for credit.
- THR 254 Shakespeare Workshop 3 (2-2)**
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 Light Design for Non-Majors 2 (1-2)**
An introduction to the methods and techniques of light design for non-theatre majors directly related to their course or performance study or interest. Students will work to create basic lighting plots to fulfill the minimum technical
- needs of their performance interests and develop the ability to confer and work with designers in a knowledgeable and beneficial manner.
- THR 257 Stage Lighting Design I 3 (2-2)**
An introduction to the basic drafting techniques involved in lighting design, examining various types of staging arrangements and lighting techniques, lighting "hook-up" procedures, lighting plots, drafting and paperwork, and the role of lighting in production.
- THR 258 Stage Lighting Design II 3 (2-2)**
Prerequisite: THR 257. A continuation of THR 257. Focuses on both a laboratory approach to color theory and the selection of color for stage lighting, as well as text study. Students will analyze scripts and form design concepts to be translated into the desired graphics.
- THR 259 Stage Lighting Design III 3 (2-2)**
Prerequisite: THR 258. Students will function as assistant designers or designers on at least one LCC theatre production, and participate in all production and design discussions during the production evolution.
- THR 260 Directing 3 (2-2)**
Prerequisite: THR 251. A study of the theories and practice used in directing for the stage. Students will 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 Scene Design for Non-Majors 2 (1-2)**
An introduction to the methods and techniques of stage design for non-theatre majors directly related to their course or performance study or interest. Students will work to create basic settings to fulfill the minimum technical needs of their performance interests and develop the ability to confer and work with designers in a knowledgeable and beneficial manner.
- THR 262 Scene Design I 3 (2-2)**
Prerequisite: THR 139. A workshop course in developing stage designs from rough sketches to finished renderings. The student will analyze scripts and directors' concepts for visual themes; represent those themes and concepts in a visual presentation; develop final plans and evaluations, and present a completed design.
- THR 263 Scene Painting 3 (2-2)**
A workshop in materials and techniques of large scale visual reproduction.
- THR 264 Scene Design II 3 (2-2)**
Prerequisite: THR 262. A continuation of THR 262. Students will review and practice techniques, solving more complicated problems as ability increases.
- THR 265 Costume Design/Construction I 3 (2-1)**
A workshop course introducing basic sewing skills for theatrical costuming. Students will examine theatrical costuming designs, the importance of color, skills, and techniques in constructing costumes, the use and treatment of fabrics.

**THR 266 Costume Design/
Construction II 3 (2-1)**

Prerequisite: THR 265. A continuation of costume design/construction training emphasizing costume theory, technique, and style in constructing costumes and experimenting with design techniques. Students will review techniques and apply more complicated skills.

THR 267 Costume History 3 (3-0)

Styles and approaches to costuming design through the ages with an emphasis on European and American Theatre.

THR 275 Children's Theatre 3 (2-2)

Acting in and directing shows for young people. Includes writing and/or adapting scripts, rehearsal techniques, and development of skills necessary to sustaining a characterization for performance.

THR 276 Advanced Children's Theatre 3 (2-2)

Prerequisite: THR 275. Continuing experience in acting in and directing shows for young people, sharpening skills with specific projects for the actor and director. In-depth research into aspects-costuming, staging, makeup, rehearsal periods, music, sponsors, audiences, and forming a company.

THR 280 Scene Design III 3 (2-2)

Prerequisite: THR 264. Continuation of Scene Design II. Includes the creation and design of properties and special scenic elements for scene design.

THR 281 Directed Independent Study 6 (3-6)

THR 282 Directed Independent Study 4 (2-4)

THR 283 Directed Independent Study 2 (1-2)

THR 285 Introduction to Clown 3 (1-3)

Introductory course in the art of clowning. Basic clown types, makeup, juggling, balloonology, and beginning magic.

THR 286 Advanced Clown I 3 (1-3)

Prerequisite: THR 285. An advanced course in the art of clowning. Unique clown types, advanced clown makeup, juggling, balloonology, and sleight of hand tricks are examined. Create an original clown character including costume, makeup, and appropriate skits. Projection and performance will be emphasized. Designed for the performance career student.

THR 287 Advanced Clown II 3 (1-3)

Prerequisite: THR 286. A more advanced course in the art of clowning. The student will interact with small groups to develop circus skits. Sight gags, prat falls, prop tricks, and staging techniques will be developed. Some class time will be reassigned for public performance. Designed for the performance career student.

THR 288 Advanced Clown III 3 (1-3)

Prerequisite: THR 287. Further advancement in the art of clowning; finding clown employment through marketing research, public relations, and management. Designed for the professional clown.

THR 289 LCC Clown Alley 3 (1-3)

Prerequisite: Department Approval. An advanced performance course in the art of clowning. The student will interact with small groups to develop circus skits. Sight gags, prat falls, prop tricks, and staging techniques will be developed and used. Class time will be reassigned for public performance.

**THR 292 Introduction to
Stand-Up Comedy 3 (2-2)**

An introduction to the skills and theories of stand-up comedy as performed for audiences. Students will examine the growth and development of a comedy routine and gain practical experience in the field.

THR 293 Advanced Stand-Up Comedy 3 (2-2)

Prerequisite: THR 292. A continuation of stand-up comedy with the addition of more sophisticated techniques as skills increase.

**THR 294 Writing Workshop for
Stand-Up Comedy 2 (1-2)**

Prerequisite: THR 292. A writing and performing workshop for the advanced stand-up comic. Includes techniques for writing comic pieces and finding sources of material for writing a comedy monologue or comedy script.

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.

THW 105 Acting Workshop 2 (2-0)

A modified Acting I class in which students are introduced to the vocal and physical skills necessary to sustain public performance. The fundamentals of acting including improvisational techniques, character analysis, and scene study are covered.

THW 120 Make-Up Workshop 2 (2-0)

A modified stage make-up class concentrating on the application of make-up to develop a character. Emphasizes skills in the use of different kinds of make-up, hair styling, and appearance changes utilizing various chemical compounds.

CENTRAL ADMINISTRATIVE DIVISION

The Central Administrative Division provides leadership and support to the College through the services of the President's Office, Business Manager's Office, Personnel Office, Public Relations Office, Institutional Research Office, Equal Opportunity/Affirmative Action Office, Planning/Administrative Information Services Office, and Continuing Education Office. In addition, the President's Council serves as an executive staff advisory body to the President. It reviews and discusses a variety of College-wide matters, and advises the President.

The objectives of the Central Administrative Division are:

1. To provide leadership in the planning, management, and review of College instruction and services in an open-door comprehensive community college;
2. To maintain a balanced institutional budget;
3. To anticipate the future and ensure that the institution is strategically positioned to meet the needs of our students and service area as those needs develop;
4. To maintain a decentralized organizational structure that permits the divisions to operate with maximum initiative while ensuring appropriate central checks and balances;
5. To develop and maintain a working and learning environment that encourages College faculty and staff to provide educational excellence and diversity for students and the community.

PRESIDENT'S COUNCIL

Philip J. Gannon, President
Jacqueline D. Taylor, Administrative Assistant to the President
Dale M. Herder, Dean of Administration
Bruce G. Newman, Business Manager
Ronald E. Dove, Director of Personnel
Robert J. Bouck, Acting Director of Public Relations
Sam Kintzer, Dean, Division of Arts & Sciences
Norman L. Cloutier, Dean, Division of Business
James P. Platte, Dean, Division of Learning Resources
William R. Monroe, Dean, Division of Applied Arts & Sciences
William G. Schaar, Dean, Division of Student Personnel Services

COLLEGE SERVICES DIVISION

Bruce Newman, Business Manager

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

The objectives of the College Services Division are as follows:

- Maintain the general accounting, property accounting, internal audit, timekeeping, payroll, and records 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 management information system, 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.

FACULTY AND STAFF DIRECTORY

ABDO, Saide

Public Safety Supervisor, Lt., Public Safety
A.G., Lansing Community College; B.A., Northwood Institute

ADRIAN, Joanne K.

Assistant Professor, Health Careers
B.S.N., University of Michigan

ALFARO, Rogelio R.

Assistant Professor-Counselor, Center for Student Support
B.A., Michigan State University; M.A., Michigan State University

ALLEN, Richard L.

Data Systems Analyst, Management Information Systems
A.A., Lansing Community College; B.A., Cleary College

ALLEN, William R.

Instructor, Applied Technology

ANDERSON, Joseph L.

Chairperson, Humanities
A.B., Augustana College; B.D., Augustana Theological Seminary; S.T.M., Union Theological Seminary; Ph.D., Boston University

ANSELMO, FeGaddi

Associate Professor, Social Science
B.A., University of Santo Tomas; M.A., Michigan State University; Ph.D., Michigan State University

ANTICO, John

Associate Professor, Humanities
B.A., Wayne State University; M.A., Wayne State University; Graduate Study, Michigan State University

ANTONIDES, Chris

Associate Professor, Humanities
B.A., New York University; M.A., New York University; Ph.D., Michigan State University

ARGANIAN, David

Associate Professor, Humanities
B.A., University of Wisconsin; M.A., University of Wisconsin; Doctoral Candidate, Michigan State University

BARCELOW, Doreen D.

Instructor, Accounting & Office Programs
B.S., Michigan State University; M.A., Michigan State University

BARKS, Kay E.

Professor, Mathematics
B.S., Michigan State University; M.S., Michigan State University

BASEL, Denise A.

Professor, Health Careers
A.A.S., Ferris State College; B.S., Ferris State College M.S., Michigan State University

BASEL, Jerald L.

Assistant Professor, Health Careers
A.A.S., Washtenaw Community College; B.A., Ferris State College; M.S., Michigan State University

BAZLEWICZ, Joseph

Professor, Applied Technology
B.S., Michigan State University; M.E., Michigan State University

BEARD, John D.

Assistant Professor, Communication
B.A., University of Michigan; M.A., Wayne State University D.A., University of Michigan; Post-Doctoral Studies, University of Michigan

BEAVERS, Claude R.

Associate Professor-Counselor, Student Development Services
B.S., University of Wisconsin; M.A., University of New Mexico

BECK, Norman A.

Professor, Humanities
B.A., University of Rhode Island; M.A., University of Rhode Island; Graduate Study, Michigan State University

BENEDICT, Frank A.

Vice President, Emeritus

BENNETT, Catherine

Instructor, Health Careers
B.S., University of Wisconsin; M.S., University of Wisconsin

BENTLEY, Robert H.

Assistant Professor, Communication
B.A., Pacific University; M.A., Pacific University; Graduate Study, University of Nevada

BERGMANN, Edwin C.

Chairperson, Engineering Technology
B.S., Bowling Green University; M.S., Stout State College

BETTINSON, Charles H.

Director, Planning & Administrative Information Systems
B.S., Central Michigan University; M.A., Central Michigan University; Ph.D., Michigan State University

BHUGRA, Satnam Singh

Associate Professor, Social Science
B.T., Panjab University; M.Ed., Panjab University; M.A., Punjabi University; Ed.D., Utah State University

BICKERT, Harry J.

Assistant Director of Personnel
B.A., Michigan State University

BLANCHARD, William G.

Assistant Professor, Photo Technology/IMD
B.A., Michigan State University; M.A., University of Southern California

BOGNER, John R.

Professor-Counselor, Student Development Services
B.S., Western Michigan University; M.A., Michigan State University

BOLLMAN, James A.

Supervisor, Business Services
B.A., St. Louis University; 11-A Insurance Certificate, Michigan State University

BOUCK, Robert J.

Acting Director, Public Relations
A.A., Lansing Community College; B.A., Michigan State University; M.A., Michigan State University

- BOWEN, Dora A.**
Budget Analyst, Business office
A.A., University of Nevada; B.S., University of Nevada; M.A., Michigan State University
- BOX, Richard C.**
Associate Professor, Engineering Technology
B.S., Central Michigan University; M.S., Michigan State University; Doctoral Candidate, Michigan State University; Associate, American Institute of Architects
- BRADLEY, Byron T.**
Assistant Professor, Accounting & Office Programs
B.A., Michigan State University; M.A., Michigan State University
- BRAMER, George R.**
Chairperson, Communication
A.B., Drury College; M.A., University of Notre Dame; Ph.D., University of Notre Dame
- BROUSE, David V.**
Professor, Science
B.S., Brockport State; M.A.T., Michigan State University; Graduate Study, Michigan State University
- BROWN, John N.**
Associate Professor, Management & Marketing
U.S.N.R. Commission, Northwestern University; B.A., Michigan State University; J.D., University of Michigan
- BUCKLIN, William T.**
Associate Professor, Social Science
B.S., Montana State University; M.S., Michigan State University; Ph.D., Michigan State University
- BURGESS, Allan W.**
Associate Professor, Humanities
B.A., Central Michigan University; M.A., Central Michigan University; Graduate Study, Michigan State University
- BURKE, Ilse H.**
Affirmative Action Officer; Director, Evaluation and Assessment
B.A., Kalamazoo College; M.A., Michigan State University; Doctoral Candidate, Michigan State University
- BURT, Thomas W.**
Associate Professor, Applied Technology
B.A., Michigan State University; M.S., Ball State University
- BUTTERMAN, Geraldine**
Professor, Science
A.B., Calvin College; M.A., University of Michigan
- BYRUM, Ronald P.**
Associate Professor, Social Science
A.S., Jackson Community College; B.S., University of Michigan; M.S., Eastern Michigan University; Doctoral Candidate, University of Alabama
- CANADY, Hortense G.**
Assistant to Director, Student Financial Services
B.A., Fisk University; M.A., Michigan State University
- CANSFIELD, John H.**
Chairperson, Student Development Services
B.A., Michigan State University; M.A., Michigan State University; Ed.D., Western Michigan University
- CARLISLE, Harold R.**
Transportation Training Specialist, Engineering Technology
- CARLSON, Stephen C.**
Assistant Professor, Science
B.A., Western Michigan University; Ph.D., Purdue University
- CARPENTER, Dorothy L.**
Professor, Health Careers
R.N., E. W. Sparrow Hospital School of Nursing; B.S., Central Michigan University
- CHIARAVALLI, Trudy K.**
Assistant Professor, Accounting & Office Programs
B.A., University of Michigan; M.B.A., Michigan State University
- CHIWOCHA, Tamera A.**
Assistant Professor, Humanities
B.A., Colgate University; M.A., Michigan State University; Ph.D., Michigan State University
- CHURCH, Marvin P.**
Professor, Engineering Technology
B.S.C.E., TriState College; M.S.E., (Civil) University of Michigan; Graduate Study, University of Michigan, Ohio State University, Wayne State University and Michigan State University
- CLOUTIER, Norman L.**
Dean, Division of Business
B.A., Syracuse University; M.S., U.S. Naval Post Graduate School Diploma, Industrial College of the Armed Forces
- COLLINS, Donald M.**
Assistant Professor-Counselor, Student Development Services
B.A./B.S., University of Illinois; M.A., Michigan State University
- COOPER, Carol S.**
Professor, Accounting & Office Programs
A.A.S., Ferris State College; B.S., Ferris State College; M.A., Michigan State University
- COOPER, John D.**
Director, Professional Development
B.A., Rutgers; M.B.A., Indiana University; Ph.D., Michigan State University
- CRANSON, K. Rodney**
Professor, Science
B.A., Michigan State University; M.A.T., Michigan State University; Graduate Study, Michigan State University
- CURRY, Georgia E.**
Administrative Secretary to Dean of Administration
A.A., Washtenaw Community College; Certified Professional Secretary; B.A., Northwood Institute
- CURTIS, Alan R.**
Program Director, Accounting & Office Programs
B.S., Boston University; Ed.M. Boston University; C.A.G.S., Boston University; Ph.D., University of Connecticut
- DARNELL, Bernard**
Instructor, Applied Technology
- DARR, William R.**
Chairperson, Applied Technology
B.S., Michigan State University; M.A., Michigan State University
- DAVIDSON, David J.**
Personnel Assistant
B.S., University of Dayton, M.A., Michigan State University;
- DEAN, Harris D.**
Professor, Management & Marketing
B.S., University of Michigan; Merchandising School, Ford Motor Company; Graduate Study, University of Chicago; M.A., Michigan State University
- DECK, Sally Ann**
Program Director, Dental Auxiliary
B.S., University of Michigan; M.S., University of Michigan
- DEKONINCK, Donald A.**
Assistant Professor, Photo Technology/IMD
B.S., University of Detroit
- DIFALCO, Marion**
Associate Professor, Social Science
B.A., New York University; M.S.W., Smith College School for Social Work; Ph.D., Michigan State University
- DONOHUE, Pamela**
Instructor, Health Careers
A.A., Ferris State College; B.S., Ferris State College
- DOUGLAS, Phillip J.**
Professor, Mathematics
B.S., Michigan State University; M.A.T., Michigan State University; M.S., Michigan State University
- DOVE, Ronald E.**
Director, Personnel
B.A., Michigan State University
- DUCAT, John C.**
Professor, Social Science
B.A., Michigan State University; M.A., Michigan State University; Ph.D., Michigan State University
- DUNHAM, Anne A.**
Professor, Accounting & Office Programs
B.S., Ferris State College; M.A., Michigan State University
- DUNHAM, Dale A.**
Chairperson, Instructional Media Department
B.S., Ferris State College; M.A., Michigan State University; Graduate Study, Temple University and Michigan State University.
- DUNLAP, Jacob**
Associate Professor, Health Careers
R.N., Pennsylvania Hospital School of Nursing; B.S., Temple University; M. Litt, University of Pittsburgh
- DURKEE, Mary C.**
Placement Assistant/Job Locator, Career Planning & Placement
B.A., University of Illinois; M.Ed., University of Illinois; M.A., Michigan State University
- EDDY, Jon R.**
Coordinator/Heating and Air Conditioning, Applied Technology
A.S., Lansing Community College
- EDMUNDS, Peter A.**
Professor, Humanities
B.A., University of Richmond; M.A., University of Richmond; Diploma for Advanced Graduate Study, Michigan State University
- EDWARDS, Ronald K.**
Chairperson, Accounting & Office Programs
B.S., Ferris State College; M.S., University of Tennessee; Ph.D., Michigan State University
- EGGLESTON, William**
Associate Professor, Applied Technology
A.A.S., Ferris State College; B.S., Ferris State College; M.A., Michigan State University
- ELSEA, William R.**
Data & Software Administrator, Management Information Systems
Certificate, Lansing Community College; Certificate, Data Processing, Michigan State University
- ENGEL, Elfriede**
Professor, Humanities
B.A., Michigan State University; M.A., University of Chicago; Ph.D., Michigan State University
- ENGSTROM, Paul W.**
Assistant to Director, Physical Plant
B.A., Michigan State University; M.B.A., Michigan State University
- EUBANK, Beverly A.**
Professor, Social Science
B.A., Hope College; M.A., Michigan State University; Ph.D., Michigan State University
- FARKAS, Attila T.**
Associate Professor, Performing & Creative Arts
B.A., University of Theology at Budapest; Graduate Study, Michigan State University

- FARRIS, John**
Assistant Professor, Management & Marketing
A.A., Lansing Community College; B.S., Michigan State University
- FIELDS, Noel**
Assistant Professor, Performing & Creative Arts
A.A., Lansing Community College; B.F.A., Michigan State University; M.F.A., Cranbrook Academy of Arts
- FINN, Rexine A.**
Program Director-Emergency/Medical Health Careers
B.S., Michigan State University
- FOLLICK, Duane**
Teaching Technician, Applied Technology
- FRANK, Arthur V.**
Associate Professor, Physical Education & Athletics
B.S., Central Michigan University; Graduate Work, Michigan State University
- FRANKE, Thomas L.**
Program Director, Communication
A.B., Columbia University; M.A., Wayne State University; M.Ed., Frostburg State College; Ph.D., University of Maryland
- FROH, Barbara E.**
Associate Professor, Physical Education & Athletics
B.A., Siena Heights College; M.S., Michigan State University
- GANNON, Philip J.**
President
B.A., Albion College; M.A., Michigan State University; Ph.D., Michigan State University
- GARGETT, Richard K.**
Professor, Engineering Technology
A.S., Lansing Community College; B.S., Michigan State University; M.A., Michigan State University; Graduate Study, Michigan State University
- GARRISON, Mary Lou**
Associate Professor-Counselor, Student Development Services
B.S., Western Michigan University; M.A., Western Michigan University; Ed.S., Western Michigan University
- GARTHE, Ronald**
Professor, Applied Technology
B.S., Central Michigan University; M.A., Central Michigan University
- GEER, Carol**
Assistant Professor, Management & Marketing
B.S., University of Dayton; M.A., Michigan State University; Ph.D., Michigan State University
- GIBBS, Keith L.**
Teaching Technician/Flight, Aviation
A.S., Lansing Community College
- GORTON, Ralph J.**
Professor, Science
A.S., Northwestern Michigan College; B.S., Michigan State University; M.S., Michigan State University
- GOUZE, Teri**
Program Director/Dance, Performing & Creative Arts
University of Pittsburgh
- GREEN, Evelyn L.**
Assistant Professor, Science
B.A., University of Illinois; M.A., University of Missouri
- GREENE, James**
Associate Professor, Instructional Media
B.A., Providence College; M.Ed., Boston College; M.A., Michigan State University
- GRIFFITH, H. Ronald**
Program Director/Radiologic Technology, Health Careers
A.A., Washtenaw Community College; B.S., University of Michigan; M.S., University of Michigan
- GRIGSBY, Tari J.**
Admissions Coordinator, Admissions
B.A., Michigan State University; M.A., Michigan State University
- GURCHIEK, Karen**
Professor, Accounting & Office Programs
B.S., Wayne State University; M.A., Michigan State University
- HAASE, Carolyn L.**
Mathematics Laboratory Supervisor, Mathematics
B.S., Bethany College
- HAMILTON, Kenneth C.**
Associate Professor, Social Science
B.A., Western Michigan University; M.A., Western Michigan University
- HANEY, John**
Associate Professor, Accounting & Office Programs
B.A., Michigan State University; M.B.A., Michigan State University
- HANIESKI, Deanna D.**
Professor, Engineering Technology
B.S., State College at Bridgewater; M.S., Purdue University
- HARMON, Juliene K.**
Assistant Professor, Health Careers
R.N., Bronson Hospital School of Nursing; B.S., Central Michigan University; M.S.N., Wayne State University
- HARTWIG, Joan E.**
Professor-Counselor, Student Development Services
B.S. Michigan State University; M.A., Michigan State University
- HAYS, Patricia**
Assistant Professor, Health Careers
B.S.N., Michigan State University; M.S.N., Wayne State University
- HAYWARD, Walter**
Coordinator/Automotive Programs, Applied Technology
- HEARNS, John W.**
Program Director, Veterans Services
B.S., Alcorn State University; M.A., Michigan State University
- HEATER, William H.**
Chairperson, Social Science
B.A., Denison University; M.Div., Union Theological Seminary; Ph.D., Michigan State University
- HEISLER, Gary**
Instructor, Management & Marketing
A.B., Lansing Community College; B.S., Manchester College; M.A.T., Michigan State University
- HENDRICKSON, James M.**
Professor, Communication
B.A., University of Wisconsin-Milwaukee; M.A., San Diego State University; Ph.D., Ohio State University
- HERDER, Dale M.**
Dean of Administration, President's Office
A.A., Muskegon Community College; B.A., Michigan State University; M.A., Michigan State University; Ph.D., Michigan State University
- HILL, Gilbert M.**
Program Director/Community Recruitment, Admissions
A.A., Lansing Community College; B.S., Michigan State University; M.A., Michigan State University
- HOCIJ, John**
Assistant Professor, Engineering Technology
B.F.A., Michigan State University
- HOKE, Helen R.**
Associate Professor, Mathematics
B.S., Capital University; M.A., University of Michigan
- HOLBROOK, Mary J.**
Associate Professor, Science
B.S., Appalachian State University; M.A.T., Michigan State University; Graduate Study, Michigan State University
- HOLDA, William P.**
Program Director, Management & Marketing
B.A., Olivet Nazarene College; M.B.A., Michigan State University
- HOLDEN, Olga**
Program Director, Management Development Center
B.A., Michigan State University; M.A., Michigan State University
- HOPKINS, Howard S.**
Associate Professor, Communication
B.A., Michigan State University; M.A., Michigan State University Graduate Study, Michigan State University
- HORTON, William M.**
Associate Professor, Science
B.S., University of Maryland; M.S., Michigan State University
- HOWELL, Richard N.**
Instructor, Management & Marketing
B.S., Manchester College
- HUDSON, Cathie**
Associate Professor, Accounting & Office Programs
A.A., Lansing Community College; B.A., Eastern Michigan University; M.A., Michigan State University
- HURLBUTT, Fred D.**
Director, Management Information Systems
Michigan State University Data Processing, I.B.M. System and Programming General Electric Systems
- HUTTON, John W.**
Assistant Professor, Performing & Creative Arts
B.F.A., Syracuse University
- IDALSKI, Robert L.**
Professor, Engineering Technology
A.S., Alpena Junior College; B.S., Michigan State University; M.A., Michigan State University
- JACKSON, Ray Margaret**
Program Director, Social Science
B.A., Kentucky State University; M.A., Michigan State University; Ph.D., Michigan State University
- JACOBS, Annette M.**
Associate Professor, Communication
B.A., University of Wisconsin; M.A., Michigan State University; Graduate Study, Michigan State University and University of Wisconsin
- JACOT, Gene F.**
Professor, Engineering Technology
B.S., Michigan State University; Graduate Study, Michigan State University
- JENKINS, Bernard C.**
Assistant Professor, Applied Technology
- JENKINS, Edward D.**
Program Director/Transportation Training, Engineering Technology
- JONES, J. Howard**
Professor, Mathematics
B.S., Illinois State University; M.A.T., Michigan State University; M.S., Michigan State University; Ph.D., Michigan State University

- KESSELER, Thomas J.**
Budget Analyst, Business Office
A.B., Lansing Community College
- KIM, Tai Sung**
Associate Professor, Social Science; Director,
International Studies
B.S., Seoul National University; M.A.,
Michigan State University; Ph.D., Michigan
State University
- KINTZER, Sam**
Dean, Division of Arts & Sciences
B.A., Brooklyn College; M.A., Columbia
University; Graduate Study, University of
Cincinnati
- KLINE, Cernyw K.**
Professor, Engineering Technology
B.S., Michigan State University; M.S.,
Michigan State University; Ph.D., Michigan
State University
- KLOECKNER, Gerald J.**
Director, Accounting & Finance
B.A., Michigan State University; M.M.,
Aquinas College
- KNIGHT, Donald L.**
Professor, Management & Marketing
B.S., American University; M.A., Michigan
State University; Ph.D., California Coast
University
- KNIPPENBERG, Gary P.**
Chairperson, Mathematics
B.S., Concordia College; M.A., University of
Missouri; Ph.D., Michigan State University
- KOSLOSKI, Jerry A.**
Maintenance & Operations Supervisor,
Physical Plant
Journeyman Steamfitter, Lansing Community
College
- KRASHEN, Thomas S.**
Teaching Technician/Flight, Aviation
A.S., Lansing Community College
- LAFAVE, Daniel C.**
Director, Admissions
B.S., Central Michigan University; M.S.,
Michigan State University; Advanced
Graduate Study, Michigan State University
- LAGUIRE, Orville A.**
Assistant Professor, Instructional Media
B.A., Michigan State University
- LAING, Mary**
Program Director, Women's Resource Center
B.S., Eastern New Mexico University; M.A.,
Michigan State University
- LAMBERT, Patricia L.**
Program Director/Nursing Education, Health
Careers
B.S.N., College of St. Catherine; B.S.,
Fontbonne College; M.A., Michigan State
University
- LARSON, Patty S.**
Associate Professor, Health Careers
B.S.N., University of Michigan; M.A.,
University of Michigan
- LENKOWSKI, Michael**
Chairperson, Health Careers
B.S., University of Pennsylvania; Ed.M.,
Temple University; R.N., Pennsylvania
Hospital School of Nursing
- LEWIS, David M.**
Transportation Training Specialist/
Mechanics, Engineering Technology
- LIBEY, Teresa**
Associate Professor, Health Careers
B.S.N., Michigan State University; M.S.,
University of Michigan
- LILLMARS, Luke D.**
Instructor, Applied Technology
B.S., M.A., Western Michigan University
- LIMING, Sarah A.**
Professor, Health Careers
R.N., St Lawrence Hospital; B.S., Michigan
State University; M.A., Michigan State
University
- LINGO, Walter B.**
Assistant to the Dean, Division of Student
Personnel Services
A.A., Lansing Community College; B.A., M.A.,
Ed.S., Ph.D., Michigan State University
- LOCKWOOD, Betty J.**
Instructor, Accounting & Office Programs
B.S., Michigan State University
- LOVE, Kenneth L.**
Assistant Professor, Applied Technology
A.S., Ferris State College
- MAAR, Allan R.**
Professor, Communication
B.S., State University of New York; M.A.,
Michigan State University; Graduate Study,
Michigan State University
- MACKEY, Lawrence R.**
Food Service Director, Management &
Marketing
A.A., Lansing Community College
- MADISON, Sally K.**
Associate Professor, Communication
A.A., Muskegon Community College; B.A.,
Wheaton College; M.A., Michigan State
University; Specialist's Certificate, Michigan
State University
- MANION, John W.**
Associate Professor, Humanities
B.A., Washington State University; M.A.,
Washington State University; Doctoral
Candidate, Michigan State University
- MATTSON, Morton E.**
Administrative Assistant to Dean, Division of
Learning Resources
B.S., Central Michigan University; M.A.T.,
Michigan State University; Graduate Study,
Cornell University
- MAURER, Gordon R.**
Associate Professor, Applied Technology
- McALEAR, John T.**
Associate Professor, Communication
B.A., Michigan State University; M.A.,
Michigan State University
- McCARTHY, Sarah A.**
Assistant Professor, Health Careers
B.S.N., Michigan State University; M.M.,
Aquinas College
- McCLURE, James F.**
Professor, Social Science
A.A., Flint Community College; B.A.,
Michigan State University; M.A., Michigan
State University
- McCREA, Bruce**
Assistant Professor, Accounting & Office
Programs
A.B., Miami University of Ohio; M.Phil., Yale
University
- McENANEY, Stephen A.**
Program Director, Career Planning &
Placement
A.A., Lansing Community College; B.A.,
Michigan State University; M.A., Michigan
State University
- McKINSTRY, Douglas**
Director, Physical Plant
B.S., University of Illinois; M.A., Michigan
State University
- MEIER, Dennis E.**
Assistant Professor, Social Science
B.A., Michigan State University; M.A.,
Michigan State University
- MEINTS, David J.**
Transportation Training Specialist,
Engineering Technology
B.S., Central Michigan University
- MELCHER, Richard R.**
Teaching Technician, Management &
Marketing
A.A., Oakland Community College
- MIANK, Timothy A.**
Instructor, Communication
B.A., Grand Valley State College; M.A.,
Michigan State University
- MILLBAUER, William, Jr.**
Assistant Professor, Applied Technology
- MILLS, Maria C.**
Assistant Professor, Performing & Creative
Arts
School of Voice and Dance of Spain
- MILTON, Kirby M.**
Associate Professor, Photo Technology/IMD
B.F.A., Michigan State University; M.A.,
Michigan State University
- MIRKIL, Dorothy J.**
Associate Professor, Health Careers
R.N., Hackley Hospital School of Nursing;
B.S., Michigan State University; M.S.N.,
Wayne State University
- MOKMA, Elizabeth**
Assistant Professor, Health Careers
A.D., Grand Rapids Junior College; B.S.,
Wayne State University; M.S.N., Wayne State
University; R.N., Bergwegziekenhaus,
Holland
- MONORE, William R.**
Dean, Division of Applied Arts & Sciences
B.A., Baylor University; M.S., Texas A & M
University; Doctoral Candidate, Cornell
University
- MORROW, Addie J.**
Instructor-Counselor, Center for Student
Support
B.S., Eastern Michigan University; M.A.,
Western Michigan University
- MOTZ, William**
Instructor, Management & Marketing
B.A., Michigan State University; M.B.A.,
Michigan State University
- MOURADIAN, Nora N.**
Associate Professor, Communication
B.A., College Hripsimantz (Beirut); M.A.,
Michigan State University
- MULL, Richard D.**
Program Director, Physical Education
B.A., Michigan State University; Graduate
Study, Michigan State University
- NEVAL, Janos W.**
Professor, Physical Education
M.A., Magyar Testnevelési Foiskola; Graduate
Study, Michigan State University
- NEWMAN, Bruce G.**
Business Manager, Business Office
Graduate, Lansing Business University; B.A.,
Detroit Business College
- NILSSON, Carl J.**
Chief Air Frame/Power Plant Instructor,
Aviation
- NOLDON, Donia**
Associate Professor, Communication
B.A., M.A., University of Michigan
- NOVAK, David L.**
Assistant Professor, Social Science
B.A., Judson College; M.A., Western Michigan
University
- OGILVY, Robert E.**
Associate Professor, Engineering Technology
A.S., Macomb Community College; B.S.,
University of Michigan
- OLSON, Donald B.**
Program Director, Engineering Technology
B.S., University of Minnesota; M.A.,
University of Michigan

- OLSZEWSKI, Charles**
Instructor, Engineering Technology
B.S.E., Michigan State University, Graduate Study, Michigan State University
- OMUNDSON, Bruce K.**
Associate Professor, Humanities
B.A., Luther College; M.A., Washington University; Graduate Study, Michigan State University
- OSBORN, James C.**
Program Director, Classroom Training Unit
B.A., Western Michigan University; M.A., Western Michigan University; Doctoral Candidate, Michigan State University
- PARSONS, Sue Ann**
Assistant Professor, Health Careers
B.S.N. Michigan State University; M.A., Michigan State University
- PARTNEY, Jacqueline**
Publications Manager, Public Relations
- PEARSON, Marvin R.**
Associate Professor, Performing & Creative Arts
Chicago Art Institute
- PECKHAM, Linda**
Associate Professor, Communication
B.A., Michigan State University; M.A., University of Michigan; Graduate Study, Cambridge University, England
- PERKINS, James C.**
Assistant Professor, Engineering Technology
A.S., Lansing Community College; B.S., Lawrence Institute of Technology
- PERSON, Ellen M.**
Chairperson, Library Department
B.S., Central Michigan University; M.A., Western Michigan University; Graduate Study, Western Michigan University
- PERSON, James E.**
Chairperson, Management & Marketing
A.A., Bay City Junior College; B.A., Central Michigan University; M.A., Central Michigan University; Ed.S., Michigan State University
- PETERSON, Eric V.**
Registrar, Registrar/Student Records
B.S., Western Michigan University; M.A., University of Michigan
- PETERSON, Leonard**
Associate Professor, Accounting & Office Programs
B.A., Michigan State University; M.A., Michigan State University; Ed.S., Michigan State University
- PETRY, William H.**
Assistant Professor, Mathematics
B.S., Heidelberg College; M.A., Boston College
- PFISTER, Douglas R.**
Associate Professor, Accounting & Office Programs
B.A., Adrian College; M.B.A., Emory University; Graduate Study, Michigan State University
- PHELAN, Carol J.**
Program Director/Cont. Health Ed., Health Careers
R.N., Henry Ford Hospital School of Nursing; B.S., Central Michigan University; M.A., Michigan State University
- PIFER, Betsy**
Systems Analyst, Management Information Systems
A.D., Lansing Community College; B.A., Kalamazoo College; M.A.T., Johns Hopkins University
- PILGER, Karl.**
Ground Training Specialist, Aviation
M.S., University of North Dakota
- PLATTE, James P.**
Dean, Division of Learning Resources
B.A., Aquinas College; M.A., Michigan State University; A.M.L.S., University of Michigan
- PREDKO, James**
Associate Professor, Engineering Technology
B.S., Michigan State University; M.A., Michigan State University
- PRICE, Donna R.**
Program Director/Patient Care Laboratories, Health Careers
R.N., Evanston Hospital School of Nursing; B.S.N., Michigan State University
- RADEMACHER, Matthew**
Reference Librarian, Library Services
B.A., Michigan State University; M.A.L.S., University of Michigan
- RAND, Glenn M.**
Program Director/Photo Technology, Instructional Media
B.A., Purdue University; M.A., Purdue University; Ed.D., University of Cincinnati
- REYNOLDS, George E.**
Assistant Professor, Physical Education & Athletics
B.S., Michigan State University; Graduate Study, Michigan State University
- RICH, Douglas**
Instructor, Applied Technology
B.A., Michigan State University
- RIPPER, Michael G.**
Transportation Training Specialist, Engineering Technology
- RISKEY, Raymond**
Assistant Professor, Social Science
B.A., Michigan State University; M.A., Michigan State University
- ROCHO, Jerry A.**
Program Director/Resp. Therapy, Health Careers
A.A.S., Ferris State College; B.S., Ferris State College; Graduate Study, Western Michigan University
- RODEN, William J.**
Assistant Professor, Communication
A.A., Union College; B.A., North Adams State College; M.A., Central Michigan University; J.D., Thomas M. Cooley Law School
- ROOT, Roscoe B.**
Professor, Science
B.S., Central Michigan University; M.S., University of Chicago
- ROTMAN, Jack W.**
Associate Professor, Mathematics
B.S., Michigan State University; M.A., Michigan State University
- ROUSH, Ronald E.**
Director, Public Safety
B.S., Michigan State University; M.S., Michigan State University
- ROWE, Roger J.**
Associate Professor, Engineering Technology
B.S., Michigan State University; M.A., Michigan State University
- RUSSELL, Eugene N.**
Professor, Engineering Technology
B.S. Michigan State University; M.S., Michigan State University; Graduate Study, Michigan State University and Oklahoma State University
- SAAF, Allan F.**
Program Director, Science
B.S., University of Chicago; M.S., University of Chicago; Ph.D., University of Chicago
- SAND, Ruth A.**
Associate Professor, Accounting & Office Programs
B.A., Michigan State University
- SANTONE, Antoinette**
Administrative Secretary, Executive Office
A.G., Lansing Community College
- SCHAAR, William G., Jr.**
Dean, Division of Student Personnel Services
B.A., Michigan State University; M.A., Michigan State University; Ph.D., Michigan State University
- SCHWARTZ, Jack**
Associate Professor, Social Science
B.A., University of Missouri; M.A., Michigan State University
- SCOTT, James F.**
Counselor/Associate Professor, Admissions Certificate, Advanced Emergency Medical Technology, Lansing Community College; B.S., Michigan State University; M.A., Michigan State University; Graduate Study, Michigan State University
- SEPULVEDA-VAZQUEZ, Gloria**
Associate Professor-Reference Librarian, Library Services
B.A., University of Puerto Rico; Michigan State University; M.L.S., University of Michigan; Doctoral Program, Michigan State University
- SEVERANCE, Frank**
Program Director/Computer Information Systems Management & Marketing
A.S., Lansing Community College; B.S., Michigan State University; M.S., Michigan State University
- SHAH, Vikram**
Professor, Accounting & Office Programs
S.E., Gujrat University; B.S., University of Michigan; M.B.A., Michigan State University
- SHONG, Robert**
Program Director/Industrial Trades, Applied Technology
B.S., General Motors Institute
- SHRINER, Neil G.**
Director, Student Financial Services
B.A., Anderson College; M.A.Ed., Ball State University; Ed.S., Michigan State University
- SHULL, David L.**
Chairperson, Science
B.S., Michigan State University; M.S., Michigan State University; Ph.D., Michigan State University
- SHULMAN, Bennett D.**
Assistant Professor, Accounting & Office Programs
B.S., Syracuse University; J.D., Temple University
- SMITH, John Dale**
Program Director/Music, Performing & Creative Arts
B.M., Bowling Green State University; M.M., Michigan State University
- SMITH, Nan L.**
Office Manager, Accounting & Payroll
- SMOLEN, Diane L.**
Director, Institutional Research
B.S., Michigan State University; M.A., Michigan State University; Ph.D., Michigan State University
- SPAGNUOLO, Jane DeRose**
Manager of Office Operations, Registrar/Student Records
A.B., Lansing Community College
- SPANGLER, Jerry L.**
Teaching Technician, Aviation
B.S., Siena Heights College
- SPINCICH, Vicki**
Assistant Professor, Health Careers
A.A.S., Ferris State College; B.S., Michigan State University
- STAMFORD, Ralph C.**
Senior Systems Analyst, Management Information Systems
B.S., Slippery Rock Pennsylvania

- STANDRIDGE, Larry A.**
Director, Continuing Education
B.A., Baylor University; M.R.E., Southwestern
Seminary; Ph.D., Ohio State University
- STARK, James W.**
Professor, Mathematics
B.S.E., (Mathematics), University of
Michigan; B.S.E., (Chemistry), University of
Michigan; M.A., University of Michigan
- STEARNS, Barry G.**
Associate Professor-Counselor, Student
Development Services
B.A.E., University of Florida; M.Ed., University
of Florida
- STECK, Douglas E.**
Associate Professor, Humanities
B.A., Denison University; M.A., Michigan
State University; Ph.D., Michigan State
University
- STEWART, M. James**
Professor, Mathematics
B.A., Michigan State University; M.S.,
Michigan State University; Ph.D., Michigan
State University
- STRAYER, Norman G.**
Associate Professor, Applied Technology
A.S., B.S., Ferris State College
- STUART, Nancy M.**
Assistant Professor, Photo Technology/IMD
A.A., Lansing Community College; B.A.,
Michigan State University; M.S., Rochester
Institute of Technology
- SUCHARSKI, Roger**
Instructor, Management & Marketing
A.A., Alpena Community college; B.S.,
Michigan State University
- SULLIVAN, Ellen**
Program Director/Aging Educ., Div of
Student Personnel Services
B.A., Seton Hill College; M.S.W., University of
Michigan; Specialist in Aging Certificate,
University of Michigan
- TAYLOR, Edward, Jr.**
Assistant Professor, Social Science
B.S., Cornell University; M.A., Michigan State
University
- TAYLOR, Jacqueline D.**
Administrative Assistant to the President
A.B., Lansing Community College; B.S.,
Aquinas College; M.A., Michigan State
University; Doctoral Candidate, Michigan
State University
- TAYLOR, Ronald M.**
Professor, Science
B.S., Michigan State University; M.S.,
Michigan State University; Ph.D., Michigan
State University
- TEACHOUT, Richard L.**
Associate Professor, Performing & Creative
Arts
B.A., Michigan State University
- TEITELBAUM, Barry R.**
Associate Professor, Science
B.S., Michigan State University; M.A.,
Michigan State University; Graduate Study,
Michigan State University
- TENNIS, Gayland L.**
Teaching Technician/Flight, Aviation
M.A., Central Michigan University
- THOMAS, Carolyn P.**
Associate Professor, Social Science
B.S., University of Illinois; M.A., Michigan
State University; Ph.D., Michigan State
University
- THOMAS, Morris O.**
Professor, Social Science
B.S., Northwestern Michigan College; M.A.,
Michigan State University
- THOMMEN, John**
Instructor, Health Careers
A.A.S., Ferris State College; B.S., Ferris State
College
- THOMPSON, Barbara A.**
Program Director, Center for Student Support
B.A., Tougaloo College; Graduate Study,
Michigan State University
- THORNTON, Lee R.**
Program Director/Media Education,
Instructional Media
B.S., University of Wisconsin; M.A.,
University of Colorado; Ph.D., Michigan State
University
- THUY, Nguyen Van**
Bilingual Coordinator/Counselor, Student
Development Services
B.S., M.S., University of Saigon; M.S., Ph.D.,
Michigan State University
- TROUSDELL, Thomas M.**
Director, Resource Development
B.S., University of Cincinnati; M.Ed., Miami
University
- TURNER, Ray**
Staff Assistant, Performing & Creative Arts
B.A., Michigan State University
- TYLER, June I.**
Purchasing Agent, Purchasing
A.B., Lansing Community College
- VANKEMPEN, Gary**
Associate Professor, Science
B.A., Hope College; Ph.D., Michigan State
University
- VANMALSEN, Wesley W.**
Program Director, Aviation
B.A., University of Florida; Certificate, U.S.
Navy Postgraduate School
- VETTE, William**
Assistant Professor, Aviation
B.A., Detroit Institute of Technology
- VOKETZ, Judith K.**
Administrative Aide II, Division of Arts &
Sciences
- WADE, Ann C.**
Manager Computer Operation, Management
Information Systems
A.G., Olivet College
- WALCZAK, Patricia J.**
Assistant Professor, Accounting & Office
Programs
A.B., Lansing Community College; B.A.,
Michigan State University
- WALKER, Rosalie**
Program Director, Center for Health
Ed/Rehabilitation
R.N., St. Lawrence Hospital School of
Nursing
- WALLACE, F. T.**
Professor, Management & Marketing
A.A., St. Petersburg Junior College; B.A.,
University of South Florida; M.A., University of
South Florida; Ph.D., Michigan State University
- WALSH, Marion H.**
Assistant Professor, Accounting & Office
Programs
B.A., University of Michigan; M.A., University
of Michigan; Graduate Study, University of
Michigan and Michigan State University
- WARREN, Joseph A., III**
Assistant Professor, Humanities
B.A., Michigan State University; M.A.,
Michigan State University Ph.D., Michigan
State University; J.D., Thomas M. Cooley Law
School
- WATSON, Claude M.**
Professor, Science
B.S., Michigan State University; M.S.,
Michigan State University
- WAWRO, Raymond W.**
Systems Development Manager,
Management Information Systems
B.S., Michigan State University
- WHITE, Jane Penton**
Instructor, Management & Marketing
B.A., Michigan State University; M.A.,
Michigan State University
- WILLCUTT, Donald F., II.**
Transportation Training Specialist,
Engineering Technology
- WILLIAMS, Mildred L.**
Program Director/Secretarial Studies,
Accounting & Office Programs
B.A., Michigan State University; M.A.,
Michigan State University; Ed.D., Michigan
State University
- WING, Georgann**
Assistant Professor, Accounting & Office
Programs
B.A., Michigan State University; M.A.,
Michigan State University; J.D., Thomas M.
Cooley Law School
- WORST, Harry**
Associate Professor, Performing & Creative
Arts
Kendall School of Design; American
Academy of Arts
- ZIMMERMAN, Dan H.**
Assistant to Director, Student Financial
Services
B.A., Michigan State University; M.A.,
Michigan State University
- ZUHL, William A.**
Director, Student Activities
A.G., Kalamazoo College; M.A., Western
Michigan University; Graduate Study, Michigan
State University and North Texas State
University
- ZUSSMAN, Mark R.**
Assistant Professor-Reference Librarian,
Library Services
B.A., Wayne State University; M.A., University
of Michigan; M.L.S., University of Michigan

INDEX

A

Academic Advising	18
Academic Calendar	4
Academic Status	10
Accounting, Associate Degree and Certificate	49
Accounting, Course Descriptions	49
Accounting and Office Programs Department	49
Accounting/Data Processing, Associate Degree	50
Adaptive Rehabilitation and Health Education	95
Administration	117
Administrative Assistant, Associate Degree	50
Admissions	
Appeal of	7
General	6
Health Careers Programs	7
Advanced Emergency Medical Technician, Course Descriptions	100
Aerospace Studies, Course Descriptions	26
Air Force ROTC	26
Airframe Mechanic, Course Descriptions	73
Allied Health Careers, Course Descriptions	101
American Institute of Banking, Course Descriptions	58
Anatomy, Course Descriptions	43
Anthropology, Course Descriptions	46
Application for New Students	6
Application for Transfer Students	6
Applied Arts and Sciences, Division of	71
Applied Technology, Associate Degree and Certificate	84
Applied Technology Building Trades Apprenticeships	84
Applied Technology General, Course Descriptions	85
Applied Technology Industrial Trades Apprenticeships	71
Applied Technology Related, Course Descriptions	86
Applied Technology Seminars, Course Descriptions	87
Applied Technology Service Trades Apprenticeships	71
Apprenticeship Training	84
Aquatics, Course Descriptions	24
Architectural Studies Center	74
Architectural Technology	74
Architectural Technology, Course Descriptions	75
Architectural Technology, Associate Degree	74
Army ROTC	25
Art	103
Art, Course Descriptions	104
Arts, Performing and Creative	103
Arts and Sciences Associate Degree Programs	12
Arts and Sciences, Division of	35
Arts and Sciences Seminar Series	35
Assessment Administration, Associate Degree and Certificate	55
Astronomy, Course Descriptions	44
Athletics	22
Attendance	13
Audio-Visual/Patient Care/Practice Laboratory	94
Audio-Visual Tutorial Instruction: Business Division	49
Auditing	9
Automotive Technology Associate Degree and Certificate	85
Automotive Trades, Course Descriptions	88
Aviation Maintenance Technology Associate Degree	72
Aviation Mechanics, Course Descriptions	73
Aviation Powerplant Maintenance, Course Descriptions	73
Aviation Technology	72
Aviation Technology, Ground Schools, Course Descriptions	72
Aviation Technology Associate Degree	72
Avionics	75

B

Banking, A.I.B. Courses	55
Banking Management, Associate Degree and Certificate	55
Biology, Course Descriptions	42
Biomedical Instrumentation	75
Board of Trustees	3
Broadcasting (Media Technology)	30
Building Trades (Apprentices), Course Descriptions	89
Building Trades, Apprenticeships	84
Building Trades, Course Descriptions	89
Building Trades (Journeymen and Apprentices), Course Descriptions	89
Business, Course Descriptions	51,58
Business Development Center	56
Business, Division of	49
Business General, Associate Degree	50

C

Campus Newspaper	21
Career Planning and Placement Center	21
Center for Aging Education	27
Center for Health Education/Rehabilitation	93
Center for Student Support	18
Chartered Life Underwriter, Course Descriptions	54
Cheating	15
Chemistry, Course Descriptions	43
Child Advocacy, Course Descriptions	47
Child Development, Course Descriptions	47
Civil Technology	74
Civil Technology, Course Descriptions	78
Classroom Support Services	18
Classroom Training Coordination Unit	18
College Service Area	18
College Services Division	117
College Transfer Articulation	18
Combatives/Weight Training, Course Descriptions	24
Commitments and Goals	6
Communication, Course Descriptions	35
Communications Service Technician	75
Community Service Programs, Applied Arts and Sciences Division	72
Community Service Programs, Business Division	49,57
Community Services, Health Careers	94
Composition (see Writing)	36
Computer Graphics, Course Descriptions	79
Computer Information Systems, Associate Degree and Certificate	57
Computer Information Systems, Course Descriptions	59
Computer Science, Course Descriptions	41,44
Continuing Health Education	94
Continuing Health Education, Course Descriptions	95
Cooperative Internship	49
Corrections, Associate Degree	57
Corrections, Course Descriptions	59
Cosmetology Management, Associate Degree	56
Counseling Services	18
Course Code	16
ACC Accounting	50
AFG Aviation Mechanics	73
AFM Airframe Mechanics	73
AFP Powerplant Maintenance	73
AFT Ground Schools	72
AHC Allied Health Careers	101
AIB American Institute of Banking	58
ANT Anatomy	43
ART Art	104
AS Aerospace Studies	26
AST Astronomy	44
AT Architectural Technology	75
ATG Applied Technology General	85
ATR Applied Technology Related	86
ATS Applied Technology Seminars	87
AUT Automotive Trades	88
BIO Biology	42
BTA Building Trades	89

BTJ Building Trades	89
BTR Building Trades	89
BUS Business	51,58
CA Child Advocacy	47
CCR Court and Conference Reporting	53
CD Child Development	47
CEM Chemistry	43
CG Computer Graphics	79
CHC Continuing Health Education	95
CIS Computer Information Systems	59
CLU Chartered Life Underwriter	54
COM Communication	35
COR Corrections	59
CPS Computer Science	41,44
CT Civil Technology	78
DA Dental Assistant	98
DBA Dental Business Assistant	99
DHA Dental Hygiene/Dental Assistant	100
DH Dental Hygiene	99
DNC Dance	107
DNR Dance Repertory	110
DP Data Processing	53
DT Industrial Drafting Technology	82
EC Economics	53
ED Education	48
EM Electro-Mechanical Technology	79
EMT Emergency Medical Services	100
ENG English	38
ER Emergency Care	101
ESA Advanced Emergency Medical Technician	100
ESL English as a Second Language	36
ET Electronics Technology	80
FRN French	37
FST Fire Science Technology	81
GE Geology	44
GEO Geography	45
GER Gerontology	27
GRM German	37
HAC Heating, Air Conditioning and Refrigeration	91
HC Health Careers	101
HMF Hotel-Motel-Food Management	61
HST History	39
HUM Humanities	38
HUS Human Services	47
IM Industrial Management	91
INS Insurance	54
JPN Japanese	37
JRN Journalism	36
LAT Landscape Architectural Technology	77
LAW Law	54
LE Law Enforcement	63
LMT Library Media Technology	29
LR Labor Relations	64
LS Labor Studies	92
LUT Life Training Council	54
MET Meteorology	44
MGT Management	64
MIC Microbiology	42
MKT Marketing	67
MRA Mental Retardation Associate	48
MRT Media Technology	30
MS Military Science	26
MT Mechanical Technology	82
MTH Mathematics	40
MUS Music	110
NS Natural Science	44
NUR Nursing Programs	95
OCN Oceanology	44
PEA Professional	22
PEB Fitness	22
PEC Individual Sports	22
PED Individual/Dual	23
PEE Team Sports	23
PEF Aquatics	24
PEG Combatives/Weight Training	24
PEH Gymnastics/Dance	24
PEI Indoor Activities	25
PEJ Outdoor Activities	25
PGY Physiology	43
PHL Philosophy	39
PHO Photography	31
PHY Physics	44

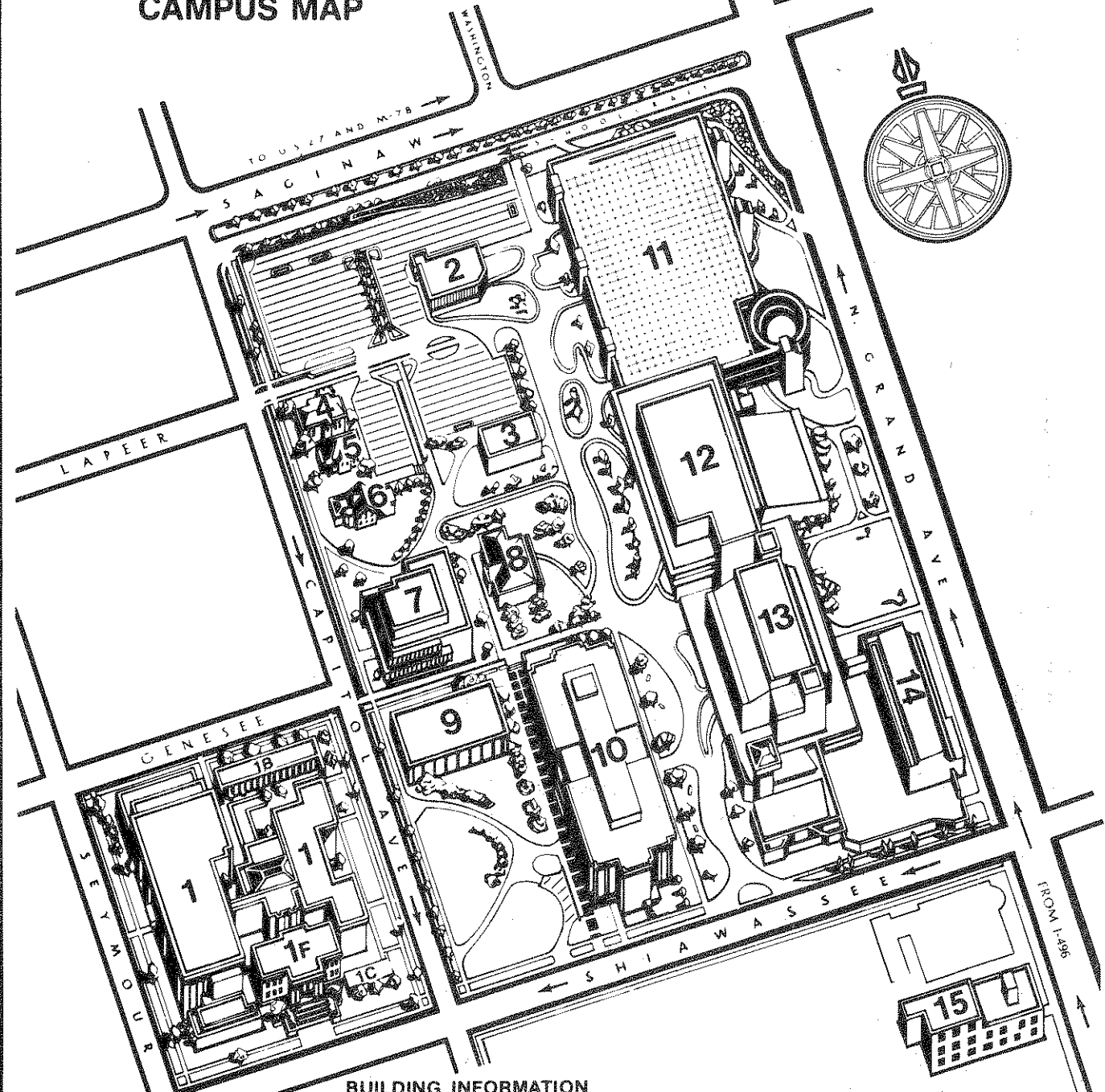
PLS	Political Science	46
PS	Public Service	48
PSY	Psychology	46
QC	Quality Control	83
QWL	Quality of Work Life	93
RDG	Reading	35
REL	Religion	40
RE	Real Estate	68
RT	Respiratory Therapy	102
RTA	Respiratory Therapy - Advanced	102
RXT	Radiologic Technology	103
SAF	Occupational Safety and Health	83
SA	Sociology/Anthropology	46
SBM	Small Business Management	68
SC	Independent Study/Science Seminars	45
SD	Student Development	18
SEC	Security	69
SGN	Sign Language	37
SL	Savings and Loan	69
SPA	Special Projects	93
SPH	Speech	36
SPN	Spanish	37
SS	Social Science	45
ST	Surgical Technology	102
SW	Social Work	48
TEC	Technology General	83
THE	Trucks and Heavy Equipment	93
THR	Theatre	114
THW	Theatre Workshop	116
TT	Truck Driver Training	84
WLD	Welding	93
WRI	Writing	36
Court and Conference Reporting, Associate Degree		50
Court and Conference Reporting, Course Descriptions		53
C.P.A. Review Courses		51
Credit by Evaluation		9
Credit by Examination		9
Credit-No-Credit Grading		10
Credits, Transfer of		9
Credit Union Management		50
D		
Dance		103
Dance	Course Descriptions	107
Dance	Repertory, Course Descriptions	110
Data	Processing, Associate Degree and Certificate	57
Data	Processing, Course Descriptions	53
Degrees		12
Dental	Assistant	94
Dental	Assistant, Course Descriptions	98
Dental	Business Assistant, Course Descriptions	99
Dental	Hygiene	94
Dental	Hygiene, Course Descriptions	99
Dental	Hygiene - Dental Assistant, Course Descriptions	100
Department of		
Accounting	and Office Programs	49
Applied	Technology	84
Communication		35
Engineering	Technology	74
Health	Careers	93
Humanities		38
Instructional	Media	29
Library	Services	29
Management	and Marketing	55
Mathematics		40
Performing	and Creative Arts	103
Physical	Education and Athletics	22
Science		42
Social	Science	45
Student	Development Services	18
Digital	Electronics	75
Disciplinary	Action	15
Disciplinary	Cases	15
Division of		
Applied	Arts and Sciences	71
Arts	and Sciences	35
Business		49
Learning	Resources	29
Student	Personnel Services	18
Drops	and Adds	12
Dual	Enrollment	35

E		
Economics,	Course Descriptions	53
Education,	Course Descriptions	48
Electro-Mechanical	Technology	74
Electro-Mechanical	Technology, Course Descriptions	79
Electronics	Technology	75
Electronics	Technology Course Descriptions	80
Emergency	Care, Course Descriptions	101
Emergency	Medical Services	94
Emergency	Medical Services, Course Descriptions	100
Emergency	Medical Services Technician	94
Engineering	Technology, Department of	74
Engineering	Technology Programs	71,74
English,	Course Descriptions	36,38
English	as a Second Language, Course Descriptions	36
Evaluation	of Transcripts	9
Examinations		13,15
F		
Faculty	and Staff Directory	117
Faculty	Responsibilities	15
Film	Production (Motion Pictures)	30
Financial	Aid	20
Fine	Arts Cultural Program	21
Fire	Science Technology, Course Descriptions	81
Fitness,	Course Descriptions	22
Flight	Training, Aviation	72
Foreign	Languages	37
French,	Course Descriptions	37
G		
General	Clerical, Certificate	50
General	Information	6
General	Military, Course Descriptions	26
Geology,	Course Descriptions	44
Geography,	Course Descriptions	45
German,	Course Descriptions	37
Gerontology,	Course Descriptions	27
Grade	Reports	8
Grading	System	8
Graduation	Requirements	12
Ground	Schools, Aviation, Course Descriptions	72
Guest	Applications	7
Gymnastics	/Dance, Course Descriptions	24
H		
Handicapped	Students (Classroom Support Services)	18
Health	Careers, Course Descriptions	101
Health	Careers, Department of	93
Health	Careers Programs	93
Heating,	Air Conditioning and Refrigeration, Course Descriptions	91
Heating	and Air Conditioning, Associate Degree and Certificate	85
History,	Course Descriptions	39
Honors	Program	35
Hotel-Motel	Food Service Management, Associate Degree and Certificate	57
Hotel-Motel	Food Service Management, Course Descriptions	61
Housing		8
Human	Services, Course Descriptions	47
Humanities,	Course Descriptions	38
I		
Independent	Study in Science, Course Descriptions	45
Individual	/Dual Sports, Course Descriptions	23
Individual	Sports, Course Descriptions	22
Indoor	Activities, Course Descriptions	25
Industrial	Drafting Technology	75
Industrial	Drafting Technology, Course Descriptions	82
Industrial	Management, Associate Degree	85

Industrial	Management, Course Descriptions	91
Industrial	Trades Apprenticeships	84
Instructional	Media, Department of	29
Insurance	-Chartered Life Underwriter	50
Insurance,	Course Descriptions	54
International	Students	6
J		
Japanese,	Course Descriptions	37
Journalism,	Course Descriptions	36
K		
Key	Punch Training (Data Processing)	53
L		
Labor	Relations	56
Labor	Relations, Course Descriptions	64
Labor	Studies, Associate Degree and Certificate	85
Labor	Studies, Course Descriptions	92
Landscape	Architectural Technology	74
Landscape	Architectural Technology, Course Descriptions	77
Large	Group Instructional Facilities	30
Law,	Course Descriptions	54
Law	Enforcement, Associate Degrees	57
Law	Enforcement, Course Descriptions	63
Learning	Resources, Division of	29
Legal	Assistant, Associate Degree	50
Legal	Secretary, Associate Degree	50
Library	Services, Department of	29
Library	Media Technology, Course Descriptions	29
Life	Training Council, Course Descriptions	54
M		
Management,	Associate Degree and Certificate	55
Management,	Course Descriptions	64
Management	Development Center	56
Management	and Marketing, Department of	55
Marketing,	Associate Degree and Certificate	56
Marketing,	Course Descriptions	67
Mathematics,	Course Descriptions	40
Mechanical	Technology, Associate Degree	75
Mechanical	Technology, Course Descriptions	82
Media	Technology, Course Descriptions	30
Medical	Secretary, Associate Degree	50
Medical	Transcriptionist, Certificate	50
Mental	Retardation Associate, Course Descriptions	48
Meteorology,	Course Descriptions	44
Michigan	Competitive Scholarships	20
Microbiology,	Course Descriptions	42
Mid-Michigan	Law Enforcement Center	57
Military	Science	25
Military	Science, Course Descriptions	26
Motion	Pictures	30
Music		103
Music,	Course Descriptions	110
N		
Natural	Science, Course Descriptions	44
Numerical	Control Programmer, Associate Degree	85
Nursing,	Associate Degree	93
Nursing,	Audio-Visual Practice Laboratory	94
Nursing,	Course Descriptions	95
Nursing,	Practical	93
O		
Oceanology,	Course Descriptions	44
Occupational	Safety and Health, Associate Degree	75
Occupational	Safety and Health, Course Descriptions	83
Outdoor	Activities, Course Descriptions	25

P					
Performing and Creative Arts, Department of	33	Respiratory Therapy-Advanced, Course Descriptions	102	Organizations	21
Performing and Creative Arts Programs	71	Respiratory Therapy, Associate Degree	94	Orientation	18
Performing Arts Audit Admissions	7	Respiratory Therapy, Course Descriptions	102	Responsibilities	15
Philosophy, Course Descriptions	39	ROTC, Air Force	26	Rights	15
Photography, Course Descriptions	31	ROTC, Army	25	Surgical Technology	95
Photography Center	30			Surgical Technology, Course Descriptions	102
Physical Education	22	S		T	
Physics, Course Descriptions	44	Sales, Associate Degree and Certificate	56	Table for Determining Academic Status	10
Physiology, Course Descriptions	43	Savings and Loan, Course Descriptions	69	Team Sports, Course Descriptions	23
Plagiarism	15	Scholarships (Financial Services)	20	Technology General, Course Descriptions ..	83
Political Science, Course Descriptions	46	Secretarial Science, Associate Degree	50	Television	30
Powerplant Maintenance, Course Descriptions	73	Security, Associate Degree	57	Term Class Schedules	13
Practical Nurse, Associate Degree	95	Security, Course Descriptions	69	Testing Services	18
Pre-Accounting	50	Seminar Series, Arts and Sciences	35	Test Preparation Classes, Aviation Program	74
Pre-Business Administration, Associate Degree	58	Seminars in Applied Technology	84	Theatre	103
President's Council	117	Seminars in Science, Course Descriptions	45	Theatre, Course Descriptions	114
President's Message	5	Service Trades Apprenticeships	84	Theatre Workshop, Course Descriptions ..	116
Professional Sports, Course Descriptions ..	22	Sign Language, Course Descriptions	37	Transcript Evaluation	9
Psychology, Course Descriptions	46	Small Business Management, Course Descriptions	68	Transfer of Credits	9
Public Service, Course Descriptions	48	Social Science, Course Descriptions	45	Transfer Programs	49
Q		Social Work, Course Descriptions	48	Transportation and Traffic Management, Associate Degree	56
Quality Control and Reliability Technology	75	Sociology/Anthropology, Course Descriptions	46	Transportation Training	74
Quality Control, Course Descriptions	83	Solar/Energy Technician Option	74	Travel and Tourism - Management Specialist, Associate Degree	57
Quality of Work Life, Course Descriptions	93	Solar/Energy Technician Option, Course Descriptions	76	Truck Driver Training, Course Descriptions	84
R		Spanish, Course Descriptions	37	Trucks and Heavy Equipment, Course Descriptions	93
Radio Station	30	Special Projects (Applied Technology), Course Descriptions	93	Tuition and Fees	13
Radiologic Technology, Associate Degree	94	Speech, Course Descriptions	36	Tutorial Services	18
Radiologic Technology, Course Descriptions	103	Stenographic	50	V	
Reading, Course Descriptions	35	Student		Veterans Affairs	20
Real Estate, Associate Degree	57	Access to Records	11	W	
Real Estate, Course Descriptions	68	Activities	21	Weekend and Evening Classes	13
Refund Policy	13	Development Services, Course Descriptions	18	Welding, Course Descriptions	93
Registration Procedures	13	Evaluations	15	Withdrawal	18
Religion, Course Descriptions	40	Financial Services and Veterans' Affairs	20	Women's Resource Center	18
Repeat Courses	8	Government	21	Word Processing, Certificate and Associate Degree	50
Residency	7	Official Academic Record	8	Writing, Course Descriptions	36
Respiratory Therapy	94				

LANSING COMMUNITY COLLEGE CAMPUS MAP



BUILDING INFORMATION

- | | |
|----------------------------|---|
| 1B. Office Unit B (OUB) | 8. Turner House |
| 1C. Office Unit C (OUC) | 9. Student Personnel Services (SPS) |
| 1F. Office Unit F (OUF) | 10. Arts & Sciences (A&S) |
| 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) | |

