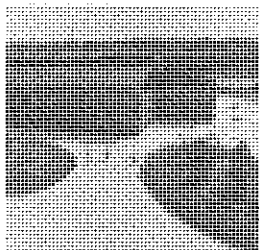
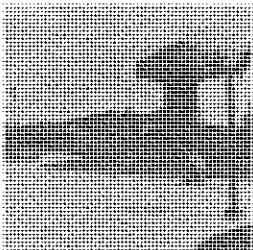


LANSING
COMMUNITY
COLLEGE 1976
CATALOG 1978

1976-78 Catalog Lansing Community College

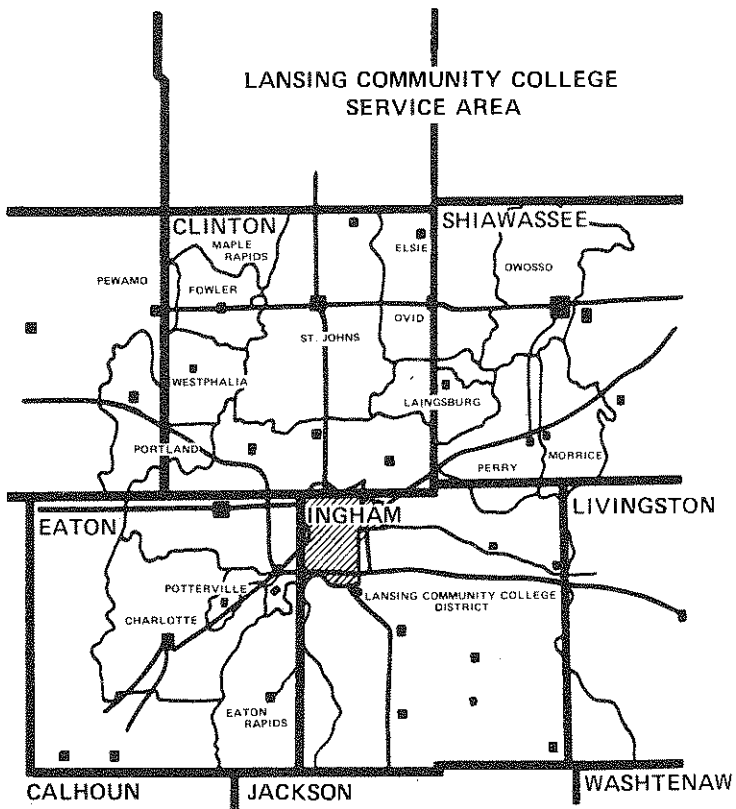


Students stroll along the Washington Mall; LCC's new Vocational—Technical, Phys. Ed.—Health Careers Complex in background.

Cover line drawing by Bob Brent.



1976-78 Carson-Lansing Community College



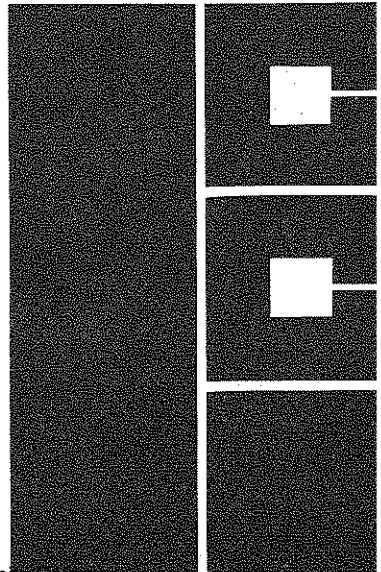


LANSING COMMUNITY COLLEGE

419 North Capitol Avenue
Lansing, Michigan
Telephone 373-7400

CATALOG NUMBER FOURTEEN
PUBLISHED FALL 1976

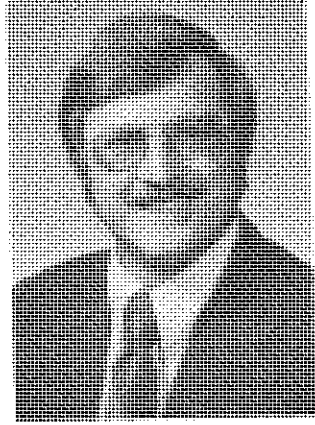
Accredited by North Central
Association of Colleges and Schools
Michigan Commission on
College Accreditation



BOARD OF

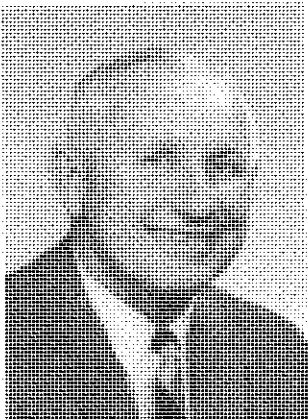


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Chairman

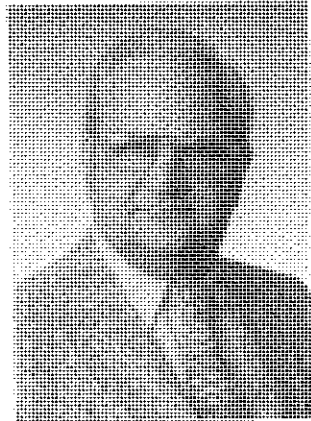


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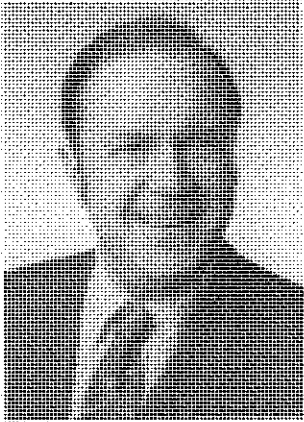
DAVID D. DIEHL
Secretary



LEE A. TRUMBLE
Treasurer



TRUSTEES



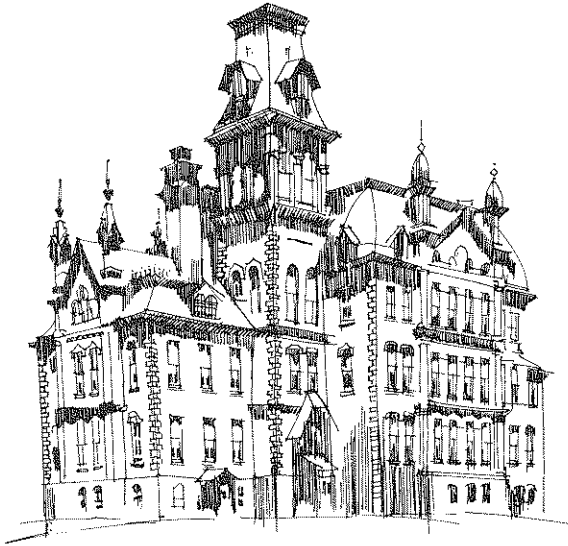
JOHN H. DART
Trustee



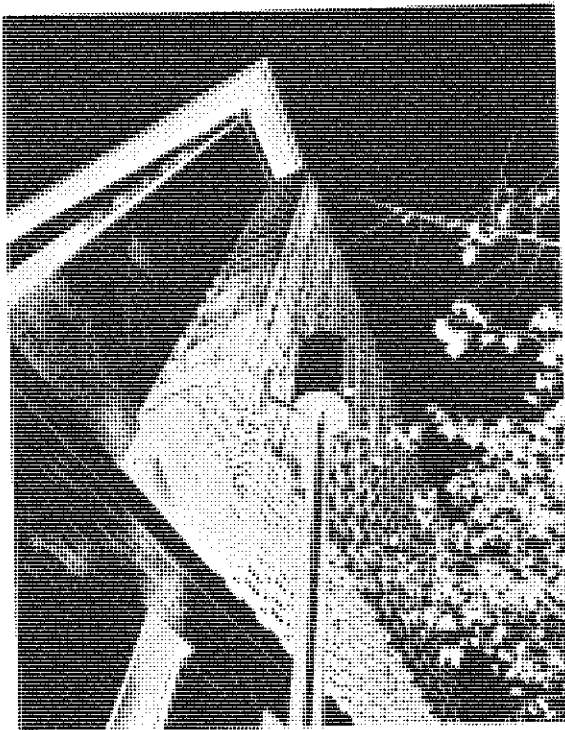
CAROL A. HARDING
Trustee



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Trustee

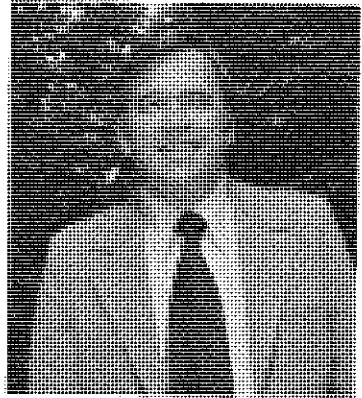


*Lansing Central
High School
1872*



*In 1957, Lansing
Community College
began in a few rooms
in a modernized
Lansing Central High
School, later to be
further renovated
and called "Old
Central."*

*Old Central
1976*



Dear Student:

The College's purposes have evolved in close partnership with all segments of the community, guiding us in the directions we have taken.

Lansing Community College has become the most diversified community college in the State of Michigan, making available to the people it serves a selection of programs and alternatives found in few communities in the United States, regardless of size. The College brings these programs to the community at a cost per student which ranks among the lowest in the State.

Our programs and offerings are recognized for their excellence as well as their diversity. For example, a student attending Lansing Community College has a choice of more health career programs than at any community college in the State, and the certification and employment records of our graduates are outstanding. Through the use of community advisory committees, involving the expertise of over 500 individuals, the College remains aware of the needs of the people and the kinds of offerings that are required by a changing society.

Lansing Community College is a commuter's campus, centrally located and easily accessible to the total College service area. In addition, many of our College's courses are offered in more than 20 off-campus locations, in cooperation with local school districts.

Through this blend of striving for quality, diversity, and operational proficiency, the College has arrived at a format that will be the role we follow as we look to the 1980's.

Sincerely,

Philip J. Gannon
President

LANSING COMMUNITY COLLEGE

Lansing Community College has evolved from a partnership of the community, students, faculty and staff. The College measures its vitality by how well it responds to the educational needs of the individual and the community. Its flexible programs and instructional techniques reflect the basic assumptions that learning is a lifelong process and that learners are individuals with different degrees of preparedness, different reasons for seeking instruction and different modes of learning.

The College is committed to community service programs, college transfer programs, and career training programs. The College believes that both the individual and his community are best served when the programs allow the student to integrate his learning with his experiences. The programs are designed to support and guide the student in his achievement of career, social and personal identity through his mastery of skills and his search for meaning and belief. Confronted by the values of his contemporaries and their heritage, he gains insight into his own values.

Consequently, the College is committed by purpose and process to a learning environment built on individualized instruction, a student-oriented faculty, an urban campus, and flexible programs. By maintaining open admissions, a relatively low cost tuition and fee structure, and an awareness of special group needs, the College endeavors to provide equal educational opportunity for all in its service district.

GOALS

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

1. To maintain continuous review and evaluation of the essentials for an effective learning environment—instruction, resources, and facilities—so that the learning programs have quality and relevance.
2. To maintain the development and support of an educational environment that permits an individual not only to acquire a mastery of skills for career or personal goals but also to enhance his identity by his search for the truth concerning his culture and heritage.



COMMITMENTS, GOALS, AND OBJECTIVES

3. To provide student services including counseling, employment placement, financial aids, informational services, tutorial assistance, and college entry services according to the student's academic, vocational, and personal needs.
4. To provide opportunities for students to develop leadership and social interaction skills through formal and informal student activities.
5. To provide general education for all students in the College.
6. To provide career-oriented programs for students now employed or contemplating employment in government, business, industry, and paraprofessional occupations.
7. To provide freshman and sophomore instruction in the arts, sciences, business, and other pre-professional programs.
8. To provide the curriculum opportunity for students to be graduated with Associate Degrees in arts, sciences, business and general education.
9. To provide special courses, programs or seminars— both on and off campus—in response to the immediate needs of the community.
10. To provide programs and activities that enrich the community's cultural life.
11. To make available the facilities and resources of the College to community groups to assist their organizational purposes.

OBJECTIVES

The objectives of the educational programs and services at Lansing Community College are detailed by the Divisions in their respective portions of this volume.

Not all courses described in this catalog are offered every term.

SUMMER TERM 1977

Registration Day	June 24
First Day of Classes	June 27
Independence Day	July 4
Last Day of Summer Term	August 21 (Sunday)
Grades Due	August 22

AUGUST MINI-TERM 1977

Registration and First Day of Class	August 22
Mini-Term Ends	September 2

FALL TERM 1977

Preparation & Faculty/Administration Days	September 15, 21
Registration Days	September 16, 19, 20
First Day of Classes	September 22
Thanksgiving Recess	November 24, 25
Last Day of Fall Term	December 4 (Sunday)
Grades Due	December 5

DECEMBER MINI-TERM 1977

Registration and First Day of Class	December 5
Mini-Term Ends	December 16

WINTER TERM 1978

Registration Days	January 3, 4
Preparation/Records Day	January 5
Division and Department Day	January 6
First Day of Classes	January 9
Last Day of Winter Term	March 19 (Sunday)
Grades Due	March 20

SPRING TERM 1978

Registration Days	March 27, 28
Preparation/Records Day	March 29
First Day of Classes	March 30
Memorial Day	May 29
Graduation Day	June 4
Last Day of Spring Term	June 8
Grades Due	June 9

JUNE MINI-TERM 1978

Registration and First Day of Class	June 12
Mini-Term Ends	June 23

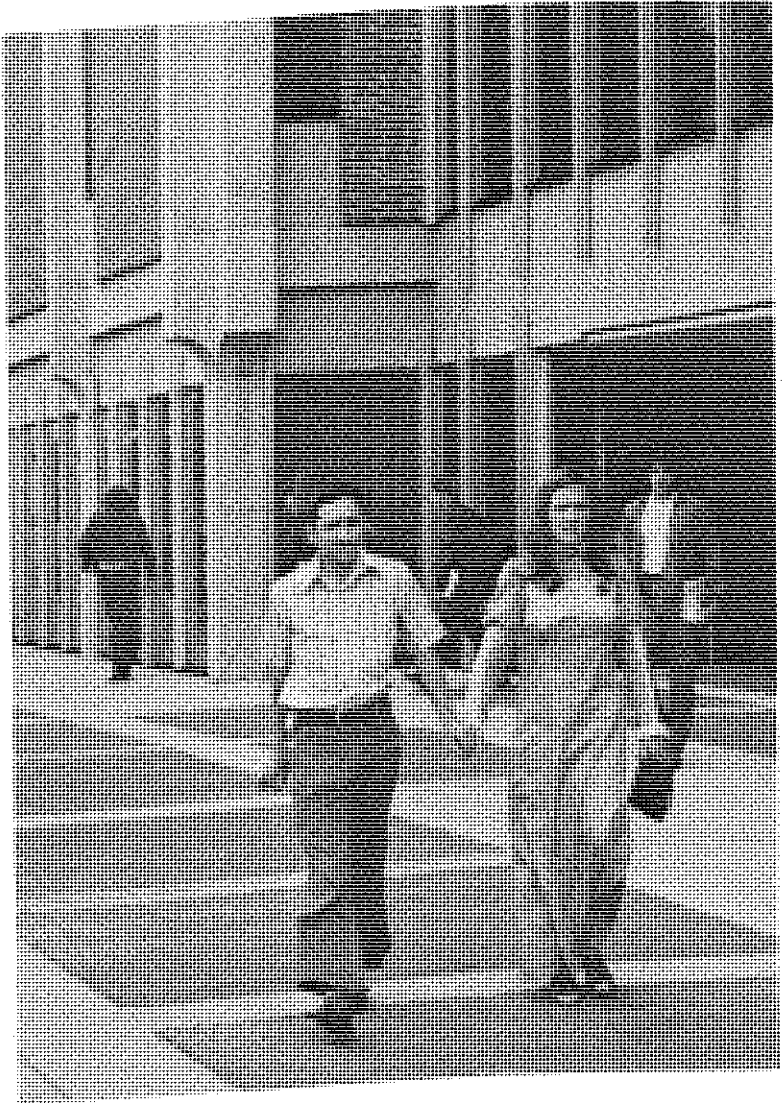
SUMMER TERM 1978

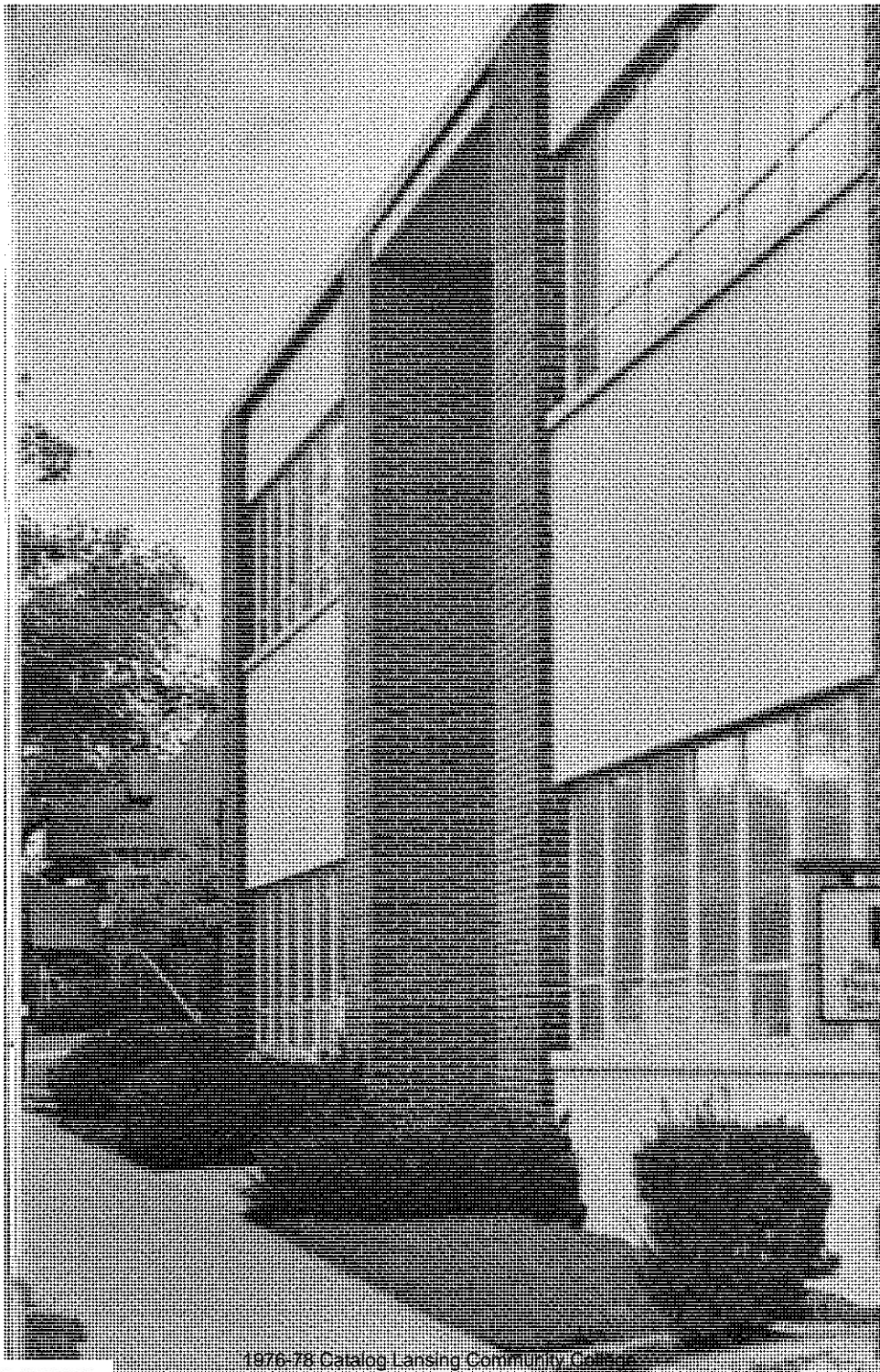
Registration Day	June 23
First Day of Class	June 26
Independence Day	July 4
Last Day of Summer Term	August 20 (Sunday)
Grades Due	August 21

AUGUST MINI-TERM 1978


Registration and First Day of Class August 21
Mini-Term Ends September 1

The College reserves the right to make necessary changes in the calendar.



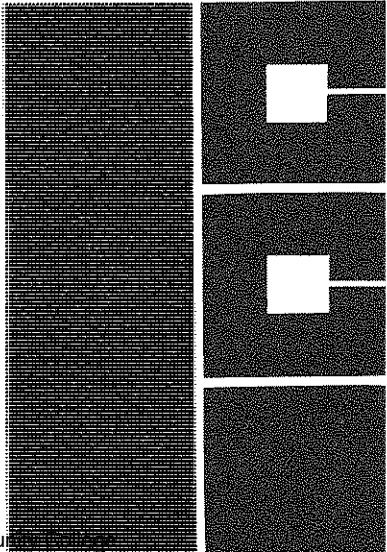


1976-78 Catalog Lansing Community College

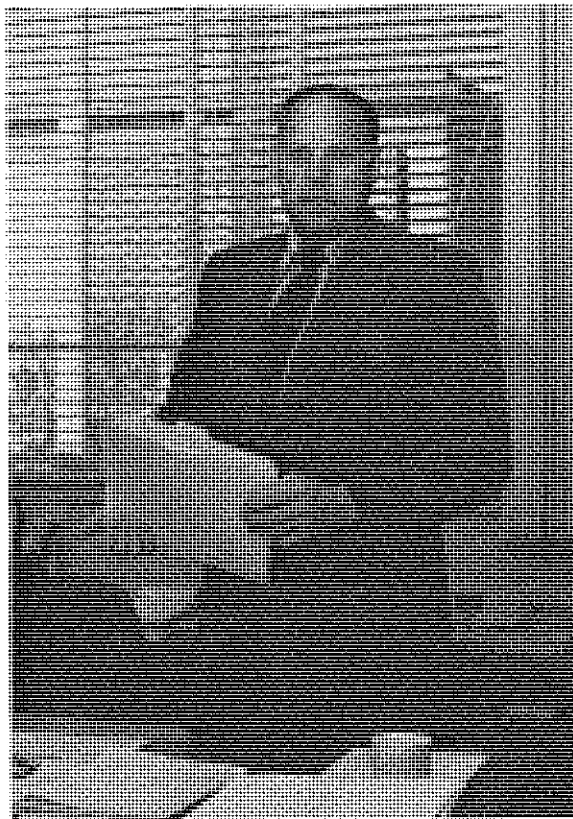


DIVISION OF STUDENT PERSONNEL SERVICES

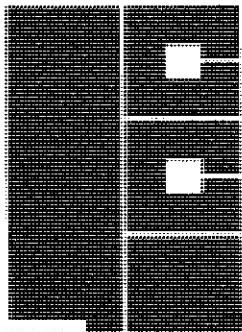
Admissions
Student Records-Registrar
Department of Student
Development Services
Learning and Career
Center for Women
Student Financial Aid,
Placement and
Veteran Services
Student Activities
Department of Physical
Education and Athletics
ROTC
Center for Aging Education



DIVISION OF STUDENT PERSONNEL SERVICES



Dean William Schaar



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

Student Personnel Services

The function of Student Personnel Services is to provide support services for the student as a learner in an instructional environment. The following paragraphs represent the general service areas provided by the division:

1. Services which are designed to assist the student in gaining access to the instructional program of the College. These include admissions processing, counseling and advising, informational services, registration, and orientation.
2. Services designed to assist the student in maintaining a status of academic good standing in the College. These include record maintenance, counseling services, financial aids, career exploration, individual assessment, academic advising, achievement monitoring, tutorial services, and student employment placement.
3. Ongoing support services to assist in meeting needs of various student populations. 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. Activity opportunities designed to assist students with learning experiences outside of the formal classroom. These activities include student government, student interest clubs, travel trips, intramural athletics, intercollegiate athletics, student publications, and cultural involvement with the service community.
5. Formal instructional opportunities designed to assist students in acquiring adjustment and activity skills. These instructional areas are physical education, student development, college survival, military science, and aging and retirement education.
6. Transitional services designed to assist students in entering a field of work or career, or to continue their career development. These services include employment placement, job market information, college transfer articulation, and student follow-up.

Divisional Services

ADMISSIONS

Application for New Students

The Admissions Department has as its main objective the smooth and uncomplicated processing of all applicants to the College. In our attempts to accomplish this objective, every effort will be made to properly inform the College community of existing programs and the proper method of matriculating into them.

Application forms for college entry and consideration for financial assistance are available at the Admissions Office. You may call Area Code 517-373-7160 or write: Admissions Office, Lansing Community College, P. O. Box 40010, 419 N. Capitol Avenue, Lansing, Michigan 48901.

All persons eighteen years of age or older and persons graduated from high school are eligible for admission to Lansing Community College. Students in high school desiring to attend should refer to the section on "Dual Enrollment" in this catalog. It is not a requirement for a person eighteen years of age or older to have graduated from high school in order to be admitted. The College does encourage all persons seeking admission to complete their high school preparation.

Early completion of the application form allows the maximum opportunity for an applicant to get the course he wants when he wants it. Procedural directions for making application are as follows:

1. Complete all items and information asked for in the application for admission.
2. Attach a \$10 application fee (check or money order) 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 past 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 mail or personally deliver applications and application fee to admissions clerk's desk on the first floor of the Student Personnel Services Building.
5. Lansing Community College suggests starting points in English, mathematics and reading from high school grades and national test scores. If you would like further assistance in selecting a starting point in English, mathematics and/or reading, please feel free to contact our language and mathematics labs on the third floor of the Arts and Science Building at LCC.

High School Articulation

Effort is made by Student Personnel Services and participating departments of the College to keep the area high schools informed about various aspects of the College program. Participation in "college nights," presenting information to students through assembly periods, and meetings with area school counselors are considered essential to adequate communication within our service area.

Residency

Eligibility for paying resident tuition is determined according to the following formula:

Before Acceptance into College

Students *under* 18 years of age qualify as residents if:

- a. The 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. The student is married and has resided within the LCC district at least six months immediately prior to the first day of classes.
- c. The 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 Act 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.

Students *over* 18 years of age qualify as residents if:

- a. The 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 Act of 1935 as amended by Act 371 Public Act of 1965 (students receiving benefits under the Michigan Veterans' Trust Fund).

After Acceptance into College

Students *under* 18 years of age qualify as residents if:

- a. The student's parent or guardian has established residence within the LCC district for at least one year 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 one year 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 one year prior to the date of petitioning for a change in residence status.

Students *over* 18 years of age qualify as residents if the student has established residence within the LCC district for at least one year prior to the date of petitioning for a change in residence status.

Residency for Migrant Students:

Michigan migrants are defined as individuals who have been continually engaged, with their families, in interstate travel while in the pursuance of their livelihood via *seasonal agricultural work or related industry in the State of Michigan.*

a. Criteria for "residency" status

The individual must have been employed within the College district for a minimum of six months. Employment need not be in consecutive months, but the migrant must work at least two months during three of the preceding five years or seasons.

b. Criteria for "Out of District-In State" status

The individual must have been employed within the State of Michigan for a minimum of six months. Employment need not be in consecutive months, but the migrant must work at least two months during three of the preceding five years or seasons.

c. Documentation for Migrant Status

Notorized affidavit from relevant agencies working with Michigan migrants. The relevancy of the agency will be determined by the Office of Admissions of Lansing Community College.

Petitioning for Change in Residence Status

The student is notified of his residency status upon acceptance into the College. If he can substantiate an error in his being coded as a non-resident, residency will be changed when proof of error is presented. If the student has attended the College under a non-resident code, he may change his residency status if he meets one of the qualifications listed above.

To effect a change in status, the student must (1) complete the appropriate form in the Student Records Office; (2) offer proof of residency, and (3) check with the Student Records Office after one week for validation.

Tuition Adjustment: If the student's claim for residency is validated and is applicable for the term of validation, he will receive a refund in the amount of the difference between resident and non-resident tuition. Adjustments in tuition due to change of residency are *not* retroactive.

A Non-Resident Owning Property in LCC District will receive credit for property taxes paid in support of the College by himself or his 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.

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.

Application for Transfer Students

Students who have had some college level work and are applying for transfer to Lansing Community College should:

1. Complete the student portion of the application form.
2. Attach a \$10 application fee.
3. Present the application to the admissions clerk's desk on the first floor of the Student Personnel Services Building or mail it to: Admissions Office, Lansing Community College, P. O. Box 40010, 430 N. Capitol Avenue, Lansing, Michigan 48901.

4. Request that official transcripts from all other colleges or universities which student has attended be sent to the Admissions Office. An evaluation of credits from institutions previously attended will be made by the Registrar's Office and a copy will be sent to the student.

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 \$5.00 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. The 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 also affords students an opportunity for educational enrichment in specific areas where they have displayed unusual ability and interest in high school, i.e., auto mechanics, art, music, drama, typing, shorthand, etc.

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. Prior to attaining junior standing, a student may audit courses in designated approved programs.
3. Applicant must have a written recommendation from his high school principal or his representative.
4. The final decision for acceptance rests with Lansing Community College.

Application procedure for Dual Enrollment:

1. Applicant must obtain a written recommendation from his high school principal or representative.
2. Applicant must complete a College application.
3. Applicant must submit the completed application with a non-refundable \$10 application fee to his high school records office.
4. The application is finalized by the high school records office and sent to the LCC Admissions Office.
5. A decision and notification will be made within three weeks after receipt of the application.

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 to the Health Career Programs. You may call Area Code 517-373-7160 or write: Admissions Office, Lansing Community College, P. O. Box 40010, 419 North Capitol Avenue, Lansing, Michigan 48901.

International Students

Lansing Community College admits international students within the guidelines listed below, which are designed to create a maximum positive experience for the international student, the service community and the College community:

1. The international student must present proper visa credentials as a student.
2. The international student must present proper and translatable credentials in meeting the admission requirements of the College.
3. The international student must provide evidence of English competency to assure reasonable success in the basic English program of the College. (This will include a personal interview with an admissions officer of the College or with the International Student Admissions Committee prior to a statement of admission.)
4. The international student must provide a document of sponsorship signed by a resident of the service community, assuring full financial support, housing, medical assistance and cultural orientation. The document of sponsorship is required for each term that the international student seeks admission. One document of sponsorship form is valid for one year from Fall term to the following Fall term, or valid beginning the term the student initially seeks admission to the following Fall term.
5. It must be determined that the instructional program of the College can meet the specific educational needs and desires of the international student.
6. The above guidelines must be completed by the international student three (3) weeks in advance of the day classes begin for the term the student is applying. No applications will be considered after this specified date.

In addition, the student must complete a regular application form for attendance and the necessary immigration forms which are available in the Admissions Office.

Registration Procedures

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

Drops and Adds

Dropping or adding courses involves procedures which must be carried out by the student so that the Registrar's Office may keep accurate accounting. During the first week of a term, a student may make changes in his schedule by following procedures outlined in the term class schedule. A student may withdraw from a course before the end of the fourth week without academic penalty.

Auditing

A student who desires to attend classes regularly, but does not wish to take final examinations or receive grades or credit, may register as an auditor. Credit for such courses cannot be established at a later date. An auditor in a class cannot change his status to that of a credit student in that class. Neither can a credit student in a class change his status to that of an auditor.

Withdrawal from College

A. Student self-initiated withdrawal

1. If a student finds it necessary to withdraw from the College, he should contact the Registrar's Office immediately and complete the form necessary to make his withdrawal official.
2. 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 withdrawal form is maintained.
3. 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. This same grade will be passed on the final grade report and be recorded on the academic record. The withdrawal form will be in multiple copies allowing a copy to be given to the student, one to be sent to the Registrar for processing, and one to be retained by the instructor, and the option of one copy to be retained by the department chairperson.
4. A student withdrawing will receive a refund if the withdrawal takes place within the established refund period for each term.

B. College initiated "Administrative Withdrawal"

1. A student may be withdrawn from a class or a group of classes for the following reasons:
 - a. Non-attendance
 - b. Lack of proper prerequisites for the particular course
 - c. Student behavior that interferes with the instructional process
2. A student who is withdrawn prior to the end of the fourth week will not receive a grade and no record of attempting the class will appear on the academic record. A copy of the administrative withdrawal form is maintained.
3. A student who is withdrawn after the end of the fourth week of class will be given a letter grade at the time of the withdrawal.

This same grade will be placed on the final grade report and be recorded on the academic record. The withdrawal form will be in multiple copies allowing a copy to be given to the student, one to be sent to the Registrar for processing, one to be retained by the instructor, and the option of one copy to be retained by the department chairperson.

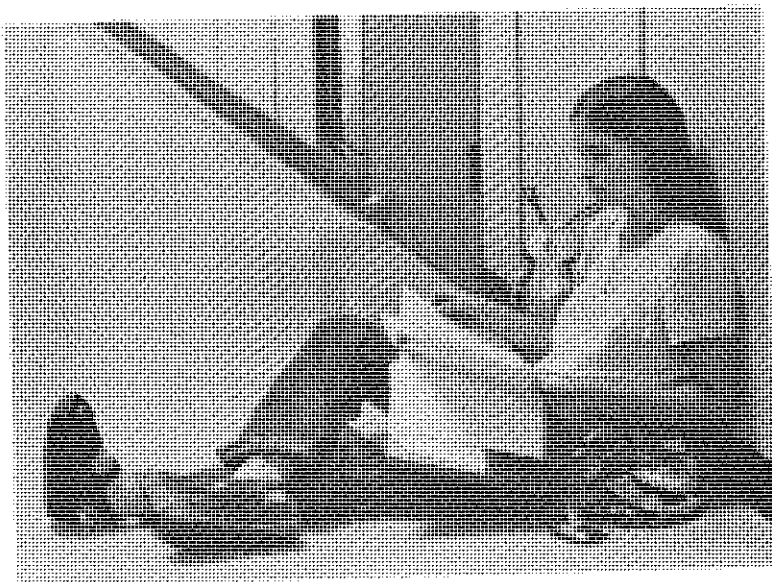
4. A student who is administratively withdrawn may appeal the withdrawal. (See Administrative Withdrawal statement.)
5. A student who is withdrawn will receive a refund if the withdrawal takes place within the established refund period for the term.

Credits

The regular college year is divided into four terms of approximately ten weeks. In general, a class meets one hour each week for each credit earned; more time is required for courses with laboratory work. To the student taking laboratory work, the usual load of 16 credit hours of courses will mean about 20 or more hours of class attendance each week. The credit hour value of each course is given in the section of this catalog devoted to course descriptions.

Credit-No Credit Grading

The credit (P)-no credit (Z) grading system has been initiated as an elective grading procedure to encourage students to expand their instructional background. Enrollment on the credit-no-credit basis is open to all students as a student's option, subject to the following conditions:



1. Course prerequisites and other criteria for enrolling in any course shall be determined by the department or division offering the course. These prerequisites apply to both the letter and the P-Z systems.
2. The choice of letter or P-Z system does not affect admission to the course.
3. All courses in every department or division are available on a P-Z basis except courses:
 - a. Listed in the student curricular guide as required courses, or
 - b. Specifically excluded from P-Z enrollment by the department offering the course.
4. No student may enroll in more than one course in a single term on the P-Z system without his departmental chairperson's permission, and he may not accumulate more than one-fourth of his total credits on a P-Z basis.
5. Choice of the P-Z system must be made during enrollment in consultation with the academic advisor. Following registration, this decision may not be changed after the first week of class. Changes must be in accord with the stated procedures for change in enrollment.

Grading procedure of the credit-no credit (P-Z) system:

1. Grades on the P-Z system are not included in computing the term or cumulative grade point average.
2. Enrollment in the P-Z system is recorded with the academic advisor and with the Registrar. The instructor's class list does not indicate which students are on the system.
3. When the course is completed, all students are graded on the regular letter system.
4. The Registrar then converts the regular letter grades to the P-Z system in accord with the definition of P and Z as shown below:
 - a. P (credit)—credit is granted and represents a level of performance equivalent to a regular grade of 'C' or above.
 - b. Z (no credit)—performance below a 'C' level, no credit is granted.
5. If the student changes his major, credits earned under the P-Z system which are required for the new major will be converted to the letter system by the Registrar. This is done at the request of the department of the new major.
6. If the student requires a regular letter grade for transfer purposes, or for maintenance of academic eligibility, he may petition the office of the Dean of Student Personnel Services.

Credit by Examination

A regularly enrolled student may obtain credit for certain courses at the discretion of the department chairperson and faculty advisor by passing a comprehensive examination (or series of examinations). The fee is the regular tuition charge. The student must make application for such examination at the Office of the Registrar.

Transfer of Credits from LCC to other Colleges

The official transcript 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 signed by the LCC registrar and bears the LCC official seal.

Each student is furnished one official transcript without charge. A fee of \$1, which must be paid prior to mailing, is charged for each additional 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 plans 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 counseling office.

Acceptance and Evaluation of Transfer Credits

Credit will be given for courses transferred from accredited institutions. The credit value of each of these courses will be determined by the Office of the Registrar at Lansing Community College.

Credits only, not grades, are transferred for 'C' or better courses. When the transferring overall grade point average of a student is at or above a 2.00 on a 4.00 scale ('C'), the 'D' grades will be accepted as credit. When the transferring overall grade point average of a student is below a 2.00 on a 4.00 scale, 'D' credits will be accepted upon request of the student. But the 'D' grade will be averaged in the student's Lansing Community College record. It will be the responsibility of the transferring student to request the Office of the Registrar to evaluate 'D' credits. 'D' credits transferred to Lansing Community College have the same limitations in serving as prerequisites as do 'D' credits earned at Lansing Community College.

Official transcripts of a Lansing Community College student's record will be mailed to another institution at the request of the student. An official transcript is signed by the Registrar, which has the college seal.

Criteria Used in Credit Evaluation

1. Freshman and Sophomore level courses are accepted in transfer. Higher level courses are accepted if they correspond to a specific course at LCC.
2. Credits only, not grades, are accepted for "C" or better grades earned in transfer courses. "D" grades are only accepted in transfer when your overall GPA at that School was 2.00 (C) or above. If your GPA was below 2.00 (C), you must petition the Registrar's office, otherwise no "D" credits will be accepted.
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.
4. Credits from non-accredited institutions are evaluated by department chairpersons of the area in which the student enrolled. If the student changes his curriculum, he should notify the Registrar's office, as there may be a difference in the evaluation made.

5. A student may request review of this evaluation if he feels that a course description differs from the way it is evaluated. Verification of the change will be made with the department chairperson concerned.
6. All courses will be considered for evaluation. In most cases the course will be accepted for a corresponding LCC course. In some cases where LCC has no department or area similar to the course in question no credit will be given.
7. Only official transcripts will be evaluated. Student grade reports or unofficial copies of the record are not acceptable.
8. You will receive one copy of the evaluation. One copy is kept in your LCC folder. One copy is on file in the Registrar's office.
9. Your total number of transfer credits will be shown on your academic record. They will also be indicated on the grade report you receive at the end of each term.
10. Fractional credits shown in your total credits transferred in will not be included in your LCC records. Fractional credits are rounded down to the nearest whole number.

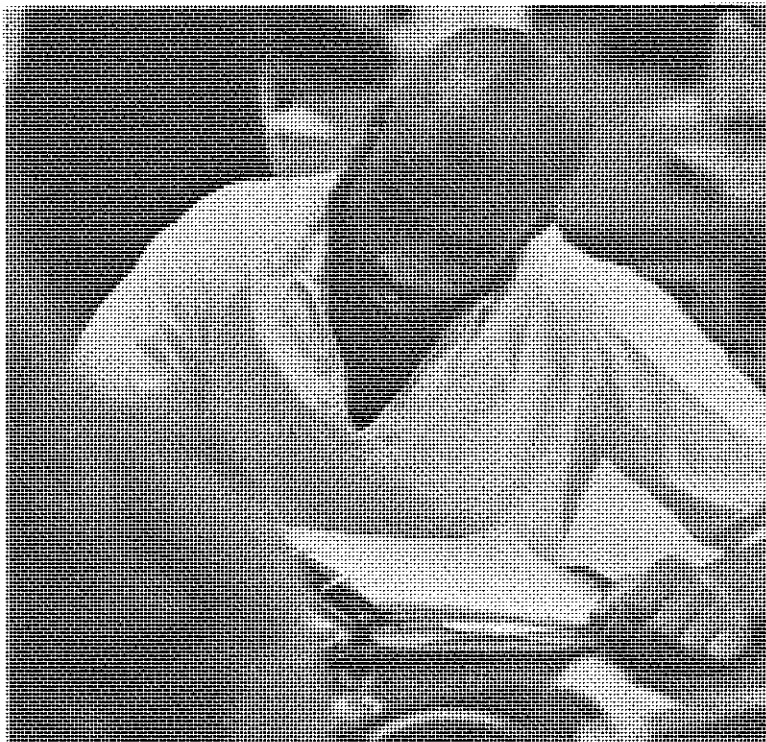
Evaluation of Transcripts from Non-Accredited Institutions

A transcript from a non-accredited institution of higher education will be forwarded by the office of the Registrar to the chairperson of the department in which the student has enrolled. The departmental chairperson has four prerogatives for evaluating transcripts issued by non-accredited institutions and for granting credits toward graduation from Lansing Community College:

1. Credit may be granted if the student demonstrates skills commensurate with the performance required for satisfactory completion of existing courses.
2. Credit may be granted if review of the content, goals, and objectives of a particular course indicates that 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 following a comprehensive examination to determine proficiency in a particular existing course.
4. Credit may not be granted.

The departmental 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 chairpersons. The written reply to the office of the Registrar will include the signatures of each involved departmental chairperson.



Attendance

A student is expected to attend all sessions of each course in which he is enrolled. Failure to do so may result in a lower grade or withdrawal from the course. Absence in no way relieves the student from the responsibility of completing all the work of the course to the satisfaction of the instructor in charge. Absences will be excused when incurred by reason of a student's participation in field trips and other trips arranged by the College, provided such trips have been previously arranged by the instructor through the Dean's office.

Degrees

Associate Degrees are granted to all who meet graduation requirements. A minimum of 90 credit hours is required for an Associate Degree. A student completing the requirements during the fall or winter term should apply for graduation during the term prior to that in which his 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.

Associate Degrees in Arts and Sciences

Division of Arts and Sciences

The following criteria determine the awarding of the Associate Degree in Arts and Science by the Division of Arts and Sciences.

I. Requirements

1. 90 Credits
2. GPA of 2.0 or better
3. 30 Credits in attendance at LCC
4. Completion of SS 103 or SS 104
5. The student is required to take at least 12 credits in each of the following areas: English, Humanities (excluding English courses), Science, and Social Science.
 - a. It is recommended that the requirement of 12 credits in Humanities (excluding English courses), be fulfilled by the sequence in Western Civilization, HUM 201, 202, 203. Students may, however, substitute other courses in the curriculum of the Humanities Department, provided that these include a minimum of one course in history and/or History of Art, and one course in philosophy and/or religion.
 - b. English requirement can be fulfilled by courses in composition, English, and literature. The following are possible alternatives (A.-D.) a student may take in fulfilling the English requirements for the Associate Degree:

A	B	C	D
COM 121	COM 121	COM 121	COM 121
ENG 122	COM 122	ENG 122	COM 122
ENG 123	ENG 123	COM 124	COM 124
 - c. The 12 required credits in Social Science include either SS 103 or SS 104. The remaining eight credits may be selected from any of the following: SS 101, SS 102, sociology, anthropology, psychology, political science or geography.
 - d. It is required that the 12 credits in Science be fulfilled by a minimum of four credits in biological science and four credits in physical science.
6. Up to 12 credits outside of traditional liberal arts would be accepted towards a degree except where specifically required by curriculum guides.
7. Courses for institutional credit only will not be included in the 90-credit total.

- #### II. In instances where a student is appealing a decision not to grant an Associate Degree in Art or Science for lack of fulfillment of the above criteria, he may appeal such decision to the Open Council of the Arts and Sciences Division who shall serve as a review committee and recommend to the Dean of Arts and Sciences the appropriate action. Voting members shall be department chairpersons, faculty representatives, and student representative.

- #### III. Effective Date of Implementation: Academic Year 1974-1975.

Graduation Requirements

To graduate from Lansing Community College a student must:

1. Complete a two-year course of study adapted to his needs, interests, and capacities, and conform to a plan acceptable to the College. The course of study should: (a) be suitable for transfer to admit the student to the level of upper-division work in a four-year college of his choice or (b) form a program of study to be completed at the end of 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 a petition for graduation one term preceding the term of graduation.
5. Satisfy all general and specific requirements of Lansing Community College which pertain to him, including the fulfillment of all financial obligations.
6. Have the approval of the administration and the Board of Trustees.
7. Have completed a three semester hour (or equivalent) course in Political Science, required by Act 106, Public Acts of 1954, State of Michigan. (Social Science 103, Political Science, and 104 American Government will satisfy this requirement.)

Evening Classes

In addition to the regular academic curricula for day students, Lansing Community College also offers a highly diversified program of evening courses for those who choose for personal or occupational reasons to attend class during the evening hours.

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 evening program provides educational opportunities to many who are now finding the time to improve their academic or vocational background.

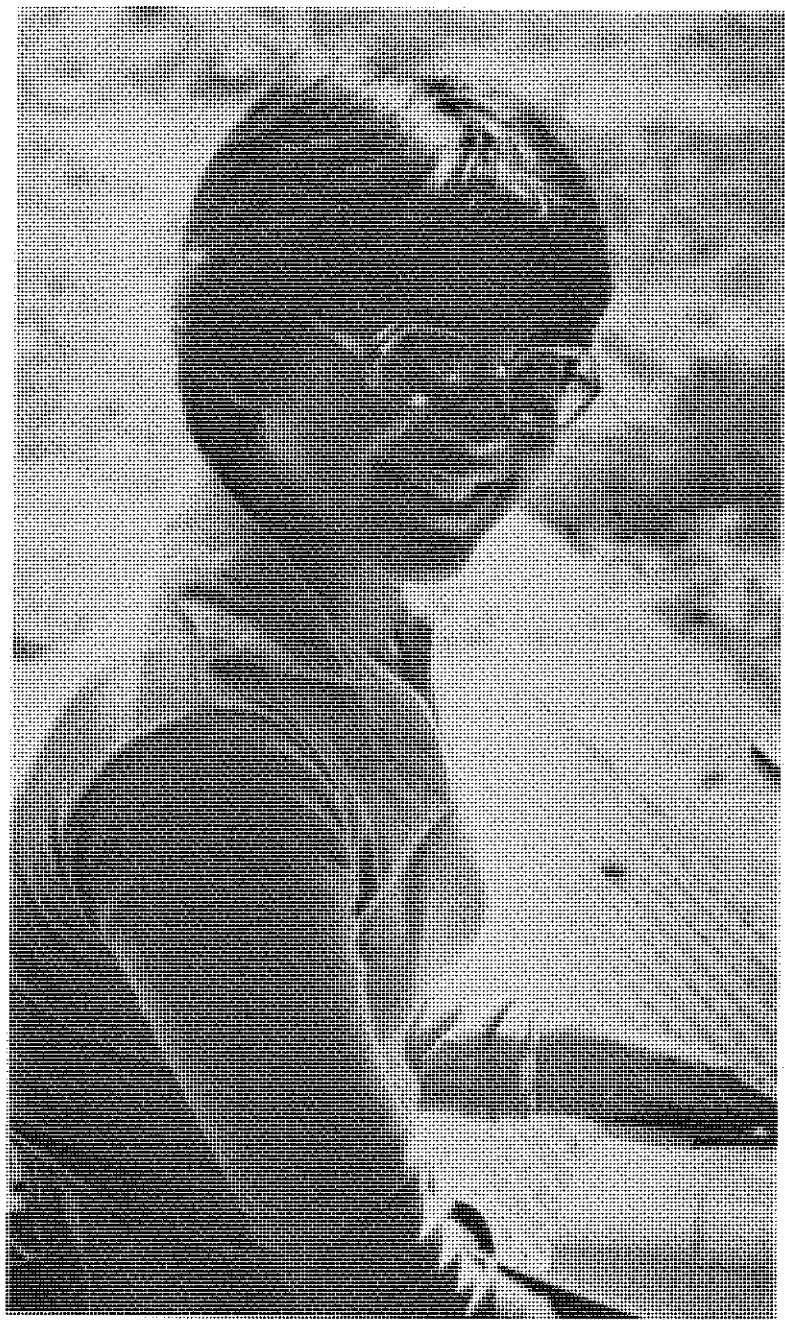
Tuition and Fees*

All tuition and fees must be paid at time of registration. The student who does not have full payment should contact the Financial Aids Office before beginning registration.

Tuition, Resident Students

Per credit hour	\$8.50
Average Tuition per term (15 hours)	\$127.50





1976-78 Catalog Lansing Community College

Tuition, Non-Resident

Per credit hour	\$14.50
Average Tuition per term (15 hours)	\$217.50

Tuition, Out of State Students

Charged per credit hour	\$24.00
Average Tuition per term (15 hours)	\$360.00

Tuition for apprenticeship students varies according to the program of study.

Fees, all students

Application fee (new and transfer students)	\$10.00
Registration fee (guest)	\$ 5.00

College activities fee (each term)

1-6 credit hours	\$ 1.00
7-11 credit hours	\$ 3.00
12 or more credit hours	\$ 5.00

Summer term (all students) \$ 1.00

All tuition and fees must be paid at time of registration. Students who do not have full payment should contact the Financial Aids Office before beginning registration.

Tuition Refund Policy (All 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

Refer to the current term schedule of courses for refund dates.

No refund other than one based on mathematical error will be given to a student for discrepancies in tuition after the end of the term in which the discrepancy occurred.

*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.

System of Grades

The following system of symbols is used at Lansing Community College to evaluate the work of the student.

- A--Grade given to indicate distinct superiority in course work.
- B--Grade given to indicate better than average achievement but lacking distinct superiority.
- C--Grade given to indicated below average achievement.
- D--Grade given to indicate below average achievement.
- F--Grade given to indicate insufficient achievement.



- I— Incomplete. A grade given only when for good cause, the student has been unable to complete the required work of a course. 'I' grades will remain as 'I' until the student has satisfactorily completed his work. It will be the responsibility of the student receiving an 'I' to consult with his instructor regarding the completion of his work. The student must satisfactorily complete his work before the closing date of the next term of attendance. 'I' grades will not be counted toward the establishment of an earned grade point average (GPA) or toward graduation from the College.
- N— Given to indicate withdrawal passing from a course. Nothing is shown on the academic record for any student who withdraws officially from a class any time up to and including the last day of the fourth week of the term. On a complete withdrawal from the College, the official drop date will be posted to the academic record. A student withdrawing officially from a class after the end of the fourth week will be given a grade of "N" or "F" depending on the quality of his work at the time of withdrawal, as determined by the instructor.
- P— Represents satisfactory performance.
- X— Audit.
- Z— No credit granted.
- R— Returning to course, no credit granted, for "open lab" courses only.

Honor Points

Grade point averages are determined on the following basis:

A—4, B—3, C—2, D—1, F—0, N—0, P—0, X—0.

Thus a student who earned 5 hours of A, 5 hours of B, and 5 hours of C would have a total of 45 honor points. The 45 points divided by 15 credit hours results in a grade point average of 3.00.

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, but the figures will not be averaged in the cumulative totals. In the event that the second time through a repeated course is less successful than the initial time, the student may petition the Registrar to utilize the initial grade for the cumulative average rather than the second grade. It will be the responsibility of the student to submit such a petition to the Office of the Registrar. The privilege of option will be retroactive to all previous terms.

Probation

A student whose achievement is below a 2.00 average on a term or cumulative basis is subject to scholastic action of probation or withdrawal by the College. A student may be warned, placed on probation, or asked to withdraw from the College if his work is unsatisfactory.

A table for determining a student's academic status at Lansing Community College is published and available from the Student Records Office of the College; and may be found in the Lansing Community College Student Guidebook.

It is recommended that a student whose achievement is below a 2.00 average limit the number of credit hours of work until he has improved his academic record.

Term Grade Reports

An academic report will be issued approximately one week after the close of each term. A mid-term progress report will be mailed to the student during the sixth week of the fall term. The grade report will be withheld if the student does not have all credentials on file in the College office, or if he has not fulfilled all financial obligations to the College.

Examinations

Students are required to take examinations at the appointed time and place in order to receive credit for a course. An examination taken at any other time than that officially scheduled is a "special examination" and the student must make the necessary arrangements with his instructor to have it administered.

Course Numbers

001-099 Courses indicate offerings which are not designed to be used in meeting requirements for an Associate Degree or for transfer to another college.

100-299 Courses are those designed to meet the requirements for an Associate Degree at Lansing Community College or as freshman and sophomore transfer courses to another college or a university.

COURSE DESCRIPTIONS

Throughout the catalog, there are course descriptions that are followed by digits with parenthesis; for example 5 (5-0). The first digit (in this case, 5) refers to the number of credits for the course, the second digit (5) refers to the number of hours per week for lecture/discussion, the third digit (0) refers to the number of laboratory hours per week.

COURSE AND DEPARTMENT CODES

Division of Student Personnel Services

- AS Aerospace Studies - ROTC
- GER Gerontology
- MS Military Science -- ROTC
- PE Physical Education
- SD Student Development

Division of Learning Resources

- BRD Broadcasting
- LT Library Technology
- MRT Media, Radio, Television
- PHO Photography

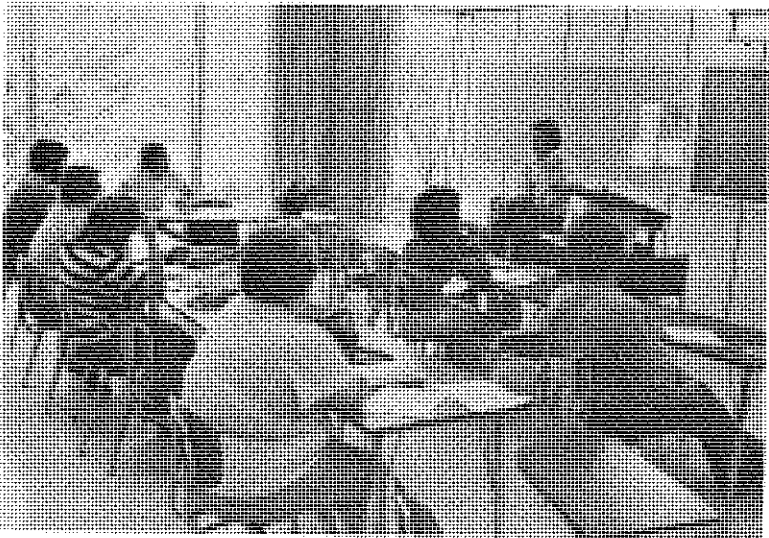


Division of Arts and Sciences

ANT	Anatomy and Physiology	MTH	Mathematics
AST	Astronomy	NS	Natural Science
BIO	Biology	OCN	Oceanology
CEM	Chemistry	PHL	Philosophy
COM	Composition	PHY	Physics
ED	Education	PLS	Political Science
ENG	English	PS	Public Service
FC	Foundations of Conservation	PSY	Psychology
FRN	French	RDG	Reading
GE	Geology	REL	Religion
GEO	Geography	SA	Sociology and Anthropology
HST	History	SC	Science
HUM	Humanities	SPH	Speech
JRN	Journalism	SPN	Spanish
MET	Meteorology	SS	Social Science
MIC	Microbiology	SW	Social Work

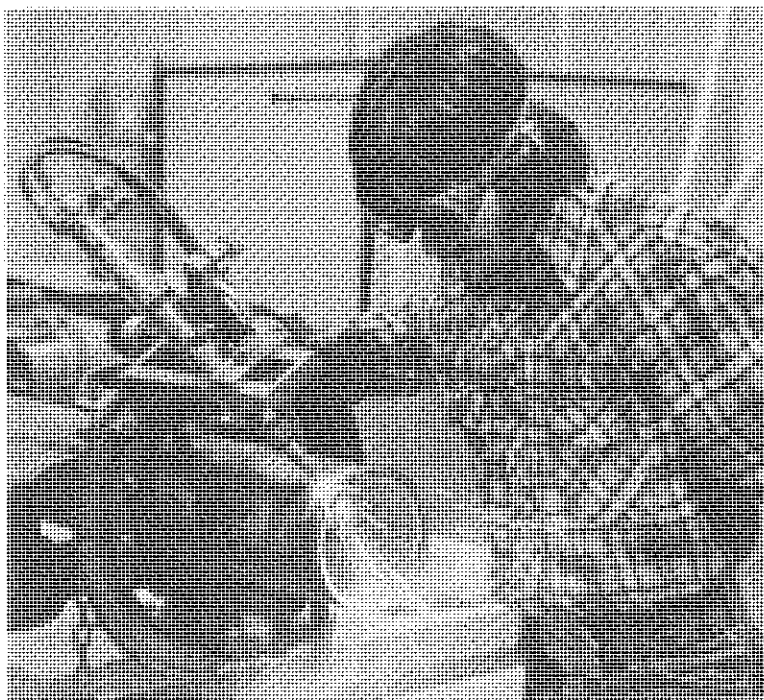
Division of Business

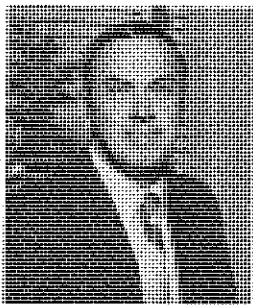
ACC	Accounting	HMF	Hotel Motel Food
AIB	American Institute of Banking	INS	Insurance
BUS	Business	LAW	Law
CCR	Court Conference	LUT	Life Underwriters Training
CLU	Certified Life Underwriter	LE	Law Enforcement
DP	Data Processing	MGT	Management
EC	Economics		



Division of Applied Arts and Sciences

AFT	Aviation Flight Technology	ET	Electronics Technology
ART	Art	FST	Fire Science
AT	Architectural Technology	HAC	Heating and Air Conditioning
ATG	Applied Technology - General	HC	Health Careers
ATR	Applied Technology	IT	Inhalation Therapy
ATS	Applied Technology - Seminar	LS	Labor Studies
AUT	Automotive	MT	Mechanical Technology
BTA	Building Trades Apprentice	MUS	Music
BTR	Building Trades Related	NUR	Nursing
CHC	Continuing Health Careers	PN	Practical Nursing
CT	Civil Technology	RTV	Radio TV Performing
CYT	Cytotechnology	RXT	Radiologic Technology
DA	Dental Assistant	SAF	Safety
DH	Dental Hygiene	ST	Systems
DNC	Dance	TEC	Technology General
DT	Drafting Technology	THR	Theater
EM	Electro Mechanics	TT	Transportation
EMT	Emergency Medical Technician	WLD	Welding
EST	Emergency Services Technician		



*Department of Student Development Services**Chairperson:* Dr. John H. Cansfield

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 Department coordinates the advisor-advisee system in the College. Faculty advisors help students answer questions, assist in the selection of appropriate courses and review academic progress.

Counseling Services

A staff of professionally trained counselors assist 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 students anticipate transfer. Curricular guides are prepared for students indicating transfer requirements in their chosen curriculums. Representatives of colleges and universities visit the Lansing Community College campus for the purpose of discussing transfer requirements with students. Follow-up of transfer students is also part of the College transfer program.

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 the five Counseling Service areas and in several library locations.

Learning and Career Center for Women

The Learning and Career Center for Women exists to assist women in their educational ventures and to provide support and direction in times of transition. Through the Center, women can receive academic counseling, financial aid assistance, vocational testing, and information about resources available to them at L.C.C. and in the Lansing community. The Learning and Career Center for Women offers a variety of classes and seminars for personal growth, skill training and enrichment.

Orientation

Lansing Community College tries to help the student become an integral part of the College and to become acquainted with its philosophy, facilities and opportunities. Each new Lansing Community College student may take part in a program providing information and aid in program selection at the time of registration.

Student Development Center

The Student Development Center has been established to offer assistance to disadvantaged students and racial minorities. The Center provides assistance in testing, curriculum choices, occupational development, financial aid, tutorial services, counseling and guidance, job placement, work-study placement and social or emotional problems which may interfere with the student's successful academic experience.

As part of community outreach efforts, the Center works with community agencies to encourage Latinos, Blacks, and Native Americans to pursue educational and training programs at Lansing Community College.



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 requests 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 Student Development Center to assist students in the realization of their academic goals. Peer tutors provide help outside the classroom in mathematics, 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.

COURSES OFFERED BY THE DEPARTMENT OF STUDENT DEVELOPMENT SERVICES (SD)

106 Success in Higher Education Two credits

An orientation to the services available at Lansing Community College to assist students in identifying personal and academic requirements for success in higher education.

115 Unmarried Male Two credits

Study of the assumed male role in today's society, interpersonal relationships, establishing and maintaining individual roles, and adjusting to social changes as they relate to individual established roles.

121 Human Potential Seminar One credit

Professional counselors help each group member identify past and present achievements which suggest the presence of strengths and potential. The ultimate goal is realization of one's potential through greater self-determination.

123 Group Encounter One credit

Professional counselors explore listening to others and expressing feelings honestly and accurately. Includes practice exercises in listening and speaking within a group setting. Designed as a personal growth experience; not viewed as a therapy group.

124 Techniques of Study One credit

Develops effective study habits by taking a look at behavior that interferes with successful classroom performance. A valuable aid for beginning college level work. Weekly discussions focus on: how to take examinations, note-taking, writing papers, reading improvement, and use of the library.



125 Career Planning **Two credits**

A group counseling process to help students relate their values, life goals, interests, and skills to job areas. Students investigate jobs by research and interviews, and make decisions on future courses of action.

126 Self Defeating Behavior Elimination **Two credits**

A behavioral change program in self-awareness. Students are shown that self defeating behavior, such as nervousness, smoking and inferiority feelings, is behavior we choose ourselves. Through awareness, we find that positive, constructive choices can be made.

127 Job Search Techniques **One credit**

Aids students in securing the jobs they are applying for. Covers filling out applications; writing resumes and cover letters; interviews, and other techniques to use in seeking employment.

128 Relaxation Training **Two credits**

Participants learn to locate tension areas in their bodies and to relax those areas in order to reduce insomnia, relieve nervous headaches, reduce nervous habits, increase ability to concentrate, increase mental efficiency and energy, and reduce neuromuscular tension.

129 Assertiveness Training for Men **Two credits**

Assertive behavior is behavior in which a person stands up for personal rights in such a way that the rights of others are not violated. The student identifies to basic interpersonal rights, and develops and practices assertive skills.

140 Marriage Preparation **Two credits**

Designed for people anticipating marriage or long-term relationships, and married people who want to become more aware of themselves and each other. Improves listening and communicating skills, and develops skills in resolving conflict and solving problems. Explores and clarifies one's values. Budgeting, sexuality and role expectation also explored.

141 Focus on Change **One credit**

Widens women's horizons in cultural and leisure-time activities, and civic, scholastic and career opportunities. Includes topics dealing with personal enrichment, values clarification, increased self-awareness, and others.

146 Focus on Values **Two credits**

Comprised of a non-judgmental series of thought-provoking exercises and discussions on value clarification. Focuses on how choices are made, helps individuals clarify their own values, and assists them in exploring new options.

156 Focus on Transactional Analysis **Three credits**

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

159 The Handy Woman

Two credits

Helps those with limited repair skills learn to perform various maintenance and repair tasks. Tools, plumbing, electrical repairs, painting and home improvement are among the many topics to be covered.

160 Our Bodies, Ourselves - Women's Health

Two credits

Helps today's woman understand her health care, health problems, and sexuality. A study in awareness and acceptance of our own bodies; self-examination; rape and self-defense; myths and realities of menopause; women, alcohol and drugs; and guidelines for improving health.

161 Assertiveness Training for Women

Two credits

Assertive behavior is behavior in which a person stands up for personal rights in such a way that the rights of others are not violated. Helps the student identify and accept basic interpersonal rights, and develop and practice assertive skills.

164 Women and Politics

One credit

Develops an understanding of the role women have played in the American political process, how the process works at state and local level, and a survey of tools to help those who seek effective participation in government.

165 Brown Bag Lunch for Women

One credit

A lunch-hour series offered for optional credit. Women may bring a "brown bag" lunch, then watch a motivational or personal enrichment film, with discussion following. Topics vary each term.

220 Parent-Child Communication

Two credits

Shows alternatives in communicating with one's children, listening to youth, learning to identify the parents' problems, resolving conflicts, and making the family relationship richer and more joyful. Open to men and women.



- 224 Small Group Leadership Training** **Two credits**
Develops skills in facilitating group interaction and observing and analyzing group dynamics. Participants learn by doing, using the class as the group model.
- 226 Career Exploration for Women** **Two credits**
Emphasizes self-exploration and methods of increasing knowledge about career opportunities. Shows identification of personal interests, life values, and present skills, and how to relate them to career options (whether paid or volunteer); and teaches career decision-making processes.
- 227 T.A. for Single Parents** **Three credits**
Examines parent and child transactions and ways to resolve conflict using Transactional Analysis. Emphasis will be on learning to nurture ourselves and our children.
- 229 Issues and Values in Human Sexuality** **Two credits**
Explores personal feelings and beliefs related to human sexuality, with emphasis on sexuality as a function of the total personality. Includes physiology, gender roles, psycho-sexual development, premarital and extra-marital behavior, public issues, and alternative life styles.
- 230 Women's Search for Meaning** **One credit**
"Who am I? What do I want to do with my life?" Class explores personal strengths and possibilities for growth, develops self-understanding and self-acceptance.
- 232 Early American Women** **Two credits**
Through films and discussion, explores the lives and routines of early American women, the life of the homemaker, women of the White House, women of Michigan, early crafts and other topics.
- 233 Man's Changing Role** **Two credits**
This seminar is designed for men who wish to examine the changing roles of women and men in our society, and to explore how that affects them. This will be an opportunity to clarify and share one's own attitudes and beliefs toward male and female roles.
- 234 Images of Women in the Media** **One credit**
An in-depth survey of the media (T. V. and radio, newspapers, films, advertising), examining sex-role stereotyping by the mass media and a look at the status of women employed in these fields. Guest speakers will be women employed in the local media.
- 235 Women/Making It On Your Own** **Two credits**
Designed for women who are in transition from dependency on others to being responsible for their own lives. Special attention given to the concerns of women moving from a married to a single state through divorce, separation or death. Students will have the opportunity to share concerns, increase self-awareness and develop skills.

236 Self Protect Women**Two credits**

A primary focus is the individual's response to the attitudes and myths surrounding rape. Included will be such topics as the police and the rape victim and a look at the court system in which the rape victim must survive. An overview of self protection skills will also be provided.

296, 297, 298, 299 Independent Study**Variable credit**

There are many opportunities for community service projects in the Lansing area. The Student Development Services Department offers students an opportunity to earn credit by participating in individually designed service projects. The student will work closely with one of the faculty members in the department to describe his individual project and to define techniques for carrying out and evaluating the project. These projects may involve volunteer work with individuals or groups at Lansing Community College or with community agencies. Stress will be on developing a positive self-concept while helping others. Credits variable (one to four).

STUDENT FINANCIAL AIDS, PLACEMENT AND VETERAN'S SERVICES

Director: Neil G. Shriner

**Financial Aid**

Student financial assistance may be awarded to students in the form of scholarships, grants, loans, and part-time employment. Most financial assistance is awarded to students on a basis of need as determined by a Federal Basic Educational Opportunity Grant Application and a Lansing Community College Financial Aid application.

How to Apply

To apply for financial assistance, obtain a Federal Basic Educational Opportunity Grant application and a Lansing Community College Financial Aid application from the College Financial Aid Office or High School Counseling Office, complete and return the LCC Financial Aid application to: Lansing Community College, Financial Aids Office, P.O. Box 40010, 419 N. Capitol Avenue, Lansing, MI 48901, and send the BEOG application according to the instructions in the application. A Basic Grant Student Eligibility Report (S.E.R.) will be returned to the student's address, and must then be presented to the Financial Aid Office whether the student qualifies or does not qualify for a Basic Grant, in order for the College to consider the student for other financial assistance. In addition, a student may apply separately for a Board of Trustee Divisional Scholarship by contacting the various Divisions of the College: Division of Arts and Sciences Honors Program, Business Division, Applied Arts and Sciences Division, Division of Learning Resources and the Athletic Department Scholarships.

When to Apply

Financial Aid funds are limited; therefore, it is to the student's advantage to make advanced application for financial aid. It is recommended that a student apply by the 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.

Types of Financial Assistance

Lansing Community College participates in all Federal and State Financial Aid Programs for which it is eligible, in addition to College and private foundations and local financial aid programs. Students may be considered for some of the following types of financial assistance:

- Federal Basic Educational Opportunity Grant
- National Direct Student Loan
- Federal College Work Study
- College Student Aid Employment Program
- Supplemental Educational Opportunity Grant
- Nursing Loans or Scholarships
- Board of Trustees Scholarships or Grants
- Greater Lansing Foundation Scholarship
- Hinman Foundation Grant
- Whitely Foundation Scholarships
- Ukranian Scholarships
- Learning and Career Center Scholarship
- Senior Adult Opportunity Award
- Hotel-Motel-Restaurant Management Scholarships
- Aviation Program Scholarships or Loans
- John M. Sebesion Science Scholarships
- Short-Term Loans
- Other Local Financial Aid Sources

On June 28, 1976, the Lansing Community College Board of Trustees adopted the following resolution:

RESOLUTION

WHEREAS, Title IX of the Educational Amendments of the United States Congress of 1972 specifically states, "no person in the United States shall on the basis of sex be excluded from participation in, be denied the benefits of, or be subjected to discrimination, under any educational program or activity receiving federal financial assistance. . . ." with certain exceptions.

NOW THEREFORE, it shall be the policy of Lansing Community College to fully comply with Title IX under guidelines adopted by the Department of Health, Education, and Welfare and approved by the President of the United States and the United States Congress.

1976-78 Catalog Lansing Community College

CAREER PLANNING AND PLACEMENT CENTER

Employment Placement

Placement services are available to all students for either part-time 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, VT 111.

Interviews

Employers may interview on campus. Students in their last term and graduates can sign up for interviews with these organizations. Interviews will be publicized through the campus with expected qualifications that person wanting to interview must have. Qualified persons may sign up for interviews in the Career Planning and Placement Center.

Information Services

The Career Planning and Placement Center will aid students in job search techniques, resume, introduction letter and aspects of employment needs. The Library Resource Center is located next to the Career Planning and Placement Center with appropriate information.

Career Planning

For students who need help in choosing a career, the center offers testing, counseling, and occupational information. Career Planning classes also offer students the chance to participate in group interaction regarding their strengths and goals related to careers.

Audio visual devices are available at any time to take students through the steps necessary to selecting a career.

Counselors in SPS and A & S are also available to help with career planning.

Veterans

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

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

The V.A. 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. Once the veteran's application is approved and the award processed, monthly checks will be issued if the veteran is prompt in submitting to the V. A. the signed certificate attesting to class attendance.

Advance Payment

New student veterans and students wishing advance payment should apply at the Veterans Services Office at least five (5) weeks prior to the starting of a term.

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

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

After enrollment, veterans should direct their inquiries concerning eligibility to the Office of Veterans Services in the Student Personnel Services Section.

Servicemen's Opportunity College

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

Housing

Lansing Community College maintains no housing units for students, but it does make available a list of suitable living quarters. The College assists students by maintaining this list of non-discriminatory housing opportunities in the community. The housing file is available at the Financial Aids office.

STUDENT ACTIVITIES

Director: Wilham Zuhl



Student activities at Lansing Community College are widely varied, providing social, cultural and recreational programs to help the student enrich his/her free time, and to complement his/her 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 1976-78 Catalog Lansing Community College

Lansing Symphony, the Boarshead Players, the Town Hall Speakers Series, 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.

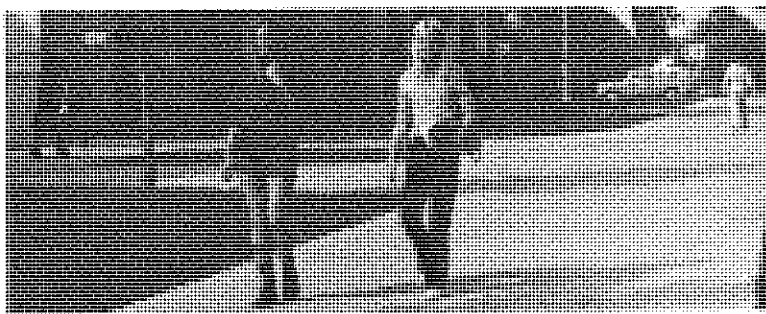
A number of trips are sponsored by Student Activities, including theater trips to the Shakespearean Festivals in Stratford, Canada. Trips have been sponsored to New York City on an annual basis, giving students an opportunity to see not only the theater, but many of the other cultural aspects of the big city. Trips to Chicago, New Orleans, San Francisco, Williamsburg and other cities of interest are planned annually out of the Student Activities Office. 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

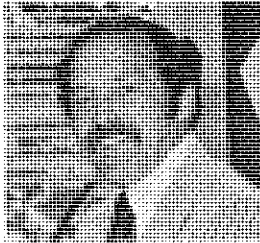
The Lookout is the bi-weekly College newspaper. Paid student editors, under the supervision of a professional, provide campus coverage and publish information of general interest to the campus community. Volunteer student reporters are welcomed.

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.

Department of Physical Education and Athletics

Director: Walter B. Lingo



PHYSICAL EDUCATION

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 throughout his/her 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 eight areas:

- | | |
|-------------------------------|-----------------------------------|
| 1. Fundamentals | 5. Team Sports |
| 2. Aquatics | 6. Combatives and Weight Training |
| 3. Individual and Dual Sports | 7. Rhythmic |
| 4. Gymnastics | 8. Recreation |

COURSE DESCRIPTIONS

Physical Education (PE)

101 Fundamentals of Physical Education—Male **Two credits**

To provide an understanding of the physiology of physical fitness, this class teaches the HOW and WHY aspects of physical fitness. 2(1-2)

102 Fundamentals of Physical Education—Female **Two credits**

See PE 101 Fundamentals of Physical Education—Male, 2(1-2)

103 First Aid—Coed **Three credits**

Provides elementary first aid procedures and upon successful completion earns individuals Red Cross certification. 3(0-3)

110 Leisure Man—Coed **Two credits**

To offer awareness, preparation and knowledge of the importance of well-planned leisure time for the individual by examining present day situations, acquiring an understanding of man's nature, and defining recreation. 2 (2-0)

112 Health—Coed **Two credits**

The course will survey selected contemporary health issues, such as, human sexuality, drug abuse, weight control, etc. 3(3-0)

- 114 Individual Fitness—Coed** **One credit**
 This course is designed to acquaint the students with the Aerobics program and provide the individual with a conditioning program for his needs. 1(0-2)
- 115 Professional Orientation—Coed** **One credit**
 This overview of physical education is for prospective physical education majors. 1(1-0)
- 201 Independent Study—Coed** **One credit**
 Designed to provide individual study on a prescribed topic in coordination with and assigned faculty member. 1
- 202 Independent Study—Coed** **Two credits**
 See PE 201 Independent Study—Coed. 2
- 203 Independent Study—Coed** **Three credits**
 See PE 201 Independent Study—Coed. 3

Aquatics

- 120 Beginning Swimming—Coed** **One credit**
 Instruction in the basic fundamentals and techniques of swimming, with emphasis on water adjustment, basic strokes, breathing, survival, and diving skill. 1(0-2)
- 121 Intermediate Swimming—Coed** **One credit**
 Instruction in the various strokes and skills required to become a competent swimmer. Emphasis on review of basic fundamentals, with endurance work to prepare students for advanced levels of watermanship; for example, Senior Life-saving. 1(0-2)
- 122 Synchronized Swimming—Female** **One credit**
 Encompasses fundamental strokes, and elementary, intermediate, and advanced stunts. Routines are composed and performed in class. 1 (0-2)
- 123 Skin Diving—Coed** **One credit**
 Introduces basic skills and knowledge, including use of masks, fins, and snorkel. 1 (0-2)
- 124 Scuba Diving—Coed** **One credit**
 Those students who successfully fulfill all components of the course will receive national certification. 1(1-1)
- 220 Swimming—Life Saving—Coed** **One credit**
 Red Cross and YMCA certification is awarded upon successful completion of the course. 1(0-2)
- 221 Water Safety Instructor—Coed** **One credit**
 Instruction in all phases of the Red Cross aquatic program, with emphasis on personal skills, knowledge and teaching ability for Red Cross lifesaving and water safety courses. 1(0-2)

Student Personnel Services

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222 Lifeguard Training—Coed

One credit

Covers all aspects of the skills and responsibilities needed by the lifeguard to ensure the health and safety of aquatic program participants. 1(0-2)

Individual and Dual Sports

130 Beginning Archery—Coed

One credit

Instruction in fundamentals, techniques, rules and care of equipment. Introduces elements of tournament shooting, novelty shooting, and competition. 1 (0-2)

230 Advanced Archery—Coed

One credit

Improvement and refinement of skills presented in PE 130 Beginning Archery. 1 (0-2)

131 Badminton—Coed

One credit

History, rules and etiquette of the game. Students will learn the proper use of the equipment, fundamental skills, and game strategy. 1 (0-2)

132 Ice Skating—Coed

One credit

Introduction to the healthful, life-long activity of skating. 1 (0-2)

232 Advanced Ice Skating—Coed

One credit

Refinement and improvement of skills presented in PE 132 Ice Skating. 1 (0-2)

133 Figure Skating—Coed

One credit

Basic and intermediate skating skills are presented to enable the student to compose and present simple routines. 1 (0-2)

233 Advanced Figure Skating—Coed

One credit

Refinement and improvement skills presented in PE 133 Figure Skating. 1 (0-2)

134 Beginning Bowling—Coed

One credit

Stresses the basic skills of bowling with progress toward proficiency. Scoring skills are also covered. 1 (0-2)

135 Cross Country—Male

One credit

Instruction in jogging or running, dependent on the physical fitness of student. Emphasizes development of training schedules for individuals. 1 (0-2)

136 Beginning Golf—Coed

One credit

Golf strokes, rules, and etiquette for beginners. Course work includes experience on the driving range and golf course. 1 (0-2)

236 Intermediate Golf—Coed

One credit

Refinement and improvement of the skills presented in PE 136 Beginning Golf with emphasis on correcting the individual's particular problem(s). 1 (0-2)

336 Advanced Golf—Coed

One credit

A thorough study of the U.S.G.A. Rules of Golf. 1 (0-2)

- 137 Pool/Billiards—Coed** **One credit**
Covers history, rules, and fundamentals, with emphasis on practice drill, positioning of cue ball, and variations of the game of pocket billiards. 1 (0-2)
- 237 Advanced Billiards—Coed** **One credit**
Refinement and improvement of skills presented in PE 137 Pool/Billiards. 1 (0-2)
- 138 Beginning Skiing—Coed** **One credit**
Basic fundamentals and techniques of skiing, with individual instruction, emphasizing personal safety, skiing history, physics, and terminology. 1 (0-2)
- 238 Advanced Skiing—Coed** **One credit**
Refinement and improvement of skills presented in PE 138 Beginning Skiing. 1 (0-2)
- 139 Beginning Tennis—Coed** **One credit**
The basic skills of tennis, including the serve, the forehand, and backhand strokes. Students also will learn the rules and strategy of the game. 1 (0-2)
- 239 Intermediate Tennis—Coed** **One credit**
Continuation of skills presented in PE 139 Beginning Tennis. 1 (0-2)
- 339 Advanced Tennis—Coed** **One credit**
Refines the skills of service, forehand and backhand strokes, and game strategy. 1 (0-2)
- 140 Track/Field—Coed** **One credit**
Techniques, and execution of the sport. This survey course covers the different events, and requires a reasonable amount of theoretical knowledge and practical execution. 1 (0-2)
- 141 Yoga—Coed** **One credit**
An introduction to the philosophy and positions of yoga. 1 (0-2)
- 241 Advanced Yoga—Coed** **One credit**
A continuation course of PE 141 Yoga. 1 (0-2)
- 142 Bicycling—Coed** **One credit**
Acquaints students with the physical fitness value of bicycling and offers information which will give greater fulfillment to the bicyclist. 1 (0-2)
- 143 Jogging—Coed** **One credit**
Exposes student to the values of fitness offered by jogging. 1 (0-2)
- 144 Handball—Coed** **One credit**
The history, terminology, rules, and fundamentals will be covered as well as etiquette, strategy, and basic shots. 1 (0-2)
- 146 Racquetball—Coed** **One credit**
The history, terminology, rules, and fundamentals will be covered as well as etiquette, strategy, and basic shots. 1 (0-2)

Student Personnel Services

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- 147 Cross Country Skiing—Coed** **One credit**
Introduction to the basic skills of cross country skiing. Includes skiing on the flat, uphill and downhill techniques. Also includes equipment, waxing, touring, and basic safety. 1 (0-2)
- 148 Roller Skating—Coed** **One credit**
Introduction to the basic skills. 1 (2-0)
- 149 Table Tennis—Coed** **One credit**
Beginning classes cover the serve, volley, skills, rules, and strategy. 1 (0-2)

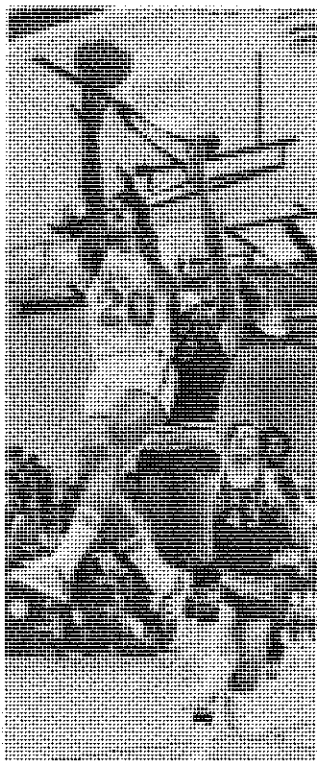
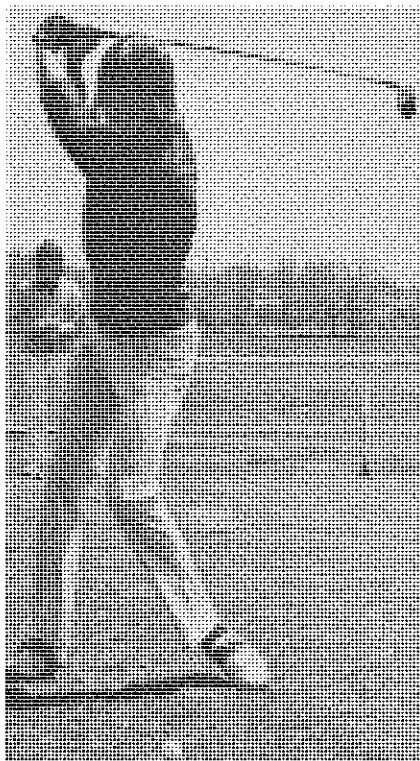
Gymnastics

- 150 Beginning Gymnastics—Male** **One credit**
Presents an introduction to the fundamentals of stunts, apparatus, and tumbling. 1 (0-2)
- 151 Beginning Gymnastics—Female** **One credit**
See PE 150 Beginning Gymnastics—Male. 1 (0-2)
- 250 Advanced Gymnastics—Male** **One credit**
Continuation of basic gymnastics stressing more specific skills, developing into routines. Special emphasis is placed upon advanced stunts. 1 (0-2)
- 251 Advanced Gymnastics—Female** **One credit**
See PE 250 Advanced Gymnastics—Male 1 (0-2)

Team Sports

- 160 Basketball—Male** **One credit**
Fundamental skills and rules of the game. Considers the history and development of basketball as a team sport. 1 (0-2)
- 260 Advanced Basketball—Male** **One credit**
Expands the knowledge and improves the ability of those who wish to excel in basketball beyond the beginning level. 1 (0-2)
- 161 Basketball—Female** **One credit**
See PE 160 Basketball—Male. 1 (0-2)
- 261 Advanced Basketball—Female** **One credit**
Expands the knowledge and improves the ability of those who wish to excel in basketball beyond the beginning level. 1 (0-2)
- 162 Soccer—Male** **One credit**
This introduction to the basic skills and techniques involved in the game includes the history, development, rules, and strategy of soccer. 1 (0-2)

- 163 Softball—Coed One credit
Teaches the rules, throwing, catching, fielding, and batting. 1 (0-2)
- 164 Field Hockey—Female One credit
Introduction to the basic skills. 1 (0-2)
- 165 Touch Football—Coed One credit
Covers the history, rules, strategy, and individual techniques of the sport. 1 (0-2)
- 166 Ice Hockey—Male One credit
The course covers fundamentals and includes game strategy and rules. 1 (0-2)
- 168 Volleyball—Coed One credit
Introduces skills, game strategy, history, rules and values of volleyball. 1 (0-2)
- 169 Baseball—Male One credit
Emphasis is on the rules, throwing, catching, fielding, and batting. Refinement and improvement of skills presented in PE 169 Baseball. 1 (0-2)



Combatives and Weight Training

- 170 Fencing—Coed** **One credit**
 Instruction in fundamental techniques and rules in the art of fencing, including care of equipment. 1 (0-2)
- 171 Judo—Coed** **One credit**
 The rules, theory and application of judo both as a sport and for self-defense. Presents the history and principles of judo, as well as techniques of falling, throwing, holding and choking. 1 (0-2)
- 271 Advanced Judo—Coed** **One credit**
 Refinement and improvement of skills presented in PE 171 Judo. 1 (0-2)
- 172 Self Defense—Coed** **One credit**
 This course for the male or female living in an urban society is designed to develop confidence and skills in the art of self-defense through the use of judo techniques. 1 (0-2)
- 173 Weight Training—Male** **One credit**
 Emphasizes the importance of physical fitness as it is achieved through weight training. Instruction includes various training methods, principles, and program designs. 1 (0-2)
- 273 Advanced Weight Training—Male** **One credit**
 Refinement and improvement of skills presented in PE 173 Weight Training. 1(0-2)
- 174 Wrestling—Male** **One credit**
 Teaches the fundamental takedowns and breakdowns; offensive and defensive moves from the standing and the referee's position; pinning holds; escapes, and various combinations of the above. 1 (0-2)
- 272 Advanced Wrestling—Male** **One credit**
 Refinement and improvement of skills presented in PE 174 Wrestling. 1 (0-2)
- 175 Karate—Coed** **One credit**
 Develops skills in punching with fists and hands; kicking with feet and knees, and essential body movement in combat. 1 (0-2)
- 176 Boxing—Male** **One credit**
 The basic skills of offense, defense, and training practices. 1 (0-2)
- 276 Intermediate Boxing—Male** **One credit**
 An extension of Boxing 176 with more ring time and training expected. 1 (0-2)
- 376 Advanced Boxing—Male** **One credit**
 Refinement and improvement of the skills of offense, defense, and training methods. 1 (0-2)

Rhythmic**180 Creative Dance—Female****One credit**

A focus on qualitative, expressive aspects of movement through an introduction to movement technique, methods of abstraction and the elements of composition of simple studies. 1 (0-2)

181 Social/Square Dance—Coed**One credit**

A beginning dance class to present the basic steps and variations of the foxtrot, waltz, tango, cha cha, samba and swing, and the basic skills and patterns used in square dancing. 1 (0-2)

Recreation**190 Hunting—Coed****One credit**

This course is concerned with hunting safety, hunting techniques, knowledge of game laws, and marksmanship. 1 (0-2)

191 Trap-Skeet—Coed**One credit**

Develops, through practice, the skills and knowledge necessary to successfully participate in trap-skeet shooting. 1 (0-2)

192 Basic Angling—Coed**One credit**

Covers fish structure, habits and habitats, tackle and techniques for fly, bait, spin, and ice fishing. Fishing lab sessions are included. 1 (0-2)

193 Chess—Coed**One credit**

An introduction to the game of chess which will include history, rules, recording of games, and play. 1 (0-2)

293 Advanced Chess—Coed**One credit**

Refinement and improvement of the skills presented in PE 193 Chess. 1 (0-2)

194 Bridge—Coed**One credit**

An introduction to the rules and strategy which will permit active participation throughout the course. 1 (0-2)

294 Advanced Bridge—Coed**One credit**

Refinement and improvement of the skills presented in PE 194 Bridge. 1 (0-2)

195 Community Recreation—Coed**One credit**

Provides exposure to the procedures, operations, facilities, and programs of the Lansing Parks and Recreation Department. 1 (1-0)

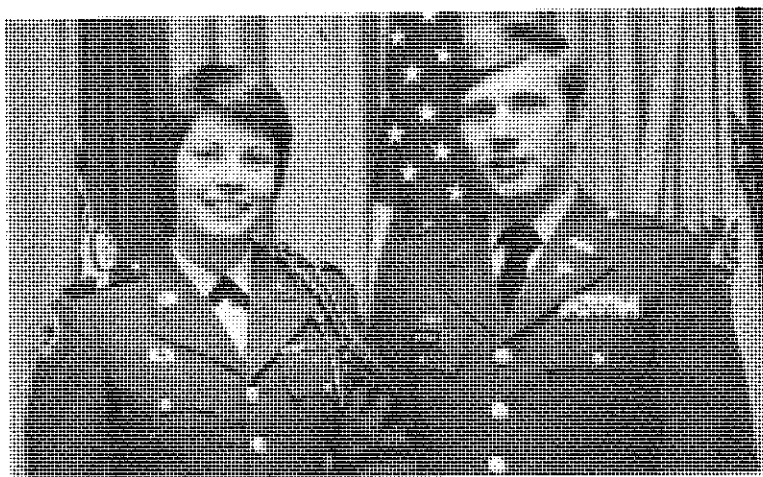
196 Backpacking—Coed**One credit**

Designed to acquaint students with the physical fitness values of backpacking and offer the information that will give them the knowledge of safety and techniques involved in backpacking. 1 (0-2)

- 197 Canoeing-Coed One credit
Basic fundamentals of recreational canoeing and handling. Emphasis is given to general care of equipment, safety factors, canoeing strokes and canoe tripping. Students must know how to swim before enrolling in this course. 1 (0-2)
- 198 Horsemanship-Coed One credit
Beginning level introduction to the required skills and knowledge required to participate fulfillingly in horseback riding. 1 (0-2)
- 298 Intermediate Horsemanship-Coed Two credits
Refinement and improvement of the skills presented in PE 198. 2 (0-2)
- 398 Advanced Horsemanship-Coed Two credits
Refinement and improvement of the skills presented in PE 198. 2 (0-2)
- 290 Backgammon-Coed One credit
Introduction to the game of Backgammon including rules and strategy. 1 (0-2)
- 291 Orienteering-Coed One credit
This course will introduce basic compass, map reading, and land navigation skills. 1 (0-2)
- 292 Basic Mountaineering-Coed One credit
Covers climbing technique, equipment, food, survival, rescue, and medicine. 1 (0-2)

ARMY-ROTC

Military Science



MILITARY SCIENCE courses at Lansing Community College provide the first two years of the four year Army ROTC program leading to a commission as a Second Lieutenant in the United States Army, Army Reserve or National Guard. Military Science credits can be transferred to any of over 270 colleges and universities which offer army ROTC. LCC's military science credits are also transferable to Air Force ROTC and transferable in part to Navy ROTC. Students successfully completing the described courses are eligible to apply for admission to the ROTC Advanced Course (last two years) at any of the colleges and universities offering the Program. Participants in LCC's Military Science courses incur no military obligation. Students successfully completing these courses and volunteering for the ROTC Advanced Course incur a three year active duty obligation.

Scholarships covering full tuition, books and fees plus \$100.00 a month are available on a competitive basis.

Military Science is neither a major nor a minor and fits into the elective credit of most academic programs. All freshman courses will be taught on the LCC campus. Sophomore courses, while registered for at LCC, may be taught on the Michigan State University campus. Compression of required courses into one year is possible, if necessary, by departmental approval.

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

	FALL	WINTER	SPRING
Freshman	MS 121 Preview of Military Science 1 credit	PLS 271 International Relations 3 credits MS 141, Lab 1 credit	MS 142 Lab 1 credit
Sophomore	MS 143 Military History of U. S. 3 credits Lab 1 credit	MS 223 Terrain Analysis and Land Navigation 3 credits	MS 122 Marksmanship and Hunter Safety 1 credit

COURSE DESCRIPTIONS ARMY ROTC

Military Science (MS)

- 121 Preview of Military Science** **Fall and Winter Terms** **One credit**
 Role of the ROTC officer in the Army. Assists the student in planning a curriculum to satisfy requirements for a commission. Prerequisite: Departmental approval. 1 (1-0)
- 122 Marksmanship and Hunter Safety** **Spring Term** **One credit**
 Small arms marksmanship and safety. Practical exercises on local firing ranges. Individual basic marksmanship and the skills necessary to participate in a competitive or recreational shooting program. Prerequisite: Departmental approval. 1 (0-3)
- 223 Terrain Analysis and Land Navigation** **Winter Term** **Three credits**
 Military maps, map construction, specifications and uses. Includes both a study of aerial photographs and an introduction to remote energy sensors employed by defense agencies as they relate to tactical operations. Prerequisite: Departmental approval. 3 (3-0)
- 141 Military Science Lab** **Winter Term** **One credit**
 Introduction to practical aspects of the Army through lectures, discussions, practical exercises and films. It includes customs and courtesies of the service, drill, leadership techniques and tactics. Prerequisite: Departmental approval. 1 (0-1)
- 142 Military Science Lab** **Spring Term** **One credit**
 Development of leadership at the squad level. Basic introduction to tactics. Practical exercises in drill and command. Prerequisite: Departmental approval. 1 (0-1)
- 143 Military Science Lab** **Fall Term** **One credit**
 Taken in conjunction with Military History of the U.S. The course examines the principles of war and the tactical aspects of battles from American military history. 1 (0-1)

Air Force ROTC Program

Aerospace Studies

The Air Force program is divided into a General Military Course (GMC) of two years and a Professional Officers Course (POC) also of two years at any one of approximately 156 4-year colleges and universities including Michigan State University. Successful completion of the General Military Course is normally a prerequisite for the Professional Officers Course.

Those desiring Air Force commissions are advised that selection for the Professional Officers Course is open to students who can qualify. There are limited openings for those who can qualify for flight training after graduation. There are limited openings for all students in non-flying specialties with priorities given to those majoring in engineering, mathematics or the applied sciences.

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 pay the student subsistence of \$100 for each month of the academic year. Three-year and two-year scholarships are available to qualified students who are enrolled in the General Military Course. Scholarship applications are to be made by the end of the fall term preceding the school year the scholarship will become effective.

Scholarships may be activated at two or four-year institutions which offer Air Force ROTC. Lansing Community College is such an institution.

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 purpose 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.



Eligibility for Advanced AFROTC

Successful passing of the SAT or ACT tests and an Air Force officer's physical are prerequisites for admission to the Professional Officers Course. The physical is scheduled by the AFROTC Department at Michigan State University. Other minimum requirements are: 1) must be a U.S. citizen of good moral character, 2) must have successfully completed all six quarters of the General Military Course (however, high school ROTC participation, academy training or active military service may permit a waiver of some or all the basic course), and 3) must be accepted by the Department.

Aerospace Studies

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.

COURSE DESCRIPTIONS AIR FORCE ROTC

Aerospace Studies (AS)

110 Organization of the U.S. Air Force **Fall Term One credit**

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.

111 U.S. Strategic Offensive and Defensive Forces **Winter Term One credit**

Comparison of the missions and functions of specific Air Force commands, including employment of contemporary aerospace equipment and systems, as well as naval strategic offensive forces and army ABM systems.

112 U.S. General Purposes Forces **Spring Term One credit**

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 branches.

210 Aerospace Developments, Kitty Hawk Through World War II **Fall Term One credit**

Development of manned flight through World War II. Trace development of concepts of employment aerospace forces. Investigate factors which have prompted research and technological change.

160 Political Science International Relations **Winter Term Four credits**

Contemporary world affairs surveyed. The struggle for power, the nation-state system; factors creating harmony and hostility among nations. War and peace in our time.



**212 Aerospace Developments,
Post-World War II to Present****Spring Term****One credit**

Aeronautical developments since World War II. Trace development of concepts of employment of aerospace forces. Investigate factors which have prompted research and technological change.

041 Leadership Laboratory**Fall, Winter, Spring Terms****One credit**

Basic concepts of leadership and the role of discipline; leadership development through practical experience. Required when enrolled in any Aerospace Studies Course.

*Gerontology Program***Center for Aging Education***Coordinator:* Ellen Newmyer Sullivan

Established in September 1975, the Center for Aging Education at Lansing Community College offers educational opportunities for older adults, for students whose career plans or current employment may be in the field of gerontology, and for the general public. Located in the Student Personnel Services Division, the gerontology program offers courses, programs and seminars on such topics as pre-retirement planning, senior adult leadership development, introduction to human aging and selected topics in response to expressed community needs and interests.

COURSE DESCRIPTIONS**Gerontology (GER)****100 Introduction to Human Aging****Three credits**

Surveys the field of gerontology, with emphasis on social aspects. Topical areas include demography, physiology, psychology, sociology and economics of aging, and community and government programs.

105 Planning for Retirement**Two credits**

Explores issues in retirement planning including financial matters, legal affairs, physical and mental health, housing choices, employment and volunteer opportunities, community resources and creative use of leisure time.

ADULT AND CONTINUING EDUCATION

In addition to the traditional pattern of on-campus courses available during the day, LCC provides evening and weekend educational opportunities at the campus and at off-campus locations. (See term class schedules and informational literature.) The following programs are designed for the growing needs of the changing and increasingly older student groups:

Capital Area Cooperative Adult Education Program

LCC engages in the conduct of advising, promoting, registration, statistical research, and exchange of information with 30 schools in the college service area, in order to assist in making continuing education accessible to residents of their school districts. Records are accumulated on contact hours for future reference in personal progress, employment, organization, and for advising in college certificate and degree goals. Fees for these programs are determined by local school districts.

With the cooperation of high school and intermediate school offices, LCC courses are scheduled according to interests and enrollments in local areas. Enrollment is open to high school students on a dual-enrollment basis, and to community residents. Courses are usually scheduled for evening hours, and are applicable to certificates and degrees. Seminar, workshop, and especially arranged courses are also conducted upon request to meet area needs. Simplified registration procedures are followed. Regular tuition and fees are applicable. Requests for Extension courses may be channeled through the Adult and Continuing Education office or the applicable department.

Seminar, Workshops, and Individualized Programs

In addition to the traditional on-campus programs and the programs described above, LCC provides a diversified selection of seminars, workshops, independent studies, internships, and work-study arrangements, conducted at a variety of locations by the academic divisions and departments. At the option of the participant, these programs may be taken for college credit, or on an audit—no credit basis if previously arranged. The Adult and Continuing Education office, when contacted, will coordinate the arrangements for persons and organizations interested in special programs for particular needs to meet or talk to the department or person with responsibilities for conduct of the specific programs.

Advising and Counseling for Older Students

Persons who have been out of school, are employed, and have changes in personal situations may contact a variety of LCC offices for advice and counsel on individual interests. General information for continuing education purposes is available from the Adult and Continuing Education office, 373-7187. This office will arrange for the information or appointments needed to answer each personal or group request.

LCC Adult and Continuing Education Office is at 114 Old Central building, 419 North Capitol Avenue. Phone 373-7187.

DIVISION OF LEARNING RESOURCES

Department of
Library Services

Department of
Instructional Media

DIVISION OF LEARNING RESOURCES



Dean James Platte

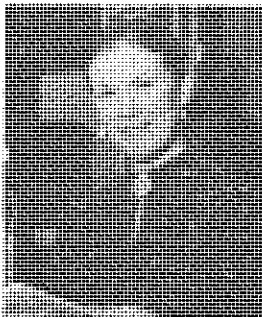
The services of the Division of Learning Resources are designed to meet the information and communication needs of students, faculty, and staff. The resources for these services are provided by the professional and technical staff of the libraries, the media production and distribution centers, the planetarium/multi-media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

The goals 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 provides 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 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 institutional research and college-wide professional development, and by meeting professional information needs through the college archives, professional development literature and administrative reference services.
5. To provide technical training in Certificate and/or Associate Degree programs in Library Media Technology, Media-Radio-Television, and Photography/Film Making.

Department of Library Services

Chairperson: Ellen Person



The department of Library Services has three service centers: the main Learning Resource Center in the Division of Arts and Science Building (AS) the Dwight Rich Learning Resource Center in Old Central (OC) and a third library in the new Vocational-Technical Building (VT). These centers offer students and faculty opportunities to use a book collection of over 65,000 items as well as 675 magazine subscriptions. 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 (AS); 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.

Most print and non-print resources are arranged in Dewey Decimal Classification order on open shelves in each library. The three-way divided card catalogs in each center index material by authors, by titles, and by subjects. Magazine, 16 mm film instructional audio-tape and video-tape lists and catalogs must be consulted separately.

The Library Services staff of librarians, library technicians, and student assistants organize and maintain the collections and circulation services, provide reference service, and give individual and group instruction in library use. Credit courses in effective library use are offered each term. Other services and facilities include equipment and stations for studying, listening and viewing; AVT stations for course lab assignments; and quiet study, conference, and typing rooms. Microfilm reader-printers and photocopiers provide low-cost copies. Interlibrary loan service is maintained through the State of Michigan Library with the Michigan State University and the University of Michigan Libraries.

Technical Services, the ordering and processing unit, is adjacent to the Old Central Library. The technical services librarian and staff order, index and process all material for the libraries. Central records of the total collection of the Library Services Department are maintained here. The Library joined the Ohio College Library Center (OCLC) in 1975 and uses a computer terminal to catalog library materials and produce catalog cards.

Library Media Technology Program

Program Coordinator: Suzanne Robinson

Both the one-year Certificate and the two-year Associate Degree Programs in Library Media Technology prepare persons for midlevel (paraprofessional) positions in public, school, academic, and special library media centers. Upon completion of the Associate Degree program, graduates may apply to the State of Michigan Library for a Library Technician Certificate.

Introductory courses may be accepted as the equivalent of introductory courses in the undergraduate programs of senior institutions. Other courses will usually transfer as elective credit. The student is advised to check with his/her choice of transfer institution to determine the transfer status of all Library Media Technology courses. A program brochure, curricular guides, and further information may be obtained by contacting the coordinator of the program in the Department of Library Services.

COURSE DESCRIPTIONS

Library Media Technology (LMT)

150 Using Your College Library

Two credits

Individualized instruction for the student engaged in preparing a research paper for any LCC class. Step-by-step help in topic selection, information gathering and to all students.

152 The Library and Your Research Paper**One credit**

Individualized instruction for the student engaged in preparing a research paper for any LCC class. Step-by-step help in topic selection, information gathering and organizing, compiling notes, and preparing the bibliography. Open to all students.

101 Patterns of Library Media Service**Two credits**

Introduction to contemporary patterns of library media service in schools, public, academic, and special library media centers. Introduces the impacts of social and technological change. Examines library media center staffing patterns and career opportunities for library media technicians.

103 Public Services**Four credits**

Information work with patrons in public, school, academic, and special library media centers to familiarize students with specialized reference sources. Emphasis on public relations and inter-library cooperation. Includes methods and materials used to organize and circulate library media materials.

201 Technical Services I**Four credits**

Study and simple application of Dewey Decimal and familiarization with Library of Congress Classification schemes. ISBD cataloging instruction includes unit card preparation, adapting printed cards, familiarization with computer cataloging, subject heading, cutting, card catalog maintenance and filing.

202 Technical Services II**Three credits**

Study of methods and bibliographic tools for ordering library media materials, including serials, and the organization of a technical services department. practice in physical preparation and maintenance of materials.

203 Media Services I**Four credits**

Operation and simple maintenance of common AV and electronic equipment. Production of graphics and audio materials applicable to library media center service patterns. Open to all students.

204 Media Services II**Three credits**

Exploration of non-print information sources and services. Ordering, processing, organizing, and circulating non-print media and equipment. Problems of applications of non-print media services to library media center programs.

205 Library Studies**One to three credits**

Supervised independent study to meet special needs and interest of students preparing to work in library media centers. Prerequisite: Departmental approval.

246 Library Practice**Three credits**

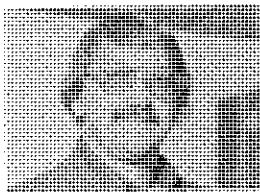
Integration and application of previous course work within a minimum of 80 hours work in an area library media center. Prerequisite: Departmental approval.

250 Special Services Seminar**One to three credits**

Rotating topical course to cover methods and materials used for specialized library media services such as medical, children's, documents.

Department of Instructional Media

Chairperson: Dale Dunham



Services

The Department of Instructional Media provides services from three audiovisual distribution centers, a Foto-Grafik center, an audio and television production center, an AV maintenance center, and a planetarium multi-media center.

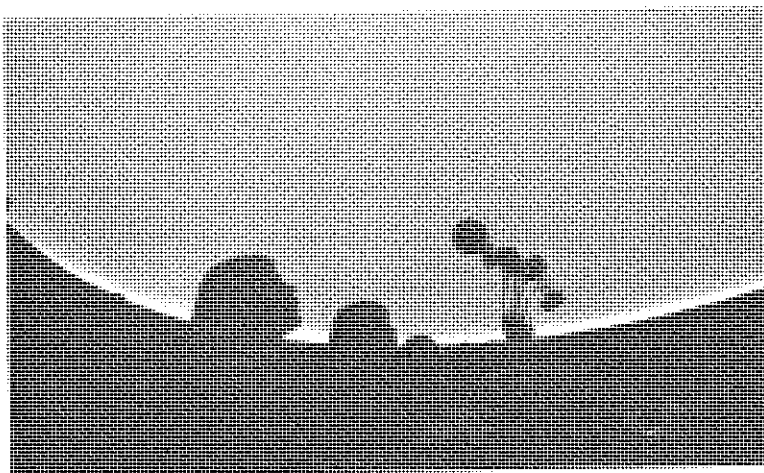
The Foto-Grafik Production Center produces 8mm and 16mm motion pictures; various forms of photography and graphic arts, for new and continuing audio-visual-tutorial (AVT) and other programmed instruction.

The Audio and Television Production Center supports instruction through the distribution of media materials purchased commercially and also produced locally through resources of the college. Software resources of the department include 300 films, 300 video tapes, and 6000 audio tapes. Using five video channels, the department programs television to most of the campus buildings.

The department is also responsible for the maintenance of all audiovisual equipment and AVT laboratories within the college.

Planetarium

The planetarium multi-media center supports interdisciplinary education through media. In addition to showing the wonder of the stars, the planetarium offers a unique setting of wrap-around visuals, and stereo sound for special programs in history, art science, social science, communications and drama. As curricular needs permit, special request programs are offered to all age groups of the community.



Curriculum

The curricular programs of the Instructional Media Department provide students with knowledge and skills in the production of Communications Media, including Photography, Motion Pictures, Graphic Arts, Radio Broadcasting, Television, Sound Recording, and various combinations of these media.

The master of these fields is both an artist and a technician. The artist understands how to captivate the audience and weighs the impact of media on society. The technician knows the capabilities and limitations of all the available tools.

The interdisciplinary approach of these departmental programs (Motion Picture Production, Media Radio Television, and photography) cuts across traditional occupational areas and provides greater flexibility for career placement in the challenging job market of today. A capable and skillful generalist will be much better able to obtain and hold employment than the narrow specialist.

General curricular guides for each program offered by the department are available in the counseling offices and the Department Chairperson's office. 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 Department of Instructional Media.

Media Technology

Associate Degree Program Curriculum Code: 995

This program provides a broad-based media education of technical nature and provides the student the option of transfer at the Junior level to a four year institution. The program also provides the opportunity to join the job market with an employable skill at the end of two years. These opportunities include, but are not limited to, the following: Media Technician, AV Media Specialist, Cable TV Technician, Time Salesman, Graphics Technician, Educational Media Production Technician, Video Technician Production Specialist, Announcer, Disc Jockey, Recording Technician, Office Personnel, and Newscaster. Most of the career openings will be in the area of radio, television (both broadcast and cable) and in secondary school systems or in Intermediate K-12 Career Centers.

COURSE DESCRIPTIONS

Media Technology Curriculum (MRT)

112 Media Materials Production I

Four credits

An introduction to Media Production. Design and layout of visuals and copy resulting in an 'eye catching' format. Letterpress, silk screening, lamination, dry mounting, matting.

- 114 Media Materials II** **Four credits**
A continuation of MRT 112. Advanced controls of the processes taught there. Participation in a model business situation as it might exist in the graphic arts industry. Prerequisite: MRT 112.
- 116 Multi-Media Workshop** **Four credits**
Teaches the integrated usage of graphics, film, photography, television, radio and other audio-visual arts. Selection of the best media for a given communication problem or design.
- 130 Intro to Broadcasting** **Three credits**
Basic introduction to all aspects of radio and television production. The course includes the nature, origin, function and development of television and radio in today's society.
- 131 Third-Class License** **Two credits**
A basic course in the knowledge required to pass the FCC third-class radio-telephone operators license, endorsed for broadcast operation.
- 132 Intro to Radio** **Four credits**
An introduction and orientation to the principles and techniques of radio station operation. Designed to develop skills in broadcasting operations, performing and programming techniques, and basic production work. Prerequisite: MRT 130.
- 134 Radio Production I** **Four credits**
Techniques of producing radio programs in their component elements for broadcasting purposes. Basic and advanced production procedures for contemporary radio program materials in script, recorded and live broadcast forms. Prerequisite: MRT 132.
- 136 Radio Production II** **Four credits**
Continuation of MRT 134. Includes training and practice in preparing, producing and directing radio dramatic, documentary, and special events programming. Prerequisite: MRT 134.
- 140 Cable Television Operations** **Four credits**
A course to orient the student to the diverse operations of cable TV systems. Study of management, cable subscription sales, programming, system models, distribution and legal considerations.
- 150 Fundamentals of Telecommunications** **Four credits**
Introduction to the principles of television studio practice, station management, sales and regulations. Designed to teach the student the terminology and help him begin to think in these terms. Prerequisite: MRT 130 or departmental approval.
- 152 TV Production I** **Four credits**
Application of visual theory to actual production situations. Basic composition, shot - sequence construction, basic camera and equipment operations in an actual "hands on" production setting. Prerequisite: MRT 150.

155 TV Production II**Four credits**

Builds upon the skills learned in MRT 152. Students select scripts, crews, cast actors, rehearse and produce programs with the guidance and evaluation of an instructor. Prerequisite: MRT 152.

180 Media and/or the Future**Three credits**

Study of the effects of media on society and of society on media. Those of us in media take a look at ourselves.

190 TV-Film Script**Three credits**

Teaches how to evaluate a script, rewrite, design and produce written materials for film and television. Production of outlines, storyboards, and shooting scripts as required for film and television productions. Prerequisite: MRT 152 or departmental approval.

200 TV Film Graphics**Four credits**

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, electronic videofont and computer graphics. Prerequisite: MRT 112.

202 TV-Film Graphics Workshop**Four credits**

Advanced production processes of skills learned in MRT 200. Prerequisite: Departmental approval.

204 Film for Television**Four credits**

Single system 16mm sound film recording, and portable video, for integration into the television news program. Related skills in composition, film editing and interviewing technique will be stressed. Prerequisite: MRT 152 or departmental approval.

210 Broadcast Sales**Three credits**

Methods and specialized skills employed in selling radio and television advertising. Concentrated instruction on how to sell air time for broadcasting stations, and participate in a variety of sales situation exercises. Prerequisite: MRT 136 or 152.

222 Radio Announcing Technique**Three credits**

Principles and advanced techniques of voice announcing for radio and television broadcasting. Class instruction, lab exercises, and individual assignments in all basic categories of on-the-air announcing work.

232 Cable Television Workshop**Variable credits**

On the job experience working in a cable system. Assignment to a particular job with supervision by an instructor and a staff member at the cable company. Refinement of knowledge gained in MRT 140 and MRT 155. Prerequisite: Departmental approval.

234 Radio Workshop**Five credits**

Advanced operations in production and management of the student radio station at LCC. Instructor supervised course which gives the student additional responsibilities beyond those in MRT 136. Preparation for actual jobs in the radio industry. Prerequisite: Departmental approval.

240 Radio Music Programming**Four credits**

A course in theory, planning, preparation and presentation of contemporary music broadcasting formats. Study of various structures and styles of programming including top forty, easy, country. Prerequisite: MRT 136.

252 TV Producer-Director**Four credits**

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. Prerequisite: MRT 155.

255 Broadcast Engineering**Four credits**

An advanced course in broadcast electronics and theory leading to preparation for an FCC first class engineers license. Prerequisite: MRT 155 or departmental approval.

270 Program for Public Access**Three credits**

Basic scripting, shot-sequence construction, portable camera handling and budgeting for non-TV majors. Basic skills of program development which are necessary for successful program design for community television.

280 Media in Education**Four credits**

Basic production of slides, tapes and audiovisual materials to supplement or reinforce classroom teaching.

290 Individual Study Media**Variable credits**

Independent projects proposed by advance students relating to media materials and their production. Projects supervised and evaluated by an assigned faculty member. Prerequisite: Departmental approval.

291 Independent Study Radio**Variable credits**

Independent projects proposed by advanced students relating to radio materials and their production. Projects supervised and evaluated by an assigned faculty member. Prerequisite: Departmental approval.

292 Independent Study TV**Variable credits**

Independent projects proposed by advanced students relating to TV materials and their production. Projects supervised and evaluated by an assigned faculty member. Prerequisite: Departmental approval.

299 Seminar in Special Subjects**Variable credits**

A project, under faculty supervision, which is taken on by a group of students, rather than an individual. Regularly scheduled meetings of students with faculty advisor. Prerequisite: Departmental approval.

Photography**Associate Degree Program Curriculum Code: 996**

Photography is becoming more complex in both technology and application. In realizing the potential of the medium, more and more people are finding it diffi-

cult to teach themselves this art, and are seeking professional guidance in developing their skills and expanding their photographic vision.

Because of growing specialization, career fields are becoming more demanding. A person desiring to enter the field of photography needs a comprehensive background. Many employers are reluctant to spend time and money in basic on-the-job training programs.

Most of the LCC Photo Technology courses are "subject oriented" and the hobbyist may participate in just those courses that hold particular interest. The career-minded enthusiast may want to complete all of the various courses offered. The program is open to all interested persons. Those who wish to begin above the first introductory level must have sufficient background or experience to handle the complex projects in which the more advanced students become involved.

COURSE DESCRIPTIONS

Photography Curriculum (PHO)

106 Survey of Photography and Cinema Three credits

Study film making and photography through historic development, social events and history as recorded on film. Visit photography studios. TV studios, film producers and exhibitors and talk with professional people in these fields.

108 History of Photography Three credits

Survey of the development of photography from a historical view.

109 Basic Photo Oil Painting Two credits

Workshop designed to build a working knowledge of hand coloring photographs using transparent oil paints.

110 Basic Camera Three credits

Practical application of camera controls and pictorial composition utilizing commercial processing for class projects.

116 Film History Three credits

Focus on the major historical, technical, social, and artistic developments from the beginning of motion pictures to the present. Each week examine a major theme and view films related to that theme.

117 Law Enforcement Photography Three credits

Camera skills required for on-the-spot documentation for use as evidence by enforcement officers. Prerequisite: PHO 110 and departmental approval.

120 Introduction to Photographic Process I Four credits

The student will become familiar with camera types, camera controls, exposure and selection of sensitized materials. Camera handling and exposure techniques will be emphasized. Students will process, proof and print their own work. Print spotting, mounting and presentation will be covered in the later stages of the course. 35 mm adjustable camera required.

126 Basic Motion Picture Production

Four credits

Introduction to all aspects of film making, 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 teach introductory procedures and provide an overview of how films are made.

136 Fundamentals of Cinematography

Three credits

Use the motion picture camera effectively. Principles of composition, lighting, and continuity, mood and dramatic impact. Operation of professional cameras, film and exposure, sync sound, coverage and camera angles. Practical projects will be coordinated with Fundamentals of Motion Picture Sound. Prerequisite: PHO 120.

140 Introduction to Photographic Process II

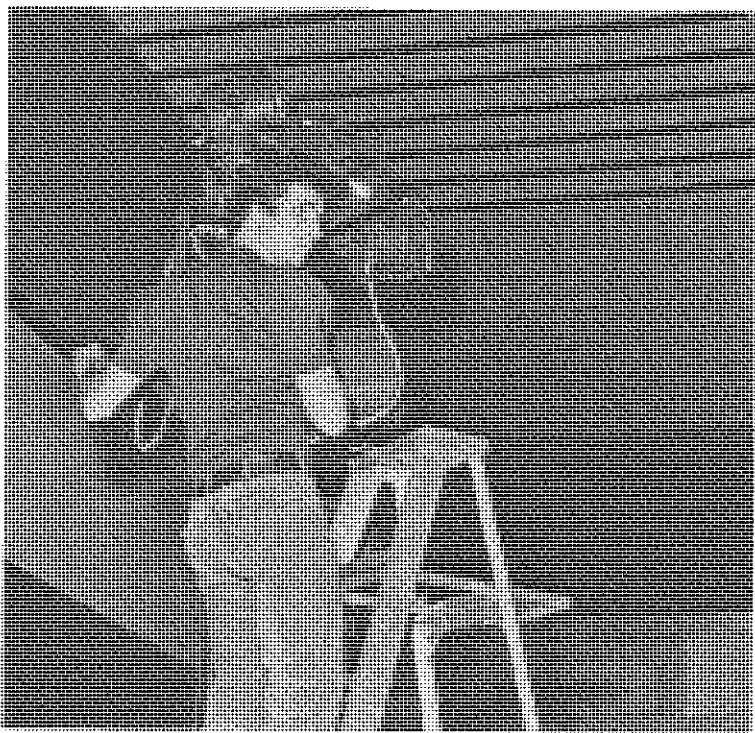
Four credits

Continuation of PHO 120 with emphasis placed on the development of exposure, processing and printing controls. Introduction to the zone system. Prerequisite: PHO 120.

146 Fundamentals of Lighting

Three credits

Use 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.



150 Basic Photo-Chemistry**Two credits**

Introduction to the black and white photo chemical process including chemical compounding and mixing. Prerequisite: PHO 140.

156 Fundamentals of Motion Picture Sound**Three credits**

Record effective and dramatic sound for motion pictures. Select suitable sound elements for mood and impact. Operate professional recording equipment. Recording, re-recording, and mixing procedures. Basic acoustics and recording theory. Practical recording projects will be coordinated with Fundamentals of Cinematography. Prerequisite: PHO 126.

158 Print Finishing and Presentation**Two credits**

Development of expertise in print finishing and presentation. Prerequisite: PHO 140.

160 Introduction to Photographic Process III**Four credits**

Continuation of PHO 140 with emphasis placed on visual perception. Prerequisite: PHO 140.

165 Manipulative Black and White Printing**Four credits**

Imagery achieved thru manipulative camera and darkroom techniques. An introduction to various special films and papers and their use. Prerequisite: PHO 160.

166 Fundamentals of Film Editing**Three credits**

Assemble picture and sound elements for effective and dramatic impact. Edit action and dialogue sequences. Build sound tracks with music, dialogue and sound effects. Exercises and practical editing projects. Prerequisite: PHO 126.

170 Symposium: Photographer on Photography**Four credits**

Investigation of working photographers in their environments. Visits will be conducted to a number of studios, galleries and educational institutions to expose student to a variety of styles and purposes. Prerequisite: PHO 160.

176 Fundamentals of Film Directing**Three credits**

Direct effective and dramatic motion pictures. Understand principles of story development and production planning. Work with actors. Direct scenes with creative staging, adequate coverage, and proper continuity. Direct sequences for theatrical or documentary films. Prerequisite: PHO 126.

180 The Zone System**Two credits**

Comprehensive testing and evaluation of the zone system of exposure. Prerequisite: PHO 160.

187 Photo-Sensitometry**Three credits**

Study of the application of photographic sensitometry to black and white and color photography. Prerequisite: PHO 160.

190 The Business of Photography**Three credits**

Study of the unique problems and opportunities involved in the business of photography. Prerequisite: PHO 160.

- 200 Introduction to Color** **Three credits**
 An introduction to color theory, materials and their practical applications. Prerequisite: PHO 160
- 201 Photo-Journalism I** **Three credits**
 Designed to familiarize the student with the techniques involved in photography for publication, including event, story-telling and photography of the decisive moment. Prerequisite: PHO 160.
- 202 Posing & Lighting the Portrait I** **Four credits**
 Familiarization with various lighting techniques and lighting systems in a variety of modes. Performance of posing and lighting exercises on single persons, couples and small groups. Prerequisite: PHO 160.
- 203 Environmental Photo I** **Four credits**
 Introduction to the technique and equipment utilized in nature and environmental photography. Prerequisite: PHO 160, PHO 180, PHO 200.
- 204 Large Format I** **Four credits**
 A study of the aspects of large format photography to include equipment, perspective control and processing and printing large format negatives. Prerequisite: PHO 160, PHO 180.
- 205 Non-Silver Process I** **Two credits**
 An introduction to the various non-silver processes which preceded the silver print. No lab work. Prerequisite: PHO 165.
- 206 Workshop in 8mm Film Production** **Four Credits**
 Produce and direct an 8mm film. Screen pertinent films, discuss scripts, view rushes, and meet guest speakers. Students write their own scripts on topics they select, produce the films, and present final projects with sound tracks. Students provide 8mm cameras, editing and projection equipment. Prerequisite: Departmental approval.
- 207 Close-up Photography I** **Three credits**
 Study of the specialized equipment and lighting techniques unique to this area of photography. Prerequisite: PHO 160.
- 208 Archival Processing & Testing** **Two credits**
 Study of the problems and procedures for long term preservation and storage of photographic materials. Prerequisite: PHO 158, PHO 160.
- 209 Prof. Black & White Printing** **Four credits**
 Introduction to production printing, including processing, proofing, finishing, and presentation of commercial black and white prints. Prerequisite: PHO 165, PHO 180.
- 210 Color Processing** **Two credits**
 Study of positive and negative color processing procedures. Prerequisite: PHO 200.

- 216 Workshop in Documentary Film Production** **Four credits**
Produce a documentary film. Screen pertinent films, discuss scripts, view rushes, and meet guest speakers. Students write their own scripts on topics they select, produce the films, and present composite prints. Prerequisite: Departmental approval.
- 217 Forensic Photography** **Three credits**
A study of the application and technique of photography for legal and investigative purposes. Prerequisite: PHO 187, PHO 200.
- 220 Color Printing I** **Three credits**
Introduction to the materials and processes of color printing. Prerequisite: PHO 200.
- 221 Photo Journalism II** **Four credits**
Continuation of PHO 201. Prerequisite: PHO 201.
- 222 Portrait II** **Four credits**
Continuation of PHO 202. Prerequisite: PHO 202, PHO 204, PHO 220.
- 223 Environmental II** **Four credits**
Continuation of PHO 203. Prerequisite: PHO 203, PHO 204, PHO 207.
- 224 Large Format II** **Four credits**
Continuation of PHO 204. Prerequisite: PHO 203, PHO 204, PHO 207.
- 225 Non-Silver II** **Four credits**
Continuation of PHO 205 with practical experience in several non-silver processes. Prerequisite: PHO 205.
- 226 Workshop in Educational Film Production** **Four credits**
Produce an educational film. Screen pertinent films, discuss scripts, view rushes and meet guest speakers. Students write their own scripts on topics they select, produce the films, and present composite prints. Prerequisite: Departmental approval.
- 227 Close Up II** **Four credits**
Continuation of PHO 207. Prerequisite: PHO 187, PHO 200.
- 232 Bridal & Wedding Photo** **Three credits**
To familiarize the student with the problems and opportunities inherent in bridal wedding coverage. Prerequisite: PHO 222.
- 236 Workshop in Dramatic Film Production** **Four credits**
Produce a dramatic film. Screen pertinent films, discuss scripts, view rushes, meet guest speakers. Students write their own scripts on topics they select, produce the films, and present composite prints. Prerequisite: Departmental approval.

240 Color printing II**Four credits**

Continuation of PHO 220 with additional emphasis on color sensitometry. Prerequisite: PHO 207, PHO 220.

242 Portrait III**Two-Six credits**

Continuation of PHO 222. Prerequisite: PHO 222 or departmental approval.

243 Environmental III**Two-Six credits**

Continuation of PHO 223. Prerequisite: PHO 223 or departmental approval.

244 Large Format III**Two-Six credits**

Continuation of PHO 224. Prerequisite: PHO 224 or departmental approval.

245 Non-Silver III**Two-Six credits**

Continuation of PHO 225. Prerequisite: PHO 225 or departmental approval.

246 Workshop in Advertising Film Production**Four credits**

Produce a short film with an advertising message. Emphasize communicating information or changing attitudes in a short period of time. Students write their own scripts, produce films, and present composite answer prints. Prerequisite: Departmental approval.

256 Workshop Public Service Film Production**Four credits**

Produce a film with a public information format. Screen pertinent films, discuss scripts, view rushes, and meet guest speakers. Students write their own scripts on topics they select, produce the films, and present composite prints. Prerequisite: Departmental approval.

260 Seminar in Special Subjects**Variable credits**

To provide the students with the opportunity to work and interact with others of varying skills and background to enhance their skill in, and appreciation of, the photographic process. Prerequisite: Departmental approval.

266 Workshop in Television News Film Production**Four credits**

Produce a film of current local interest, suitable for local TV broadcast. Visit local TV studios, screen pertinent films, discuss scripts on topics they select, produce the films, and present composite video tapes. Prerequisite: Departmental approval.

270 Work/Study or Cooperative Studies**Variable credits**

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

276 Workshop in Animation**Four credits**

Produce a short film using table-top models, real objects, drawing or cel animation. Drawing ability is not required. Students write scripts, produce films, and present composite answer prints. Prerequisite: Departmental approval.

280 Independent Study

Variable credits

Projects assigned or chosen in areas not formerly taught within the curriculum. Prerequisite: Departmental approval.

286 Workshop in Medical Film Production

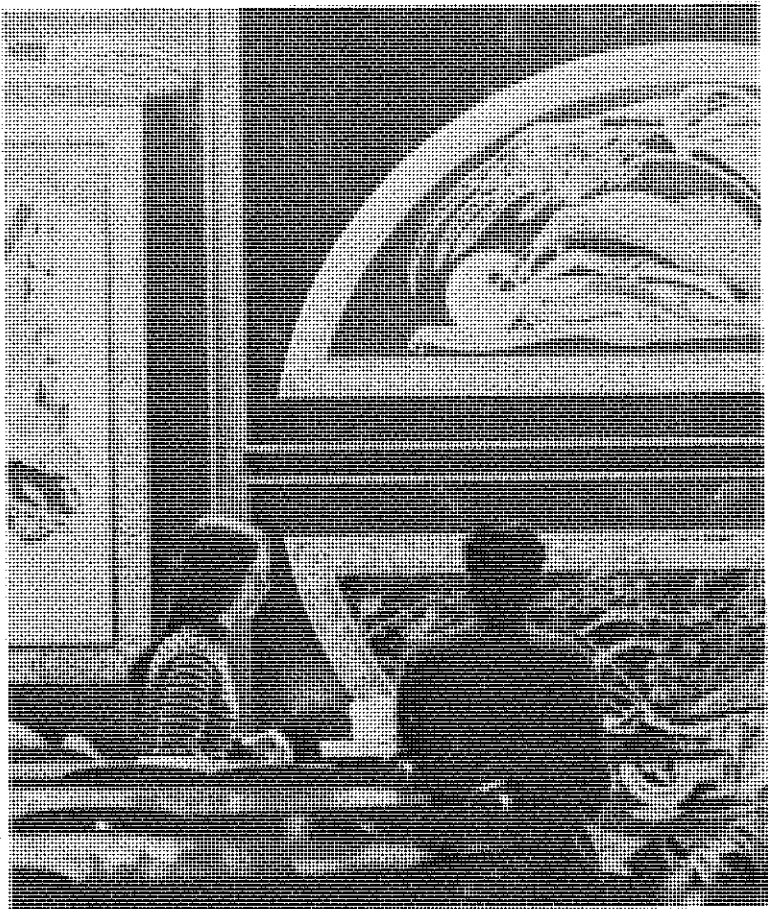
Four credits

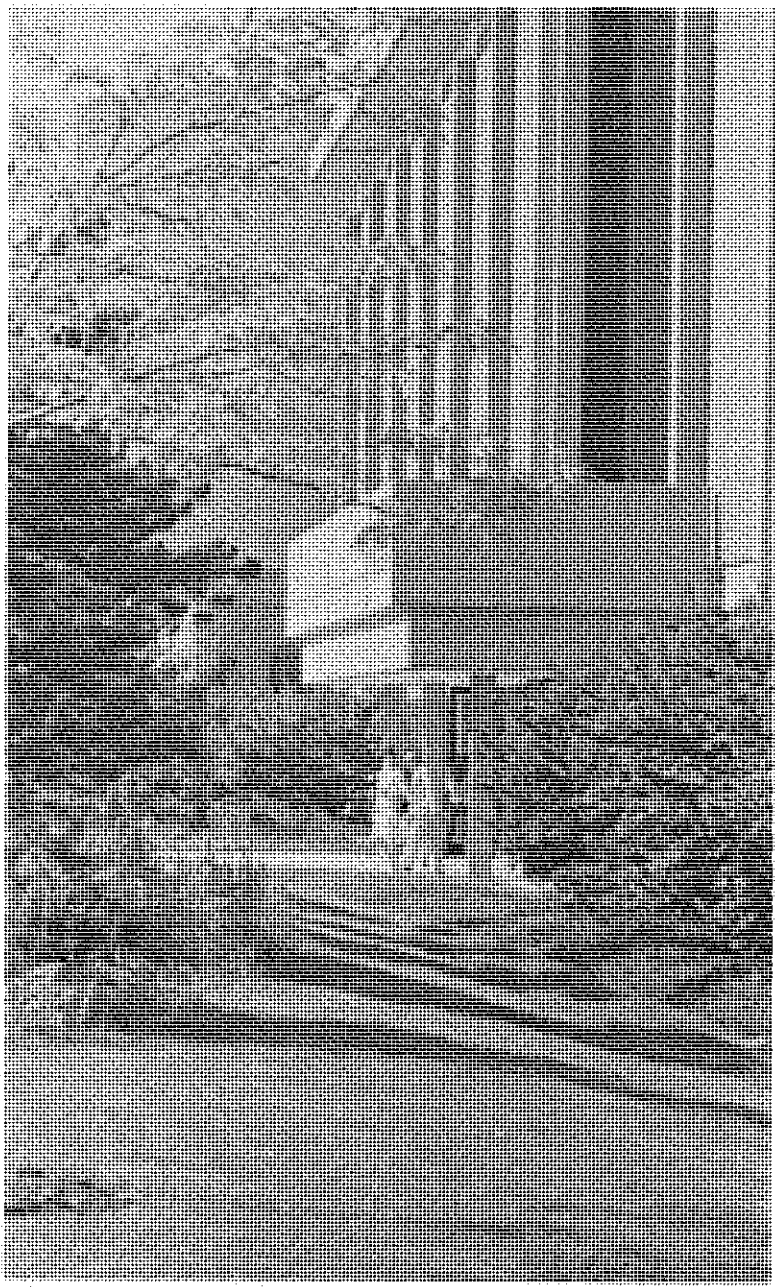
Produce a film for medical research or instruction in cooperation with our Nursing School or a local doctor or hospital. Students write their own scripts, produce films, and present composite prints. Prerequisite: Departmental approval.

290 Portfolio

Variable Credits

Preparation and presentation of final portfolio Successful completion required for all Associate Degree candidates. Prerequisite: Departmental approval.





DIVISION OF ARTS AND SCIENCES

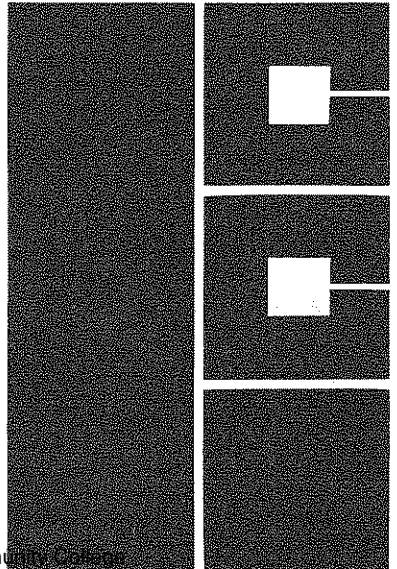
Department of
Communication

Department of
Humanities

Department of
Mathematics

Department of
Science

Department of
Social Science



DIVISION OF ARTS AND SCIENCES



Dean Sam Kintzer

The Division of Arts and Sciences introduces the student to man's knowledge about himself and his world. Through the understanding of past and present social, cultural, and intellectual forces, the student is better equipped to make the contribution of responsible citizenship in a democratic society and to prepare for the fast changing world of the last quarter of the twentieth century.

Division of Arts and Sciences

The Division of Arts and Sciences is established:

To provide general education for all students.

To offer freshman and sophomore liberal arts courses paralleling the first two years of university training.

To award Associate Degrees in Arts and 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.

To offer pre-professional curricula enabling students to transfer after two years of study to advanced training at four-year colleges and universities.

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 election of a value system.

To encourage the student to search for truth in the heritages of our civilization and of other cultures so that the dignity of man may be comprehended.

To facilitate the attainment of these goals the Division of Arts and Sciences:

- Provides students with an array of instructional environments: independent study, off-campus courses in the field and community, individualized self-paced learning courses, audio-visual-tutorial studies, lecture-discussion, laboratory, and seminar classes.
- 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 day-time, whether at a job or in the home, may begin their college education or take courses for personal enrichment by enrolling in a variety of 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 sophistication. To accomplish this, the division provides for all students with problems in communication such courses as 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. Programs of this kind are also made available to residents of the community to serve a continuing education need.

Dual Enrollment

High school students who have demonstrated academic ability may, upon recommendation of the high school principal, be admitted during their junior year in high school to the dual enrollment program of the College. Students are accepted

Arts and Science

prior to graduation from high school and may earn a number of hours of credit toward their pre-professional or associate college 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.

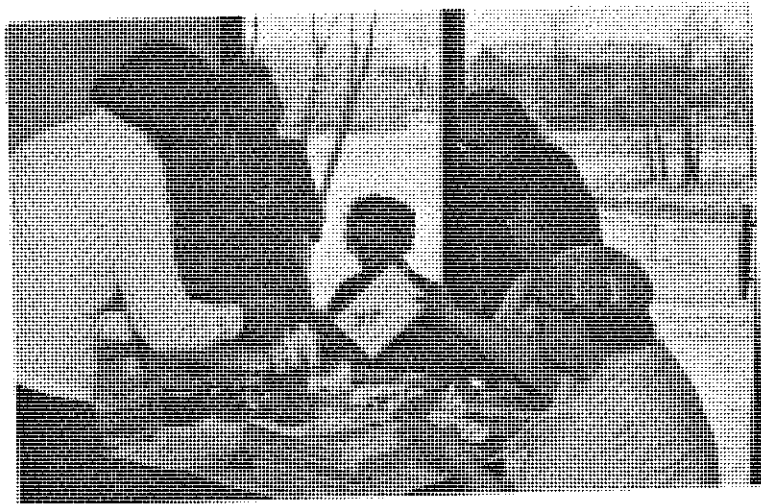
Honors Program

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.

Twenty-one 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.

Lifetime Studies

Each term the Division of Arts and Sciences offers a continuing education program for those who enjoy learning for its own sake or for other self-determined goals. Classes and seminars provide an opportunity for cultural enrichment, for acquisition of new knowledge, or for a rewarding use of leisure hours. Lifetime Studies is designed to assure that no interested person is left without access to a varied and flexible program of learning experiences beyond the years of formal schooling. Classes usually meet once each week during evening hours. Courses in this program can be applied to partial fulfillment of requirements for the Associate Degree General only. Grades are given on a P-Pass or N-No Credit basis.



Associate Degree Programs

Criteria for the Associate Degrees in Arts and Science

Division of Arts and Sciences

I. Requirements

1. 90 Credits
2. GPA of 2.0 or better
3. 30 Credits in Attendance at LCC
4. Completion of SS 103 or SS 104
5. The student is required to take at least 12 credits in each of the following areas: English, Humanities, Science, and Social Science.
 - a. 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, however, substitute other courses in the curriculum of the Humanities Department, provided that these are distributed in at least two of the following four areas:

A	B	C	D
Art History	History	Literature	Phil/Rel

- b. Communication/English requirement can be fulfilled by courses in composition, English, and literature. The following are possible alternatives (A. - D.) a student may take in fulfilling the English requirements for the Associate Degree:

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

- c. The 12 required credits in Social Science include either SS 103 or SS 104. The remaining eight credits may be selected from any of the following: SS 101, SS 102, sociology, anthropology, psychology, political science, or geography.
 - d. It is required that the 12 credits in Science be fulfilled by a minimum of four credits in biological science and four credits in physical science.
 6. Up to 12 credit hours outside the Arts and Sciences Division would be accepted towards a degree, or more where specifically required by curriculum guides.
 7. Courses coded beginning with "0" will not be included in the 90-credit total.
- II. In instances where a student is appealing a decision not to grant an Associate Degree in Arts or Science for lack of fulfillment of the above criteria, he may appeal such decision to the Open Council of the Arts and Sciences Division who shall serve as a review committee and recommend to the Dean of Arts and Sciences appropriate action. Voting members shall be department chairmen, faculty representatives, and student representative.

III. Effective Date of Implementation: Academic Year 1976-1977

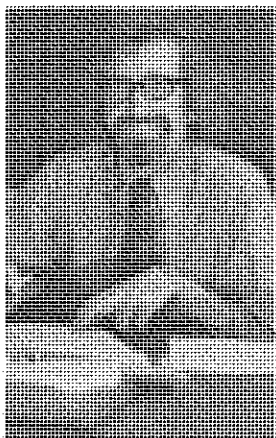
Curriculum Code List

- 101 Non-Preference, Associate in Arts Degree
- 104 Foreign Language, Associate in Arts Degree
- 105 English, Associated in Arts Degree
- 106 Journalism, Associate Degree General
- 107 Advertising, Communication, Journalism, Radio/TV,
Associate in Arts Degree
- 107 Communication, with emphasis in Journalism, Associate in Arts Degree
- 108 American Studies Major, Associate in Arts Degree
- 109 History, Associate in Arts Degree
- 110 Philosophy/Religion, Associate in Arts Degree
- 112 Teacher Aide, Certificate of Achievement
- 113 Teacher Assistant, Certificate of Achievement
- 114 Teacher Associate, Associate in Arts Degree
- 115 Social Science, Associate in Arts Degree
- 116 Sociology, Associate in Arts Degree
- 117 Psychology, Associate in Arts Degree
- 118 Geography Major, Associate in Arts Degree
- 119 Political Science, Associate in Arts Degree
- 120 Communication with Speech emphasis
- 125 Public Service, Certificate of Achievement
- 126 Public Service, Associate in Arts Degree
- 130 Social Work, Certificate of Achievement
- 131 Social Work, Associate in Arts Degree
- 132 Social Work, Associate Degree General
- 151 General Science, Associate in Science Degree
- 155 Biology Major, Associate in Science Degree
- 160 Chemistry Major, Associate in Science Degree
- 165 Mathematic Major/Computer Science, Associate in Science Degree
- 170 Physics Major, Associate in Science Degree
- 175 Conservation and Forestry, Associate in Science Degree
- 176 Earth Science, Associate in Science Degree
- 180 Geology, Associate in Science Degree
- 205 Architecture, Associate in Science Degree
- 207 Chiropractic, Associate in Science Degree
- 210 Dental, Associate in Science Degree
- 211 Home Economics Teaching, Associate in Arts Degree
- 213 Landscape Architecture and Urban Planning
- 215 Law, Associate in Arts Degree
- 220 Medical, Associate in Science Degree
- 221 Medical Technology, Associate in Science Degree
- 225 Mortuary Science, Associate in Science Degree
- 232 Occupational Therapy, Associate in Science Degree
- 235 Optometry, Associate in Science Degree
- 237 Packaging, Associate in Science Degree
- 240 Pharmacy, Associate in Science Degree

- 242 Agriculture, Building Construction, Associate in Science Degree
- 245 Physical Therapy, Associate in Science Degree
- 255 Elementary Teaching, Associate in Arts Degree
- 260 Secondary Teaching, Associate in Arts Degree
- 262 Occupational Therapy, Associate in Science Degree
- 265 Theological, Associate in Arts Degree
- 270 Veterinary Science, Associate in Arts Degree
- 326 Lifetime Studies
- 355 High School Honors
- 360 Dual Enrollment - Arts and Sciences

Department of Communication

Chairperson: Dr. George R. Bramer



The Department of Communication offers courses in the following areas, under the course codes indicated: Composition and Communication (COM), Reading (RDG), Speech (SPH), Journalism (JRN), Broadcasting (BRD), French (FRN), and Spanish (SPN). The department also offers testing services to help you select appropriate courses in composition and/or reading. You are urged to inquire in the Communication Department Laboratory about a composition placement test. A reading test is administered during regular registration before each term, and additional reading, testing and advising can be arranged in the department laboratory. Students planning to register for JRN 151 should ask for a typing test in the department laboratory.

The Communication/English requirement for the Associate Degree in Arts or Science (A.A. or A. S.) can be fulfilled in various ways. The first required course, COM 121, can be waived for a limited number of qualified students, passed by comprehensive examination, or taken as a term-length course. Inquire about these possibilities in the Admissions Office or the Communication Department. The second required course can be either COM 122 or ENG 122, and the third can be either COM 123 or ENG 123. The Departments of Communication and Humanities have various options for students who waive COM 121.

COURSE DESCRIPTIONS

Composition and Communication (COM)

101 Fundamentals of Writing

Four credits

An individualized course designed to prepare the student for freshman writing. Emphasis is on word choice, sentence structure, paragraph and essay writing skills.

Instruction involves a wide variety of audio-visual materials in a learning laboratory and group work in weekly class meetings. Flexible scheduling, self-pacing, and professional tutorial assistance are major features of this course. 4 (1-9)

121 Composition I**Four credits**

Designed to help the student develop writing and reading skills. Stresses expository writing, uses of the dictionary, and introduction to library resources. 4 (4-0)

122 Composition II**Four credits**

Continuation of COM 121 and an alternative to ENG 122. Writing and reading skills are further developed with special attention to forms of discursive prose and to problems in communication between readers and writers. Prerequisite: COM 121. 4 (4-0)

123 Composition III**Four credits**

Continuation of the basic composition program, and an alternative to ENG 123. Emphasizes investigative techniques, and writing the research paper with full documentation by footnotes and bibliography. Prerequisite: COM 122 or ENG 122. 4 4-0)

230 Introduction to English Linguistics**Three credits**

Examines the English language from the perspective of contemporary American linguistics: generative syntax, phonology, regional and social variation. Considers implications for teachers. (Required for most students in pre-elementary teaching.) Prerequisite: COM 123 or ENG 123. 3 (3-0)

261 Prose Writing Workshop**Four credits**

Focuses on prose style. Encourages students to develop their individual styles and to examine the effects of motive, audience, and occasion on styles in various nonfictional prose types. Prerequisite: COM 123 or ENG 123. 4 (4-0)

271 Creative Writing**Four credits**

Helps the student develop the art of writing essays, narrative fiction, and poetry. Students read their original work in class for critique by the other class members. Evaluation is based entirely on the student's creative writing. Prerequisite: Departmental approval. 4 (4-0)

093, 094, 095, 096 Seminar in Special Subjects **Credits variable, one to four**

Offered in any area of the department's programs: composition, communication, reading, journalism, broadcasting, speech, French or Spanish. May be repeated under various descriptive subtitles. Offered in Lifetime Studies, mini-term, or other special programs. Credit applies only to the Associate Degree General.

293, 294, 295, 296 Seminar in Special Subjects **Credits variable, one to four**

Offered in any area of the department's programs: composition, communication, reading, journalism, broadcasting, speech, French, or Spanish. May be repeated under various descriptive subtitles. Provides a transfer credit option for Lifetime Studies and mini-term students who arrange special projects and examinations with their instructors. Prerequisite: Departmental approval.

297, 298, 299, Independent Study **Credits variable, one to three**
 Individual projects in composition, communication, reading, journalism, broadcasting, speech, or Spanish. Prerequisites: Minimum of 3.0 grade-point average in Department of Communication courses, and departmental approval.

Reading (RDG)

019 Basic Reading Skills **Four credits**

For students who need improvement in basic reading skill for academic success. Identifies specific reading problems and appropriate instruction for individual students. Emphasizes comprehension, vocabulary, rate and study techniques. Class sessions and self-paced laboratory assignments are employed. 4 (4-0)

021 Speed Reading **Four credits**

Designed for the student of average reading ability who wants to acquire more efficient reading techniques. Emphasizes both theoretical and practical aspects of reading speed and comprehension. Utilizes specialized equipment in the Communication Department laboratory. 4 (4-0)

022 Critical Reading **Four credits**

Designed to help students grasp literal and implied meanings, form evaluative reactions to what they read by inquiring about the quality and accuracy of material, judge the rationality of what they read, and identify and interpret propaganda techniques. 4 (4-0)

287 Methods of Teaching Reading Skills **Four credits**

Provides background for organizing a reading program and teaching reading skills, primarily at the elementary level. A thorough reading assessment in the Communication Laboratory before registration is recommended. Prerequisite: College-level reading proficiency. 4 (4-0)

Speech (SPH)

104 Principles of Speech **Three credits**

Introductory course. Study and application of basic principles underlying effective oral communication. Student makes seven speeches during the term. 3 (3-0)

105 Voice and Articulation **Three credits**

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. Prerequisite: SPH 104. 3 (3-0)

201 Interpretive Reading **Three credits**

Introduces student to techniques of presenting literature and communication orally, focusing on specific skills of voice and gesture. Emphasizes selection, preparation, and delivery of literary material. Required for speech majors. 3 (3-0)

203 Advanced Public Speaking (Persuasion)

Three credits

Designed to acquaint the student with classical rhetorical 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. Prerequisite: SPH 104. 3 (3-0)

204 Human Communication

Four credits

An investigative course in which the student studies and applies theories of human communication. The student evolves his own model of relating to his world in interpersonal, intrapersonal, organizational, and cross-cultural bases, verbal and nonverbal. 4 (4-0)

205 Small Group Communication

Four credits

Theoretical study and guided practice in small group discussion (formal and informal, vocational and avocational). Emphasizes learning about the group: structure, purposes, leadership styles, roles, thinking and evaluation. No prerequisite. 4 (4-0)

Journalism (JRN)

Two Journalism programs are offered, one leading to an Associate of Arts Degree and the other leading to the Associate Degree General. Curriculum guides for both programs are available from College counselors or from the Department of Communication. The Associate of Arts program prepares the student for transfer to a four-year institution for work toward a bachelor's degree with a major in journalism. Both programs prepare students for entry into journalism careers. Acceptance into journalism internship is dependent on committee evaluation of the student's total performance in the journalism program.

150 Journalism in a Free Society

Three credits

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. 3 (3-0)

151 Newswriting

Four credits

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. 4 (4-0)

152 Reporting I

Four credits

Shows how, when and where to go after facts, how to conduct interviews, 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. Prerequisite: JRN 151 or departmental approval. 4 (4-0)

153 Reporting II**Four credits**

Shows students how to apply writing and reporting techniques to sophisticated styles of follow-up reporting. Students learn how to produce roundup stories, background stories, feature and human interest stories, and interpretive-analysis stories, and how to follow a story to its natural conclusion. Prerequisite: JRN 152 or departmental approval. 4 (4-0)

167 Journalism Practicum**Two credits**

Provides students with practical newspaper experience while they contribute to the College publication. Students primarily write news stories, but also take part in such activities as editing and headline writing. The ethical responsibility of the press is explored. Prerequisite: JRN 152 or departmental approval. 2 (0-6)

251 Editing and Layout**Four credits**

A practical course in editing copy, writing headlines, and laying out newspaper pages. Student learns the skills and use of the tools of the city desk. Prerequisite: JRN 151 or departmental approval. 4 (4-0)

254 Editorial Writing**Four credits**

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. Prerequisite: JRN 151 or departmental approval. 4 (4-0)

255 Newspaper Advertising

Introduction to newspaper advertising, including salesmanship, preparation of ads, and ethics. Examines preparation of an advertising program and presentation to advertisers. Develops skill in writing copy and laying out ads. Considers relationships with clients and impact on consumers. Prerequisite: COM 121. Course is under development. Ask in the Communication Department for additional information.

256 Newsletter Writing and Production**Four credits**

Provides the student with an understanding of the communication process, a working knowledge of writing and editing in journalistic style, and the techniques necessary for producing a newsletter or house organ. 4 (4-0)

259 Newspaper Management and Production**Four credits**

Examination of the various departments which work together to produce a newspaper. Students are familiarized with problems in such areas as general staff organization, personnel, responsibilities of a newspaper to its community, readers, advertisers, owners and staff members. Methods of production, laws regarding publishing, and ethics of newspapering will be covered. Prerequisite: JRN 251 or departmental approval. 4 (4-0)

267 Journalism Internship

Gives the student experience in a professional work situation. Conducted in cooperation with local industries, business organizations, newspapers, and radio and television stations. Prerequisite: recommendation of the faculty for a student

in his/her sixth term of the journalism program. Recommendation depends on the talent and motivation of the student. Course is under development. Ask in the Communication Department for additional information.

Broadcasting (BRD)

131 Introduction to News Broadcasting

Four credits

A general introduction to news broadcasting designed to help students appreciate the importance of radio and television as social forces, comprehend the nature of radio-television news, begin to formulate individual philosophies of news broadcasting, and begin to consider career opportunities. 4 (4-0)

132 News Broadcasting for Radio

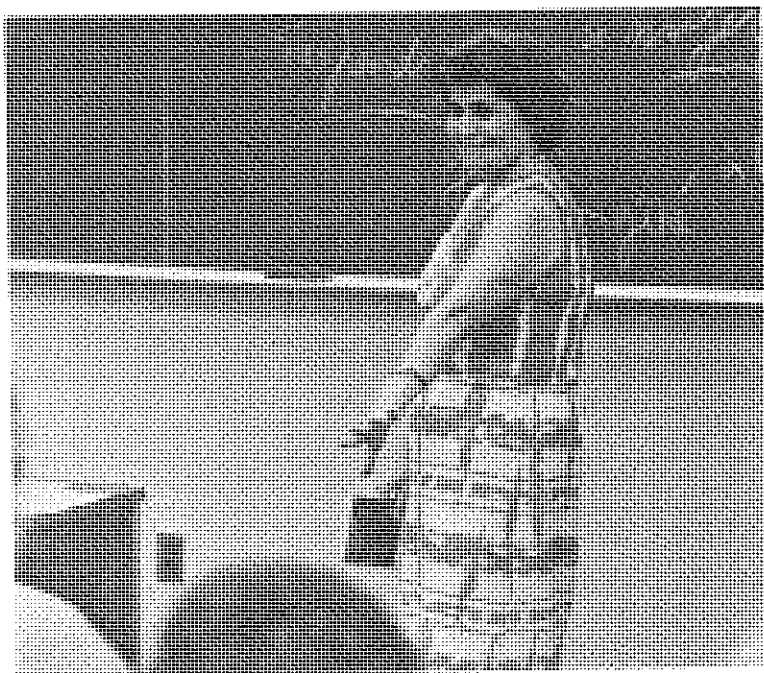
Four credits

Designed to prepare the student for gathering news, writing copy, and presenting news, weather, and sports by means of radio. Includes live presentations on the campus radio station. 4 (4-0)

133 News Broadcasting for TV

Four credits

Designed to prepare the student for gathering news, writing copy, and presenting news, weather and sports by means of television. Includes live presentations before a videotape camera. 4 (4-0)



Foreign Languages

Students enrolling in a foreign language course must complete three terms of college work to receive credit. Advanced placement may be arranged for those students who have satisfactorily completed two or more years of a language in high school. Proficiency tests will be given when there is a question concerning the student's level of accomplishment.

FRENCH (FRN)

101, 102, 103, Elementary French

Four credits

Three-term sequence of elementary French designed to teach pronunciation, vocabulary, conversation, and 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 language laboratory sessions (using tapes of native speakers) and class recitations. Prerequisite: For French 101, none; for French 102, French 101; for French 103, French 102. Direct admission to 102 and 103 only under special conditions. Twelve hours needed for transfer. 4 (5-1)

201, 202, 203, Intermediate French

Four credits

Three-term sequence of intermediate French involving systematic review of syntactic patterns, conversation, and extensive reading of modern texts. Increasing emphasis is placed upon the oral and written use of the language, as well as the cultural background of the French land and people. Prerequisite: For French 201, French 103; for 202, French 201; for French 203, French 202. Completion of the elementary and intermediate sequences fulfills the basic language requirements for liberal arts and associated curricula. 4 (5-1)

298 Independent Study in French

Two credits

Designed for advanced students wishing to pursue readings in French literature and/or a special research project. Prerequisite: Arrangement with the French instructor and approval by the department chairman. Enrollment restricted to students having a grade-point average of at least 3.0 in French courses.

SPANISH (SPN)

101, 102, 103, Elementary Spanish

Four credits

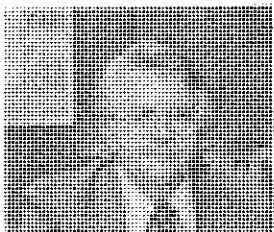
Three-term sequence of elementary Spanish based on audio-lingual techniques and emphasizing speech through pattern practice. Pronunciation problems are handled by contrastive analysis and classroom work is augmented by laboratory work with taped drills of native speakers. Classes meet one hour daily but students should plan to spend an additional five hours a week in intensive practice with audio-visual materials. Prerequisite: For Spanish 101, none; for Spanish 102, Spanish 101; for Spanish 103, Spanish 102. Twelve hours needed for transfer. 4 (5-1)

201, 202, 203 Intermediate Spanish**Four credits**

Three-term sequence of intermediate Spanish emphasizing oral-aural skills as well as reading and writing. Students are expected to converse in Spanish on assigned topics or informally and spontaneously. Laboratory work is assigned as needed. Prerequisite: For Spanish 201, Spanish 103; for Spanish 202, Spanish 201; for Spanish 203, Spanish 202. Completion of the elementary and intermediate sequences fulfills the basic language requirements for liberal arts and associated curricula. 4 (5-1)

Department of Humanities

Chairperson: Dr. Joseph L. 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.

There are a number of ways in which a student may fulfill both the Communication/English and the Humanities requirements for the Associate Degree in Arts or Science. As to the Communication/English requirement, a student having completed COM 121 may elect ENG 122 and ENG 123 as alternatives to COM 122 and COM 123. As to the Humanities requirement, HUM 201, 202, 203 (Western Civilization I, II, III) is the recommended sequence of courses. Students are free to substitute other courses, however, as long as these are distributed in at least two of the following four areas:

- A. Art History (HUM 150, 151, 152)
- B. History (HST)
- C. English Literature (ENG 200-294)
- D. Philosophy and/or Religion (PHL, REL)

In addition, there is now a Freshman level sequence of courses in the Humanities which may be used as a whole or in part to fulfill the Humanities requirement.

- HUM 100: Introduction to Art
- HUM 102: Mythology
- HUM 104: Introduction to the Humanities

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COURSE DESCRIPTIONS

Humanities (HUM)

100 Introduction to Art

Four credits

An introduction to art and its importance as symbolic expression. Selected works of painting, sculpture, and architecture will used to explore the dynamic interaction between artist and society. 4 (4-0)

102 Mythology

Four credits

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. 4 (4-0)

104 Introduction to Humanities

Four credits

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. 4 (4-0)

150 History of Art I

Four credits

Study of architecture, painting and sculpture in Egypt, the Middle East, Byzantium, and Europe from prehistoric times to the early Middle Ages. Slide lectures and museum excursions. 4 (4-0)

151 History of Art II

Four credits

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. 4 (4-0)

152 History of Art III

Four credits

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. 4 (4-0)

201 Western Civilization I

Four credits

First of a series of the three courses in the cultural foundations of Western man. Traces the social, intellectual, religious, philosophic, legal, and artistic patterns of Near Eastern, Hellenic, and Roman Civilizations. Relates man's creative works to his beliefs and values showing how others have understood themselves and how this understanding has shaped our views and our condition. 4 (4-0)

202 Western Civilization II

Four credits

Europe from the early medieval period, Renaissance and Reformation, Commercial Revolution and Expansion Overseas, nation-state building, science and secularism, to 1715 A.D. Concerned primarily with the development of ideas and new forms, intellectual revolution of early modern times, absolutism, and the influence of new forces in economics, philosophy, literature, religion, and art. 4 (4-0)

203 Western Civilization III**Four credits**

The French Revolution and its aftermath 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 in relation to literature, religion and art. 4 (4-0)

English (ENG)**122 Freshman English****Four credits**

A continuation of COM 121. ENG 122 is an alternate to COM 122. Emphasis is on the reading of short stories. Writing skills are also emphasized, plus a further development of library and research skills. Prerequisite: COM 121. 4 (4-0)

123 Freshman English**Four credits**

A continuation of ENG 122 or COM 122. ENG 123 is an alternate to COM 123. Emphasis is on introducing the various literary forms, plus the development of analytical and writing skills and research techniques. Prerequisite: ENG 122 or COM 122. 4 (4-0)

201 The Poetic Imagination**Four credits**

Designed to help student understand and appreciate the poetic imagination in its various forms. Emphasizes the nature of poetic language and meaning. Also emphasizes the literary techniques and conventions found in all literary forms. Required for English majors and minors. 4 (4-0)

202 Introduction to Drama**Three credits**

Introduces the drama and its literary techniques and conventions. Attention given to principles and theory, but understanding of the plays emphasized. Representative plays from Greek, European, English, and American dramatists. Prerequisite: COM 121. 3 (3-0)

203 Introduction to Prose**Three credits**

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' *Babbitt*. Prerequisite: COM 121. 3 (3-0)

210 The 19th Century American Novel**Three credits**

Study of the major 19th century American novels ranging from James Fenimore Cooper to Jack London. Emphasis on historical development of the novel form in American and the novelist's interpretation of the American scene. Prerequisite: COM 122 or ENG 122. 3 (3-0)

211 The 20th Century American Novel**Three credits**

Intensive study of some of the influential American novels of this century. Students will read such authors as Faulkner, Hemingway, and Steinbeck. Prerequisite: COM 122 or ENG 122. 3 (3-0)

220 Science Fiction**Three credits**

Designed to acquaint students with this popular and modern literary form. Some history and definitions of science fiction, but emphasis on short stories and novels and their unique view of the future. Also included are movies and audio-tapes. Prerequisite: COM 121 3 (3-0)

240 The Film as Art**Four credits**

The importance of the film as an art form capable of making a meaningful and perceptive comment on our civilization. The viewing and analysis of 6 to 8 films, both foreign and American, of recognized merit. Prerequisite: COM 121 4 (2-3)

250 Masterpieces of American Literature**Three credits**

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. Prerequisite: COM 121. 3 (3-0)

260 Survey of Afro-American Literature**Three credits**

A survey of Afro-American literature from the 17th century to the 20th century. Designed to introduce the student to the various genres in the literature of Black Americans. Prerequisite: COM 121. 3 (3-0)

290 Shakespeare**Four credits**

Introductory course in the dramatic works of William Shakespeare. Student will read six to nine plays representative of the author's comedies, histories, and tragedies. Prerequisite: ENG 122 or COM 122. 4 (4-0)

History (HST)**104 World Affairs Since 1945****Four credits**

A study of contemporary world affairs since 1945, emphasizing the most recent political, economic, military, and diplomatic developments of significance. 4 (4-0)

111 American History I**Four credits**

First of a series of two courses. Traces the origins of the history of the United States from its European beginnings through the Civil War. 4 (4-0)

112 American History II**Four credits**

The United States from the Reconstruction to the present. 4 (4-0)

150 Afro-American History**Four credits**

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 the North American culture. 4 (4-0)

- 160 Modern Mexico** **Four credits**
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. 4 (4-0)
- 210 Studies in American History** **Four credits**
Covers problems of research, writing, philosophy of history and interpretation, involving a detailed examination of a particular area of American history. Prerequisite: HST 112 and approval of the instructor. 4 (4-0)
- 220 Michigan History** **Four credits**
A survey of the political, economic and social development of the State of Michigan from pre-colonial times to the present. 4 (4-0)
- 255 African History: An Introduction** **Four credits**
A general survey of the African continent with emphasis on special selected topics (and regions) as follows: Precolonial Africa, the scramble for Africa, the rise of African Nationalism and Independence, Africa's internal and external relations. 4 (4-0)
- 270 The Modern Middle East** **Four credits**
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. 4 (4-0)
- 275 Modern East Asia** **Four credits**
Traces the transformation of East Asia in the modern era, including an introduction to the cultural, religious, and political traditions of its peoples. Emphasis will be placed on the development of China and Japan and their differing responses to the modern challenge; and analysis of the impact of the West and its role in the transformation. 4 (4-0)
- Philosophy (PHL)**
- 101 Principles of Reasoning** **Four credits**
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. 4 (4-0)
- 211 Who Am I?** **Four credits**
An introduction to philosophy as the art of wondering in a quest for self-understanding and truth. 4 (4-0)
- 212 Self and Society** **Four credits**
An exploration of the relationship between individual and culture, and their mutual molding process. No prerequisites, but PHL 211 useful. 4 (4-0)

213 Life, Cosmos, and Ultimate Meaning**Four credits**

An inquiry into life, nature, and the search for ultimate meaning in our existence. No prerequisites, but PHL 211 or 212 useful. 4 (4-0)

260 Contemporary Social Philosophy**Four credits**

Survey of current trends in social philosophy with emphasis on prevalent assumptions about "human nature" and how they influence our thought. Authors to be discussed include Sartre, Dewey, Skinner, Fromm, and Marcuse. 4 (4-0)

270 Philosophy of Science**Four credits**

A critical examination of some of the basic concepts and problems of the natural and social sciences. Particular consideration is given to the concept of "confirmation" and related problems of scientific concept formation. Theory construction and explanation are also considered. 4 (4-0)

Religion (REL)**150 World Religions****Four credits**

Survey of the thought and practice of five major religions: Hinduism, Buddhism, Judaism, Christianity, and Islam. Emphasis is upon deepening our understanding of ourselves and others through a new appreciation of the role of religion in the development of human culture and values. 4 (4-0)

201 Religions of East Asia**Four credits**

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. 4 (4-0)

203 Religion in American Life**Four credits**

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. 4 (4-0)

211 Hebrew Origins**Four credits**

The origin and development of Hebrew religion and Judaism as reflected in the canon of the Hebrew Bible (Old Testament). 4 (4-0)

212 Christian Origins**Four credits**

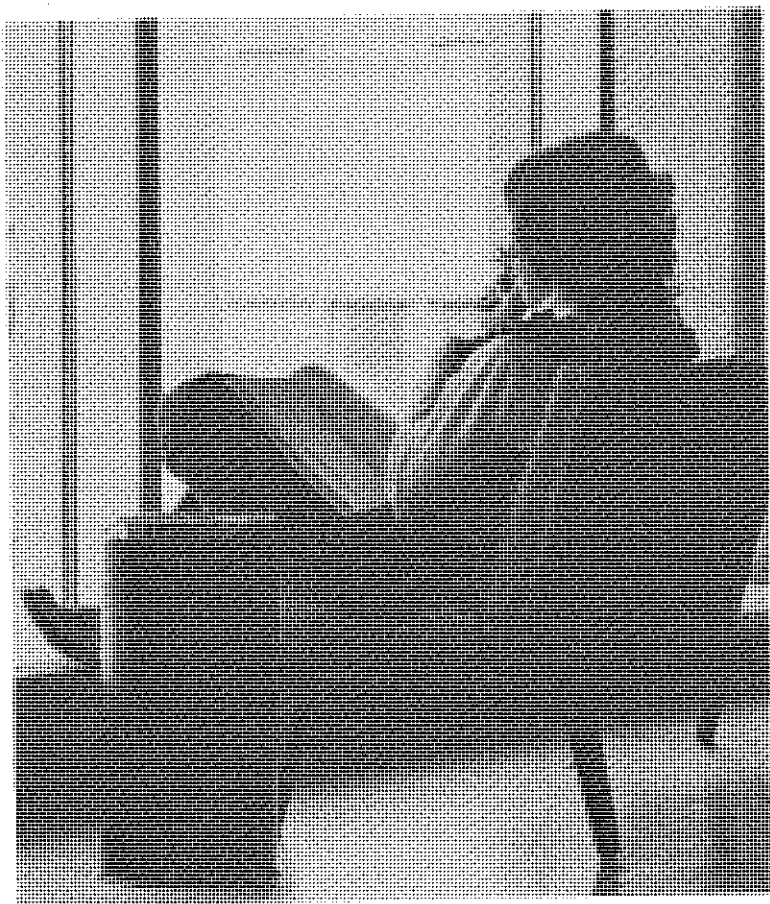
A study of Christian origins and beliefs as reflected in the literature of the New Testament, viewed in its original historical setting. 4 (4-0)

Special Courses (HUM, ENG, HST, PHL, REL)**093, 094, 095, 096 Lifetime Studies****Credits variable, one to four**

Lifetime Studies offers a continuing education for those who enjoy learning for its own sake. There will be a descriptive sub-title each time the course is offered. Credit given for these courses will only apply toward the Associated Degree General.

291, 292, 293, 294 **Seminar: Special Subjects** Credits variable, one to four
Special seminars drawn from any area within the disciplines of history, literature, philosophy, or religion. There will be a descriptive sub-title each time the course is offered. The course may be repeated for additional credit for each new sub-title. Credits are variable from one to four. Prerequisites: As individually listed for each offering.

296, 297, 298, 299 **Independent Study** Credits variable, one to four
Special research project and/or individual readings in Humanities, English, History, Philosophy, or Religion. Credits variable from one to four. Prerequisite: Arrangement with an instructor and approval by the department chairman before registration. Enrollment usually restricted to students who have grade-point average of at least 3.0 in courses offered by this department.



*Department of Mathematics**Chairperson:* Clarence A. Powers**Course Placement**

Placement in your first mathematics course should be based upon your readiness and not just upon the requirements of your program of study. The Math Laboratory provides placement testing to assist you in selecting the proper course. It is advised that you make use of this service prior to registration.

The Mathematics Department offers two different methods of instruction that will affect your selection of MTH 009, MTH 012, and MTH 102 section numbers. Courses taken in our Math Laboratory are self-paced individualized programs with no scheduled lectures. The section numbers for these courses all start with 139. The traditional lecture discussion class section numbers start with 131 or 132.

COURSE DESCRIPTIONS**Mathematics (MTH)****095 Mathematics Laboratory****No credits**

MTH 095 is our notation for arranged time in the math lab. It is not a course. Specify the time at registration by selecting an MTH 095 section for each math course listed as "arranged" in the term schedule. The arranged courses available in the Math Lab are MTH 009, 010, 012, 013, 030, and 102. MTH 009, 012, and 102 are also available in regular discussion sections which meet at a specific time in a standard classroom.

Since the Math Lab operates quite differently than regular classes, an orientation unit and test is required for all Math Lab students.

Developmental Courses**009 Basic Arithmetic****Five credits**

Review of fundamental processes with integers, common fractions, decimal fractions, and percentage. Includes work with word problems designed to promote good reasoning. 5 (5-0)

010 Metric System**Two credits**

Available only in the Math Lab. An introductory course on the metric system utilizing programmed and audio-visual materials for individualized instruction in the Math Laboratory. Covers the commonly used metric units of measurement of length, volume, and weight. Use of conversion tables is included. Prerequisite: Proficiency in basic arithmetic. 2 (2-0)

012 Beginning Algebra**Five credits**

Contemporary course in elementary algebra with emphasis on language, elementary set theory, the real number system, absolute values, algebraic and graphical solutions of linear equations, and inequalities. Prerequisite: MTH 009 or proficiency in basic arithmetic. 5 (5-0)

013 Geometry**Five credits**

Available only in the Mathematics Laboratory. Elementary course in plane geometry with some of the concepts also related to three-dimensional figures. Included are the nature of proof and mensuration principles and formulas. Prerequisite: MTH 012 or proficiency in beginning algebra. 5 (5-0)

030 Trigonometry**Two credits**

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. Includes the primary and reciprocal functions, cofunctions, and use of tables of Natural Trigonometric Functions. Application of vectors needed for Physics 201 is included. Prerequisite: MTH 012 or proficiency in beginning algebra. 2 (2-0)

Algebra and Calculus Courses**102 Intermediate Algebra****Five credits**

Deals with topics normally considered in second-year high school algebra. Includes the real number system, solution of equations and inequalities, functions, graphs and the complex number system. Prerequisite: MTH 012 or proficiency in beginning algebra.

164 College Algebra and Trigonometry I**Five credits**

Topics include: the real number system, absolute values, the function concept with logarithmic and algebraic functions, each considered in detail. Other topics are: polynomials, the complex numbers, matrices and determinants. Prerequisite: MTH 102 or equivalent. 5 (5-0)

165 College Algebra and Trigonometry II**Five credits**

Continuation of MTH 164 with emphasis on trigonometry. Prerequisite: MTH 164. 5 (5-0)

166 Finite Mathematics with Applications**Five credits**

An alternative to MTH 165 for students whose program will not include the study of trigonometry. Topics include: elementary combinatorial analysis, binomial theorem, vectors and matrices, linear programming, graph theory, and game theory. Prerequisite: MTH 164 or departmental approval. 5 (5-0)

- 209 An Introduction to the History of Mathematics** **Two credits**
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. Prerequisite: MTH 164 or departmental approval. 2 (2-0)
- 210 The Real Number System - An Introduction** **Two credits**
The course begins by defining the real number system as "a complete ordered field" and proceeds by explaining the words "fields," "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 in the latter part of the course. Prerequisite: MTH 164 or departmental approval. 2 (2-0)
- 211 Graphs and Mathematical Models** **Two credits**
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 these basic problem areas: transportation problems, communication and critical path problems, party problems, and coloring-planarity problems. Prerequisite: MTH 164 or departmental approval. 2 (2-0)
- 213 Analytic Geometry and Calculus I** **Five credits**
The sequence 213, 214, 215, 216 is an integrated course in calculus, analytic geometry and differential equations covering derivatives, curve sketching, definite and indefinite integrals, area, volume, transcendental functions, vector analysis, solid geometry, partial differentiation, multiple integrals, infinite series, power series, and differential equations. Prerequisite: MTH 165 or equivalent. 5 (5-0)
- 214 Analytic Geometry and Calculus II** **Five credits**
Continuation of MTH 213. Prerequisite: MTH 213. 5 (5-0)
- 215 Analytic Geometry and Calculus III** **Five credits**
Continuation of MTH 214. Prerequisite: MTH 214. 5 (5-0)
- 216 Analytic Geometry and Calculus IV** **Five credits**
Continuation of MTH 215. Prerequisite: MTH 215. 5 (5-0)
- 234 Theory of Matrices** **Four credits**
Algebra of matrices, rank, inverses, determinants, vector spaces, linear transformations, characteristic values and functions of a matrix. Prerequisite: MTH 214. 4 (4-0)

Mathematics Foundations Courses for Teachers**200 Arithmetical Foundations****Five credits**

Required of all elementary pre-teachers. The real number system is developed with emphasis on the teaching of addition, subtraction, multiplication and division. The use of teaching aids such as Geo-Boards, Cuisenaire Rods and Games is a central feature of the course. Prerequisite: Proficiency in arithmetic. 5 (5-0)

Statistics Courses**170 Introduction to Statistics****Five credits**

For those who need just one course dealing with many concepts and uses of statistics. Theory and computation are minimized with emphasis on concept comprehension. Topics include probability, binomial and normal distributions, estimation, tests of hypotheses, Chi-square tests, and comparison of parametric and nonparametric statistics. Prerequisite: MTH 164 or departmental approval. 5 (5-0)

205 Statistics (Formerly 160)**Five credits**

For those who need a sequence of three required statistics courses in the business field. This first course covers the topics of probability theory and distributions, discrete random variables, and empirical and theoretical frequency distributions. Emphasis is on doing computational problems related to business. Prerequisite: MTH 166 or MTH 165. 5 (5-0)

Seminar Courses

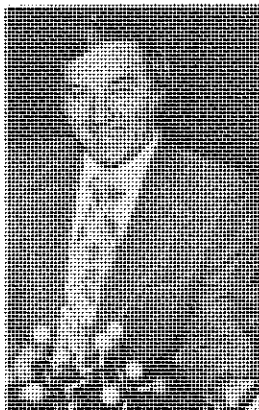
Lifetime Studies seminars are offered in many subjects related to the various areas of mathematics, to meet the interest of students who may not be working toward any certificate of degree. While regular students may enroll also, the credits apply only towards the Associate General Degree and ordinarily are not transferable to other colleges. Each section has its own title and credit value. Course codes carry numbers 083, 084, 085, or 086.

Seminars in Special Subjects are offered with credit which does apply towards all Associate Degrees and may transfer to other colleges as general credit. There is a descriptive subtitle for each seminar. Prerequisites and credit values vary. Course codes for these seminars carry numbers 193, 194, 195, or 196.

Honors Seminars in Mathematics are two credits each with course codes of 236, 237, 238, 239, or 240. These credits apply towards the Associate Degrees and are transferable to other colleges as math credit. 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 enrollment in MTH 165. Similar individualized programs exist for concurrent enrollment in MTH 237 and 213, 238 and 214, MTH 239 and 215, or MTH 240 and 216. Prerequisite: A or B in prerequisite course, concurrent enrollment in corresponding course and approval of department. Meetings with instructor are arranged.

Department of Science

Chairperson: Dr. David L. Shull



The instructional program of the Science Department is designed to meet the following four basic needs: (1) Provide a full range of traditional courses that fulfill the science requirements for an Associate Degree or transfer to build toward the Baccalaureate Degree, (2) develop and offer specialized courses in support of programs offered by other departments within the College, (3) provide students who qualify an opportunity to select independent study in science, science Honors options, or science seminars on special topics, (4) support the Lifetime Studies concept, making available to the community a wide-range of science related courses for personal enrichment or vocational benefits.

The Science Department is a multi-discipline department offering a broad spectrum of courses thru innovative, instructional methodology. The Audio-Visual-Tutorial System, self-pacing, and computer assisted instruction are widely used.

COURSE DESCRIPTIONS

Biology (BIO)

101 Biology

Four credits

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 electrolytes, pH, carbohydrates, lipids, proteins, nucleic acids, and chemical energy transformations), diffusion, osmosis, dialysis, filtration, mitosis, meiosis and genetics are included. 4 (3-2)

203 Microbiology

Four credits

Introduction to basic microbiology, with emphasis on communicable disease agents. A study of bacteria, viruses, yeasts, fungi and protozoa of medical importance; immunology; physical and chemical control; genetics; culture media; isolation of pure culture; identification of unknown bacteria; staining methods; practical sterilization; and the collection and handling of specimens. Prerequisite: Biology background essential. 4 (2-4)

107 Cellular Biology**Four credits**

Deals with the nature of science and its processes, cell structure and cell processes. It includes processes of cell division and heredity. Forms and functions of cells are related in the study of tissues. Applications of statistics and probability to genetics are considered. Evolution, as a theory, is actively investigated by students with the assistance of the instructor. 4 (2-4)

108 Life Processes**Four credits**

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. 4 (2-4)

109 Principles of Ecology**Four credits**

A study of ecological problems. Taxonomy is studied where it is relevant to ecology. The course is oriented to field investigations and laboratory study of related organisms to their natural environment. 4 (2-4)

201 Zoology I**Four credits**

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 the mammals. 4 (2-4)

202 Zoology II**Four credits**

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. Prerequisite: BIO 201 or permission from the department. 4 (2-4)

203 Botany**Four credits**

A morphological study of plants. The course deals with plant structures and life cycles, and consideration of ontological and evolutionary development. NS 121 or BIO 107 recommended. 4 (2-4)

207 Cell Biology**Four credits**

An introductory course which parallels Cellular Biology 107 except for greater emphasis on cell ultrastructure and chemistry, and omission of the study of plant cells. This course satisfies the prerequisites for Anatomy 212 or Histology 280 and is a preferred alternative to Cellular Biology 107 for health-oriented career fields. 4 (2-4)

270 Human Heredity**Three credits**

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 to evolution. Review 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 will be discussed. Prerequisite: NS 123 or one term of biology. 3 (3-0)

271 Genetics Laboratory**One credit**

The course includes human and animal genetics exercises. Topics include: blood testing, breeding experiments, and cellular preparations. Prerequisite: BIO 270 or concurrent. 1 (0-2)

272 Genetics**Three credits**

The traditional concepts of genetics will be 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. Prerequisite: BIO 270 and 271. 3 (3-0)

Anatomy and Physiology (ANT)**150 Anatomy and Physiology****Five credits**

Anatomy and Physiology 150 is 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. Prerequisite: BIO 207 or equivalent; ANT 212 desirable. 5 (4-2)

151 Anatomy and Physiology I**Four credits**

Emphasizes the function of all systems in the human body. The course is particularly recommended for medical secretaries, students in physical education and psychology. Study of the cell, tissues, skeletal system, muscular system, nervous system and special sense organs is included. 4 (3-2)

152 Anatomy and Physiology II**Four credits**

This is a continuation of Anatomy and Physiology I. The course covers the circulatory, respiratory, digestive, urinary, reproductive and endocrine systems. Prerequisite: ANT 151. 4 (3-2)

211 Human Anatomy**Five credits**

A study of the anatomy of the human body meeting the needs of students in biology or related applied fields, such as nursing, radiologic technician and respiratory therapy. The anatomies of the skeletal, muscular, nervous, sensory, circulatory, respiratory, digestive, excretory, endocrine and reproductive systems are studied. 5 (3-3)

212 Human Physiology**Five credits**

The physiology of the skeletal, muscular, nervous, sensory, circulatory, respiratory, digestive, excretory, endocrine and reproductive systems is studied. Other topics include metabolism, water and electrolyte balance, acid-base balance, and stress. Prerequisite: BIO 101 or departmental approval. 5 (5-0)

280 Histology**Five credits**

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 human tissue. Study is restricted to nonpathological tissues. Techniques of photomicrography, microtomy and staining of frozen and embedded tissues are included. Prerequisite: BIO 207 or equivalent; ANT 212 desirable. 5 (2-6)

290 Principles of Embryology**Three credits**

Deals with the principles of animal development. 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. Prerequisite: ANT 212. 3 (3-0)

291 Embryology Laboratory**Two credits**

Bilogy 291 consists of observational experiences with live and preserved embryos and prepared slides of embryos, whole and sectioned. The student will become familiar with developmental stages of chick and pig embryos with some comparison made to human embryos. Prerequisite: BIO 290 or concurrent. 2 (0-6)

Chemistry (CEM)**010 Basic Chemistry****Four credits**

A fundamental chemistry course. Designed specifically for those students deciding on a program of study which will require chemistry at the freshman level or above but without previous experience in chemistry. The course also serves as a review or to strengthen the student's background of experience so that he can then enter a college chemistry series of courses with a feeling of self-confidence and academic readiness. 4 (4-0)

100 Concepts in Biochemistry**Five credits**

An introduction for the student who needs to understand chemistry as it applies to life processes. Deals with enzymes, amino acids, nucleic acids, blood and urine chemistry. Emphasizes other physiological and pathological application. Prerequisite: High school chemistry within past two years, or CEM 010, or approval of department. 5 (4-2)

**131 Introduction to Chemistry Lecture I****Three credits**

First of three lecture courses designed to meet the needs of students requiring one year of chemistry and an introduction to basic inorganic and organic chemistry. The student should take the Lecture courses (CEM 131, 132, 133) concurrently with the Laboratory courses (CEM 141, 142, 143). CEM 131 (inorganic) introduces the principles of measurement, properties, and structure of matter (atomic and electronic structure); chemical bonding; nomenclature; chemical equations; stoichiometry; and properties of gases. Prerequisite: High school algebra. 3 (3-0)

132 Introduction to Chemistry Lecture II**Three credits**

Continuation of CEM 131. CEM 132 (inorganic) introduces basic principles involved in changes of state, solution chemistry, acid-base chemistry, oxidation-reduction, kinetics and equilibrium, and nuclear chemistry. The student should take CEM 142 concurrently. Prerequisite: CEM 131. 3 (3-0)

133 Introduction to Chemistry Lecture III**Three credits**

The course surveys basic organic principles and common organic compounds. It introduces the student to nomenclature, mechanisms, reactions and synthesis. Organic compounds studied include aliphatic and aromatic hydrocarbons, alcohols and phenols, ethers, organic halogen compounds, aldehydes, ketones, carboxylic acids, amines and lipids. Students should also take CEM 143. Prerequisite: CEM 132 or departmental approval. 3 (3-0)

141 Introduction to Chemistry Laboratory I**One credit**

First in a series of three laboratory courses which are designed to be taken concurrently with the CEM 131, 132, 133 lecture courses. Students are introduced to laboratory procedures, measurement, preparation of oxygen, types of chemical reactions, composition of compounds, heat of reactions, and gas laws. Prerequisite: Credit in CEM 131 or concurrent enrollment, plus high school algebra. 1 (0-3)

142 Introduction to Chemistry Laboratory II

One credit

A course designed to provide laboratory experience related to topics covered in CEM 132, including solutions, acids and bases, oxidation-reduction reactions, and chemical equilibrium. Prerequisite: CEM 141 and 132 or concurrent with CEM 132. 1 (0-3)

143 Introduction to Chemistry Laboratory III

One credit

An organic chemistry laboratory course designed to supplement the student's grasp of organic principles through practical experiences which directly relate to subject matter presented in CEM 133 lecture. The student learns to use sophisticated apparatus and techniques as well as relate chemical-physical principles to organic reactions and synthesis. Students enrolling in CEM 143 should also enroll in CEM 133. Prerequisite: CEM 142 and 133 or concurrent with CEM 133. 1 (0-3)

171 General Chemistry Lecture I

Four credits

First of three lecture courses designed to give in-depth introduction to general college sciences. CEM Laboratory courses 181, 182, 183 are to be taken concurrently with the lectures. CEM 171 covers atomic and molecular structure, chemical bonding, nomenclature, stoichiometry, gas laws, solutions, the solid state, the kinds, type and states of matter and the descriptive chemistry of the noble gases, Group IA and VIIIA. Prerequisites: High school chemistry and algebra or departmental approval. 4 (4-0)

172 General Chemistry Lecture II

Three credits

Continued from Chemistry 171. Covers 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. Prerequisites: CEM 171 (or CEM 131 and 132) or departmental approval. 3 (3-0)

173 General Chemistry Lecture III

Three credits

The third lecture course in the series. Topics included are ionic equilibria, solubility product constants, colloids, the Phase Rule and introduction to coordination chemistry, organic chemistry, biochemistry, nuclear chemistry and fundamental particles. Prerequisites: CEM 172 or departmental approval. 3 (3-0)

181 General Chemistry Laboratory I

One credit

First in a series of three general chemistry laboratory courses which are designed to accompany lecture courses CEM 171, 172, and 173. CEM 181 stresses laboratory techniques and includes a treatment of density determination, synthesis, gas laws, freezing point depression, and acid-base titrations. Prerequisites: Credit or enrollment in CEM 171. 1 (0-3)

182 General Chemistry Laboratory II

Three credits

Second term general chemistry laboratory with emphasis on quantitative analysis. Includes acid-base titrations, oxidation-reduction titrations, complexation titrations, spectrophotometric analysis and chemical kinetics. Prerequisites: Credit or enrollment in CEM 172 and credit in CEM 181. 3 (1-6)

183 General Chemistry Laboratory III**Two credits**

This course should be taken concurrently with CEM 173, General Chemistry III. CEM 183 is a self-paced systematic qualitative analysis of semi-micro techniques of the common cations and anions. Prerequisites: CEM 173 and 182 or departmental approval. 2 (0-6)

241 Principles of Organic Chemistry I**Five credits**

The first term of a course designed primarily to introduce non-chemistry majors to the field of organic chemistry. Topics include structure, bonding and stereo chemistry, aliphatic and aromatic hydrocarbons with emphasis on nomenclature, preparations and reactions, an introduction to reaction 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 lectures. Prerequisite: CEM 172 and 182 or equivalent. 5 (4-3)

242 Intermediate Organic Chemistry II**Five credits**

Continuation of Chemistry 241. Topics include halides, alcohols, phenols, ethers, carboxylic acids and their derivatives, aldehydes, ketones, amines, and pertinent reaction mechanisms. Nomenclature, preparations and reactions are stressed with increased emphasis on synthetic and analytical applications of the reactions studied. Prerequisite: Satisfactory completion of CEM 241. 5 (4-3)

243 Intermediate Organic Chemistry III**Three credits**

Continuation of Chemistry 242. Topics include heterocycles, carbohydrates, amino acids and proteins, polymers, molecular rearrangements, and an introduction to steroid, alkaloid and terpene chemistry. Prerequisite: Satisfactory completion of CEM 242. 3 (3)

251 Organic Chemistry I**Five credits**

A three-term course (251-252-253) in organic chemistry designed primarily for chemistry majors and for those students wishing a rigorous treatment of the subject. Topics parallel those covered in CEM 241-242-243 but in greater detail and with more emphasis on mechanism, theory, problem solving, and applications of instrumental methods to the study of organic compounds. Laboratory exercises are selected on the same basis as for the non-majors' course with an additional period per week given to laboratory work. In the third term laboratory work additional techniques and reaction sequences are studied along with an introduction to the use of the chemical literature. The topics in Chemistry 251 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. Prerequisite: CEM 172 and 182 or equivalent. 5 (3-6)

252 Organic Chemistry II**Five credits**

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. Prerequisite: Satisfactory completion of CEM 251. 5 (3-6)

253 Organic Chemistry III**Five credits**

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. Prerequisite: Satisfactory completion CEM 252. 5 (3-6)

Astronomy (AST)**201 Introduction to Astronomy****Four credits**

Designed to acquaint the student with the physical universe, using the descriptive rather than the mathematical approach. A study of the solar system, stellar systems, cosmology, and methods employed by astronomers in gathering information. Lecture, laboratory and planetarium. Prerequisite: NS 121 and 122 or permission of instructor. 4 (3-3)

Meteorology (MET)**112 Basic Meteorology****Two credits**

Provides a basic background in the principles and terminology of meteorology, Includes weather phenomena, instrumentation, weather maps, and simple weather prediction. Not acceptable for science majors. 2 (2-0)

212 Introduction to Meteorology**Four credits**

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. Prerequisite: NS 121. 4 (2-4)

Geology (GE)**221 Geology I****Four credits**

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 will consist of either field investigations to nearby areas and a one-weekend extended field trip, or on-campus laboratory activities. Prerequisite: NS 121 and 122. 4 (3-3)

222 Geology II**Four credits**

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 week-end field investigation. Prerequisite: NS 121 and 122. 4 (3-3)

223 Geology III**Four credits**

Traces the historical development of the earth with special emphasis on the North American continent. Topics will include the Precambrian, Paleozoic, Mesozoic, and Cenozoic Eras; geologic maps and their interpretation; sea floor spreading; geotectonics, continental drift; fossil fuels and mineral resources. Prerequisite: NS 122. 4 (3-3)

224 Michigan Geology**Four credits**

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 will be placed on economic, environmental and special interest aspects of Michigan geology. Enrollment in a separate one-credit lab may be taken concurrently with the course. Prerequisite: NS 122. 3 (3-0) or 4 (3-2)

Oceanology (OCN)**225 Basic Oceanology and Limnology****Four credits**

Presents 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. Prerequisite: NS 122 and 123. 4 (3-3)

Science Foundation Courses for Teachers (FDN)**210 Foundations of Conservation****Four credits**

Study of natural resources and the principles of utilization through management and conservation. Topics include history of conservation, ecology, soils, minerals, water, forests, wild life, human populations and man's effect on the natural resources of the earth. The laboratory consists of field investigations and guidance for conservation majors or others according to specific interest or declared vocations. 4 (2-4)

211 Foundations of Physical Science**Four credits**

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. Prerequisite: Sophomore status and NS 121 or equivalent. College chemistry and physics recommended. 4 (2-4)

212 Foundations of Biological Science**Four credits**

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 teaching biological science will be included. Prerequisite: Sophomore status and NS 123 or equivalent college biology. Foundations of Physical Science recommended. 4 (2-4)

Natural Science (NS)

A three-course sequence in Natural Science designed to give the student a basic understanding of some of the more 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 is recommended that the courses be taken in numerical sequence.

121 Natural Science (Physical World)**Four credits**

Introduces the fundamental laws, theories, and principles of chemistry and physics. Includes such topics as kinetic, atomic and molecular theory and the periodic system. One year of high school algebra or MRH 012 is recommended. 4 (2-4)

122 Natural Science (Rocks and Stars)**Four credits**

Topics include the solar system, the universe, minerals and rocks, geological processes, environmental geology. 4 (2-4)

123 Natural Science (The Living World)**Four credits**

Topics include: characteristics of life, cell structure and function, cell chemistry, photosynthesis and respiration, asexual and sexual reproduction, mitosis and meiosis, and genetics. The lecture series, and correlated reading, serve as an introduction to the concepts of modern ecology and how these concepts relate to our present environmental problems. 4 (2-4)

Physics (PHY)**201 Physics (Mechanics and Heat)****Four credits**

First of 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. Prerequisite: Trigonometry or approval of department. 4 (2-4)

202 Physics (Electricity, Magnetism and Wave Motion) Four credits

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. Prerequisite: PHY 201 or approval of department. 4 (2-4)

203 Physics (Optics and Modern Physics) Four credits

A course in modern physics designed to present such topics as optics, atomic structure, solid state and nuclear reactions. Prerequisite: PHY 202 or approval of department. 4 (2-4)

211 Physics (Mechanics and Heat) Four credits

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. Prerequisite: Calculus I or its equivalent, or approval of department. 4 (2-4)

212 Physics (Electricity, Magnetism, and Sound) Four credits

Designed to teach the basic principles of electricity and sound. Similar to 202 but uses Calculus extensively. Prerequisite: PHY 211, or approval of department. 4 (2-4)

213 Physics (Optics and Modern Physics) Four credits

Principles of geometric and physical optics as well as recent developments in modern physics such as atomic and nuclear phenomena, relativity, solid state physics, and quantum physics phenomena. Prerequisite: PHY 212, or approval of department. 4 (2-4)

Seminars in Science**093, 094, 095, 096 Lifetime Studies in Science Subjects Variable credits**

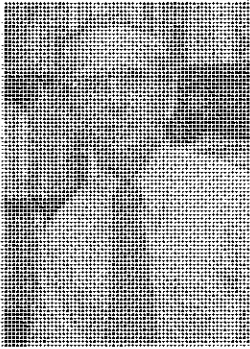
From time to time various special classes for continuing education are designed and offered by the Science Department. Interesting and rewarding courses provide cultural enrichment and acquisition of new knowledge. The program is specifically designed to provide learning experiences beyond those usually provided in more traditional offerings. Course credits apply to the Associate Degree General only.

294, 295, 296 Seminars in Special Subjects in Science Variable credit

Special seminars are developed from many areas within the disciplines of biology, geology, astronomy, anatomy, physiology, heredity, ecology, chemistry, physics and the other natural sciences. There will be a published descriptive sub-title each time a seminar is offered. Credits apply to all degrees. Prerequisite: Departmental approval.

297, 298, 299 Independent Study in Science Subjects Variable credit

Special studies, research projects or individual readings. Prerequisite: Arrangement with an individual instructor and approval of the department chairperson. A detailed plan for the study will be submitted prior to approval.

*Department of Social Science**Chairperson:* Dr. William Heater

Social Science includes the fields of education, geography, psychology, sociology, anthropology, economics, political science, government and also job training in human services. Students who envision careers in teaching, law, social work, guidance counseling, public administration, personnel work, clinical psychology, urban planning, youth service, foreign service, social research or similar occupations might major in this department either to begin a four-year program or to gain entry-level job skills. Several courses are designed to meet specific requirements of majors in other areas.

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 must be taken in sequence. Other courses, such as PLS 200, SA 200, or Economics 101, 201, or 202 may *not* be substituted as prerequisites for SS 102 or SS 103. SS 104, American Government, may be taken in place of SS 103 any time without prerequisites. Either SS 103 or SS 104 will satisfy the State of Michigan requirement of one course in government.

101 Introduction to Social Science I**Four credits**

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. No prerequisite. 4 (4-0)

102 Introduction to Social Science II**Four credits**

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. Prerequisite: SS 101. 4 (4-0)

103 Introduction to Social Science III**Four credits**

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. Prerequisite: SS 102 or 112. 4 (4-0)

104 American Government**Four credits**

An analysis of the American political system. Emphasizes Federal and State systems, with special attention given to American democracy from local to national levels. 4 (4-0)

112 Honors Section of Introduction to Social Science II**Four credits**

Same as SS 102, but taught on an advanced level in a seminar. Outstanding students will be enrolled by invitation only. Students will be notified of their eligibility before registration. 4 (4-0)

113 Honors Section of Introduction to Social Science III**Four credits**

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. 4 (4-0)

**Geography (GEO)****101 Principles of Geography****Four credits**

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 effect on human life. Includes mapping techniques, land site analysis, and air-photo interpretation. Field trips will be an integral part of the course. 4 (4-0)

201 World Regional Geography**Four credits**

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. 4 (4-0)

202 Geography of North America**Three credits**

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. 3 (3-0)

203 Economic Geography**Three credits**

Study of geographic distribution and production 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. 3 (3-0)

Political Science (PLS)**150 American Political Parties and Elections****Three credits**

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. 3 (3-0)

200 Introduction to Political Behavior**Four credits**

Introduction to theories, concepts and methods of political science with emphasis on the functions of political institutions and behavior of political actors. Prerequisite: SS 101 or departmental approval. 4 (4-0)

205 State and Local Government**Four credits**

A study of how state and local governments organize resources and make policies. Consideration is given to the relationships between governmental units and the problems that confront them. Prerequisite: SS 103 or SS 104. 4 (4-0)

210 Contemporary Political Affairs**Three credits**

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. Prerequisite: SS 103. 3 (3-0)

260 Introduction to Comparative Government**Four credits**

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. Prerequisite: SS 103. 4 (4-0)

271 International Relations**Four credits**

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. Prerequisite: SS 103. 4 (4-0)

Psychology (PSY)**100 Psychology for Practical Nurses** **Two credits**

A course designed to introduce the student to the principles of emotional development. Endeavors to prepare the student to understand human behavior and to deal with patient's behavior effectively. Prerequisite: Enrollment in Practical Nursing curriculum. 2 (2-0)

151 Psychology of Personal Adjustment **Three credits**

Psychological principles applied to personal and social relations. Designed for students who desire a practical understanding of psychology but do not intend to enroll for advanced courses in the field. (Not eligible for credit after taking Psychology 200 or 201.) 3 (3-00)

152 Applied Psychology **Three credits**

Psychological principles applied to production, distribution and use of goods and services. Psychology as it relates to personnel, management, human relations on the job, work setting, marketing and law enforcement. Designed for students desiring practical understanding of psychological principle who do not intend to enroll for advanced courses in the field. 3 (3-0)

200 Introductory Psychology: Social-Individual Behavior **Four credits**

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. Four credits. 4 (4-0)

201 Introduction to Psychology: Principles and Methods **Four credits**

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. Prerequisite: PSY 200. Four credits. 4 (3-2)

202 Psychology of Personality **Four credits**

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. Prerequisite: PSY 200. 4 (4-0)

203 Introduction to Social Psychology **Four credits**

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. Prerequisite: PSY 200 and SS 101. 4 (4-0)

204 Educational Psychology**Four credits**

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. Prerequisite: PSY 200. 4 (4-0)

205 Human Growth and Development**Four credits**

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. Prerequisite: PSY 200. 4 (4-0)

Sociology and Anthropology (SA)**160 Contemporary Chicano Problems****Three credits**

A survey of the social problems confronting the Mexican-American community. Emphasis will be placed on cultural identity, social integration, political participation, and economic status. 3 (3-0)

200 Principles of Sociology**Four credits**

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. Prerequisite: SS 101. 4 (4-0)

210 Introduction to Research Methods in Social Science**Four credits**

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. Prerequisite: SS 101 plus 8 other credits in SS. 4 (4-0)

220 Juvenile Delinquency and Youth Behavior**Three credits**

Early attention will be given to the problems of defining juvenile delinquency and a survey of its present status in major industrial nations. Major concentration on theories which attempt to account for juvenile delinquency and evidence supporting such theories. Concludes with brief consideration of control and correction. Prerequisite: SS 101. 3 (3-0)

230 Introduction to Substance Abuse**Four credits**

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. 4(4-0)

254 Marriage and the Family**Three credits**

An overview of sex role definitions and the accompanying changes in the structure and the functions of the institutions of marriage and the family in contemporary American society. Prerequisite: SS 101 and PSY 200. 3 (3-0)

255 Contemporary Social Problems**Three credits**

Consideration of current social problems from a framework of sociological theory with special regard for current hypotheses and recent empirical studies relevant to particular problems, i.e., family stability, racism, urbanism, etc. Prerequisite: SS 103. 3 (3-0)

260 Minority Groups**Three credits**

An introduction to the culture and contemporary life styles of American minorities. Emphasis is placed on basic sociological and anthropological concepts with respect to selected minority groups, particularly the Black-American, Mexican-American and Native American. Prerequisite: SS 101 or departmental approval. 3 (3-0)

270 Introduction to Cultural Anthropology**Four credits**

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. Prerequisite: SS 101. 4 (4-0)

275 Introduction to Physical Anthropology and Archaeology**Four credits**

An introduction to human biological and cultural evolution; mechanisms of evolution; human origins and biological and cultural evidence from the fossil record; behavior among other animals and the development of human culture; culture as an adaptive mechanism; and modern human variation. 4 (4-0)

HUMAN SERVICES

The purpose of the Human Service courses is to develop job-relevant competency for careers in educational, social, and governmental agencies related to social science. Curriculum guides are available for programs leading to Certificates of Achievement or Associate Degrees with majors in Child Development, Education, or Social Work. Graduates of these programs are qualified to apply for entry-level employment or for transfer to 4-year programs. Public service courses are offered individually as electives in other programs or as in-service training for governmental agencies.

Enrollment in the Child Development and Social Work programs is limited through a formal application and selection procedure. Students must be admitted to a Child Development program before enrolling in CD 261, or to a Social Work program, before enrolling in SW 201.

Child Development courses were being formulated as of the printing date of the present catalog. The Child Development Associate Degree Program has been approved by the State Board of Education for students enrolling in the fall term of 1976; however, students should seek later information regarding transferability of CD courses.

Child Development (CD)**101 Infants and Toddlers, 0-2½ years** **Four credits**

Awareness of physiological and physical growth patterns, nutritional requirements, and emotional, social, and cognitive skills of children 0-2½ years for preparation in caring for the child in a child care setting. Includes relative influences of genetics and environment on growth; the relationship of the development of the body systems to the child's nutritional status; acquisition of skills in recognizing, recording, and interpreting child behavior. 4 (-2-4)

121 The Preschool Child, 2½-6 years **Three credits**

Physiological and physical growth patterns, nutritional requirements, and emotional, social, and cognitive skills of children 2½-6 years. Includes relative influences of genetics and environment on growth; relationship of the development of the body systems to the child's nutritional status; acquisition of skills in recognizing, recording, and interpreting child behavior. 3 (3-0)

261 Childhood: Interaction and Guidance **Four credits**

Developing skills in guidance techniques, working with families, and meeting individual needs of children in a variety of child care settings. Prerequisite: CD 101, CD 121, and departmental approval. 4 (4-0)

262 Childhood: Curriculum and Planning **Four credits**

Emphasizes planning the curriculum for an early childhood program in small and large group settings for creative expression, language arts, music and rhythm, science, pre-number and large and small motor skills. Prerequisite: CD 261. 4 (4-0)

271 Practicum I **Four credits**

A directed practicum in a lab school situation in planning, implementing, and evaluating activities for young children, 0-6 years. Analysis of problems in teaching in an early childhood program. Application of child guidance techniques and principles. Prerequisite: CD 262. 4 (0-8)

272 Practicum II **Three credits**

Supervised field practice in an assigned preschool, infant-toddler nursery, day care center, or cooperative nursery, in planning, implementing, and evaluating activities for young children. Analysis of problems in teaching in an early childhood program. Application of guidance techniques and principles. Prerequisite: CD 271. 3 (1-8)

273 Practicum III **Three credits**

A continuation of Practicum II, providing additional supervised field practice in child development. Prerequisite: CD 272. 3 (1-8)

280 Preschool Administration **Three credits**

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 to operating early childhood education programs; acquisition of knowledge about safety, licensing, and health regulations. Prerequisite: CD 262. 3 (3-0)

Education (ED)

- 101 Curriculum Reinforcement I** **Three credits**
 Role orientation of the teacher aide as a significant person in the reinforcement of the school curriculum. Includes theory and methods of preparing audio-visual materials in support of instruction. Introduction to school records, safety, discipline and permissible first aid. Techniques of assisting teachers through dramatic play and story telling. 3 (3-0)
- 102 Curriculum Reinforcement II** **One credit**
 Methods of assisting the teacher in modern math, reading, reading readiness and phonics. Growth in knowledge of classroom songs and games. Prerequisite: ED 101 or departmental approval. 1 (1-0)
- 103 Curriculum Reinforcement III** **One credit**
 Continuation of ED 102 with addition of the elements of school methods used in measuring and evaluating child development. Prerequisite: ED 102 or departmental approval. 1 (1-0)
- 104 Curriculum Reinforcement IV** **One credit**
 Techniques of assisting teachers through home visitations, parent-teacher, teacher aide conferences. Continued growth in elementary art techniques, group singing and other musical activities. Prerequisite: ED 103 or departmental approval. 1 (1-0)
- 150 Introduction to Education** **Three credits**
 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. 3 (3-0)
- 201 Teacher Aide Practicum I** **Three credits**
 One hour of seminar each week to discuss problems and topics relevant to academic and field experiences, and ten hours each week of supervised field practice. Emphasis is on applying skills learned in Education 101. Prerequisite: ED 101, taken previously or concurrently. 3 (1-10)
- 202 Teacher Aide Practicum II** **One credit**
 A continuation of ED 201. Emphasis is on applying skills and perspectives gained from Education 102 and 103, and Psychology 200. Prerequisite: ED 103 taken concurrently; PSY 200, previously. 3 (1-10)
- 203 Teacher Aide Practicum III** **Three credits**
 A continuation of ED 202. Emphasis is on applying skills acquired in Education 104 and Speech 104. Prerequisite: ED 104 concurrently; ED 201 and Speech 104, previously. 3 (1-10)

- 221 Teacher Aide Practicum IV** **One credit**
A field-work course for second-year Teacher Associate students who have completed one year of experience as a classroom aide and desire continued supervision of such experience during the second year. Includes four meetings in seminar with other students, and individual consultation with the instructor based on the field work. Student must be working as an aide in a local school at least ten hours each week. Prerequisite: ED 201, 202, and 203. 1 (0-10)
- 222 Teacher Aide Practicum V** **One credit**
A continuation of ED 221. Prerequisite: ED 221. 1 (0-10)
- 223 Teacher Aide Practicum VI** **One credit**
A continuation of ED 221 and ED 222. Prerequisite: ED 222. 1 (0-10)

Public Service (PS)

- 201 Fundamentals of Public Administration** **Four credits**
Deals with the development and application of the basic principles and concepts underlying the generic field of public administration in federal, state, and local government. The relevance of these principles and concepts to paraprofessional and mid-management public employees will be emphasized. Prerequisite: SS 103 or SS 104 or PLS 205 or departmental approval. 4 (4-0)
- 202 Public Personnel Administration** **Four credits**
A study of the principles of personnel administration as applied to government. Emphasis is on improving competencies and solving contemporary personnel problems as a first-line or mid-management public employee. Prerequisite: SS 103 or SS 104 or PLS 205 or departmental approval. 4 (4-0)
- 203 Public Fiscal Administration** **Four credits**
Deals with the development and application of basic concepts of fiscal administration as related to federal, state, and local government. An emphasis is placed on contemporary problems in public fiscal administration facing employees from paraprofessional to mid-management levels. Prerequisite: SS 102 and SS 103 or SS 104 or PLS 205, or departmental approval. 4 (4-0)
- 221 Public Service Internship** **Four credits**
Supervised, practical experience in an administrative-technician capacity within an office or agency of city, township, county, state or federal government. Task performance will be supplemented by seminars with goals defined in terms of developing skills necessary for effective public service. Prerequisite: SS 103 or SS 104 or PS 201, or departmental approval. 4 (1-12)
- 231 Staff Roles and Relations in Substance Abuse** **Two credits**
A survey of present funding sources and staffing patterns within substance abuse agencies. Points of conflict within agencies and among agencies, and the functional relationships between roles, are addressed. Prerequisite: SA 230. 2 (2-0)

242 Public Sector Collective Bargaining and Arbitration **Four credits**

A study of the principles of, preparation for, and participation in collective bargaining and dispute resolution in the public sector. Students are given an opportunity to participate in various modes of dispute and impasse resolution. Prerequisite: SS 102 or departmental approval. 4 (4-0)

243 Fundamentals of Manpower Planning **Four credits**

This course deals with the development and application of the basic principles and concepts underlying the area of local governmental comprehensive manpower program planning. The relevance of these principles and concepts to paraprofessional and mid-level manpower planners will be emphasized. Prerequisite: SS 102 or departmental approval. 4 (4-0)

261 Public Grants-in-Aid **Four credits**

Deals with the principle and administration of the development, writing, and funding of public grants-in-aid as related to federal, state, and local government. An emphasis is placed on contemporary problems in public development and administration facing employees from paraprofessional to mid-management levels. 4 (4-0)

Social Work (SW)**101 Introduction to Social Work** **Three credits**

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, an overview of social issues and client needs relative to social work practice. 3 (3-0)

200 Introduction to Social Work Field Placement **One credit**

Introduction to types of social agencies available for field placement in the community. Emphasis on client population, programs and placement opportunities for students. Prerequisite: SW 101 and application to field placement. 1 (1-1)

201 Social Work Field Placement I **Five credits**

Individual beginning practical experience and training in the field. The student is placed with community-based social agencies and institutions twelve hours per week. Accompanying classroom seminar serves to integrate field experience with theoretical concepts and principles of social work. First in a series of three consecutive courses. See SW 211 and 221. Prerequisite: Departmental approval. 5 (2-12)

203 Social Work Interviewing **Three credits**

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 video taping and feedback. Prerequisite: Concurrent field placement or departmental approval. 3 (3-0)

205 Social Welfare**Three credits**

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. Prerequisite: SS 101. 3 (3-0)

207 Group Work**Three credits**

Introduction to the concepts, principles, goals and skills of social group work as a method of social work. Emphasis is upon the introduction of basic practice skills and intervention techniques within a framework of beginning theoretical knowledge. Prerequisite: SS 101 or departmental approval. 3 (3-0)

209 Community Organization**Three credits**

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. Prerequisite: SS 101 or departmental approval. 3 (3-0)

211 Social Work Field Placement II**Five credits**

Second in the series of field experience courses. A continuation of Social Work 201 providing additional practical experience and training in the field of social work. Prerequisite: SS 201. 5 (2-12)

221 Social Work Field Placement III**Five credits**

Final in the series of field placement courses. A continuation of Social Work 211. Prerequisite: SS 211. 5 (2-12)

230 Patterns of Addiction and Treatment**Three credits**

Covers the addiction cycle of alcoholics and drug abusers, personality and interactional patterns of addiction, and casework and group work techniques. Prerequisite: SA 230 and PSY 202. 3 (3-0)

231 Substance Abuse Agencies and Treatment Modalities**Three credits**

A review and analysis of current models of treatment within programs. Includes review of inpatient, outpatient, Halfway Houses, and occupational programs. Prerequisite: SA 230 and SW 230. 3 (3-0)

Seminars and Independent Study

Lifetime Studies seminars are offered in many subjects related to the various areas of social science, to meet the interests of students who may not be working toward any certificate or degree. The credits apply only toward the Associate Degree General and ordinarily are not transferable to other colleges. Each section has its own title and credit value. Course codes carry numbers 093, 094, 095, or 096. There are no prerequisites.

Seminars in Special Subjects are offered with credit which does apply toward the Associate of Arts or Science Degree and does transfer to other colleges as

general credit. There is a descriptive sub-title for each seminar. Prerequisites and credit values vary. Course codes for these seminars carry numbers 294, 295, or 296.

Independent Study credit is available for special projects involving research, reading, or field experiences. Proposals for such study must be approved in advance by the department chairman. To obtain such approval the student must be currently enrolled for other courses and must have demonstrated competency through courses taken previously at LCC. Course codes for independent study carry numbers 297, 298, or 299. Permission must be obtained also from a faculty member who will supervise the project.

SPECIALIZED PROGRAMS

Adult Foster Care: AFC 010

This special course has been developed in cooperation with the Michigan Department of Social Services to increase the skills and affect the attitude of adult foster care providers. It includes specifics of the system as well as strategies for providing foster care. Prerequisite: Departmental approval.

Child Care and Guidance: HSL 010

Preparation for employment related to child care centers and young children in assisting directors of child day care centers or nursery schools, assisting with activities on playgrounds and in recreation centers, and caring for children in homes and in such public places as stores, playgrounds, recreation centers, and transportation terminals. Developed for the Eaton Intermediate School District and limited to students approved by the EISD office of Vocational Education.

Substance Abuse

A twenty-credit module of courses, administered through the Social Science Department but also involving the Department of Health Careers, is offered to provide both information and skills to persons now employed in substance abuse agencies or anyone who may be thinking of this area for future employment; also, to nurses, social workers, teachers, and law enforcement personnel. A Certificate of Achievement in Substance Abuse will be granted upon completion of all 20 credits. A curriculum guide is available for integrating the module into an Associate Degree in Social Work. Individual courses are described elsewhere in this catalog.

Social Science courses: SA 230, SW 230, SW 231, PS 231.

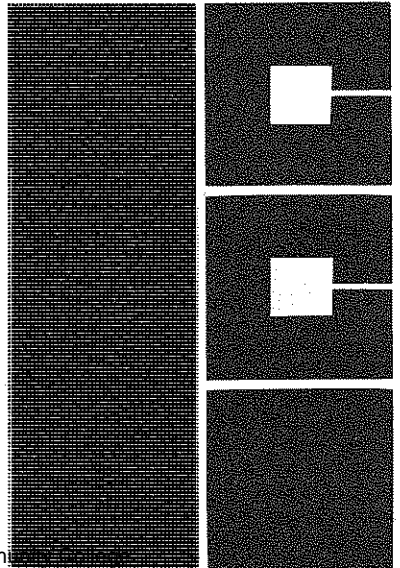
Health Careers courses: HC 231, HC 232, HC 233.



DIVISION OF BUSINESS

Department of
Accounting and
Office Programs

Department of
Management and
Marketing



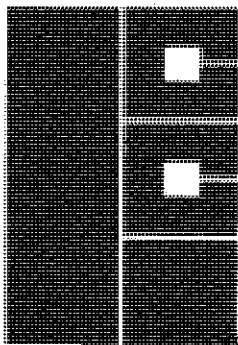
DIVISION OF BUSINESS



Dean Norman Cloutier

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

The Business Division's overall purpose is to provide students with career-oriented education opportunities and to assist the college service area businesses, industries, educational institutions, and government agencies in meeting their personnel development and training requirements. To achieve this purpose 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.



Career Training

The Business Division focuses on providing:

Pre-professional and career-oriented training to equip students with the knowledge and skills necessary to pursue further education or enhance their employment opportunities.

Opportunities for individuals to upgrade and update occupational and avocational skills.

An educational system which uses and coordinates its activities with community resources and which is flexible enough to permit student re-entry.

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	Legal Assistant
Banking	Legal Secretary
Cashiering	Management
Computer Operations	Marketing and Sales
Computer Programming	Medical Secretary
Corrections	Medical Transcriptionist
Court Reporting	Office Management
Food Services	Property Assessment
General Clerical	Real Estate
Hotel-Motel Management	Secretary
Insurance	Security and Public Safety
Key Punch Operator	Stenographer
Labor Relations	Transportation
Law Enforcement	

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 studies. 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, and government. The Business Division provides a variety of community service courses and seminars designed to retrain or upgrade skills of area businessmen and employees. 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 vocational field of his or her choice. With business and industry 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 request.

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

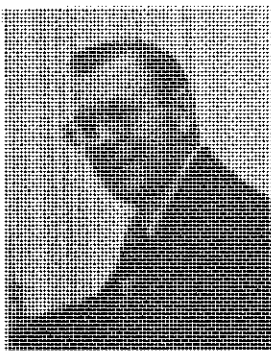
Advantages of internship include the development of occupational competency at the skilled or semi-professional level leading to jobs which represent the most rapid growth area of employment in our economy. The combination of theory and actual practice has proven to increase motivation of students, and 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 a job well done, and by developing maturity. A broader and more meaningful appreciation of the practical application of his or her total academic endeavors is also gained by the student. The intern student also 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

Chairperson: Dr. Ronald K. Edwards



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—his 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 and 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 a 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 Department Chairperson's office. These guides are frequently modified by the Department of 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 Andio-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 carrels, and practice work is completed within the same area. Courses include the same instruction as their classroom-type predecessors and are indicated in the Course Description section by the letters A.V.T. following the course name.

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 Program **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 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 to develop habits of critical, logical thinking while he is 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.

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 will be qualified are court reporters, conference reporters, hearing reporters, legislative reporters and general free-lance reporters. The program teaches machine shorthand and develops 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

Associate Degree Program Curriculum Code 413 Minimum 90 credits

The two-year Associate Degree Program in Insurance is designed to prepare individuals for careers within the insurance industry in both field operations and home office activities. Individual course electives beyond the core requirements should be selected with employment goals such as sales, underwriting, or claims adjusting in mind. A transfer curriculum for those students seeking a Baccalaureate degree is also available.

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.

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 full-time 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, however, 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: 440** **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-Tutorial 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

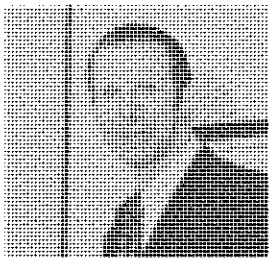
Minimum 45 credits

This is an 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.



Department of Management and Marketing

Chairperson: James E. Person



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 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 his 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 Department Chairman's office. 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.

NOTE: Students interested in Industrial Management may refer to programs and courses offered by the Department of Applied Technology



1976-78 Catalog Lansing Community College

Assessment Administration

Associate Degree Program	Curriculum Code: 490	Minimum 90 credits
Certificate Program	Curriculum Code: 491	Minimum 45 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 adequate preparation for employment, either in an Assessor's Office or an Equalization Department, and also to improve competence and income 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 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
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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 the 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 **Minimum 45 credits**
Curriculum Code: 473

A Certificate in Advanced Management is designed especially for those who have a degree or employment background. These courses are excellent for those who want an intensive program in up-to-date management courses of high level quality and content. Management advisors will tailor a program for participants which takes into account relevant background and future goals.

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.

Safety Management

Associate Degree Program **Curriculum Code: 474** **Minimum 90 credits**
Certificate Degree Program **Curriculum Code: 474** **Minimum 45 credits**

Safety Management is an option in management to include both a Certificate and an Associate Degree. New legislation such as the Occupational Safety and Health Act has given emphasis to the importance of this operational phase of business, government and industry. Safety is a management directed activity. An overall conceptual viewpoint of understanding the mutual responsibilities for compliance requirements and being able to direct effective practices can allow organizations to avoid employee hardships and crippling penalties.

Labor Relations

Labor Relations has become an essential ingredient in successful management activity. The spectacular growth of collective bargaining has created a demand for trained persons to administer contractual agreements on a scale that did not exist a few years ago.

New legislation has created additional demands upon administrators who must be equipped to achieve and maintain a health balance between the pressures of unionized employees and management to ensure the future of their organization and the public welfare.

The need for highly trained men and women in labor relations has seldom been more acute or pronounced.

Transportation and Traffic Management

Associate Degree Program Curriculum Code: 473 Minimum 90 credits

A two-year, six term program in Traffic and Transportation Management, in cooperation with the Traffic Club of Lansing.

Transportation Law is of special value for preparing candidates for the Interstate Commerce Commission Practitioners Examination. This two-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 rules of practice; drafting of an Interstate Commerce Commission complaint; Canons of Ethics applicable in Interstate Commerce Commission; practice, and remedial provisions of the Interstate Commerce Commission act.

Transportation and Traffic Management 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 two years, 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.

Management Development Center

The Management Development Center serves organizations, associations, and groups of people in their individual management training needs.

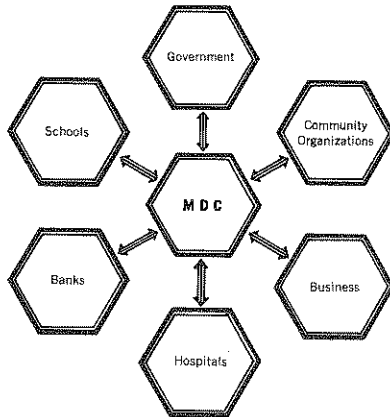
The Center's purposes are:

- To tailor and develop college courses to meet the management development and training needs of organizations within the community.
- To provide these courses 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.
- 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 programs for a variety of community organizations, businesses of all sizes; hospitals, banks, industries, police organizations, other colleges, technical people, systems personnel, and governmental employees.

These programs are specially prescribed courses and seminars responding to the requests and specific needs 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 Center reaches out in an effort to help serve the community.



The Management Development Center, in addition to developing specialized seminars, offers the following supportive services for the management community:

- I. Advanced Management Seminars
Topics of current interest in which guest speakers are brought in to help bridge the gap between theory and practice
- II. Programmed Instruction in Management
Programmed instruction materials on a variety of managerial topics that can be taken at the individual's own pace and convenience
- 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 judgement of those preparing for, or now engaged in, the rapidly growing area of distribution and marketing. The primary objective is to train individuals to participate more efficiently in business activities.

Additional options include a series in *Investing* as well as a complete certification program in Real Estate; a GRI program is offered, and valuable courses are offered in Appraisal, Assessment, Financing, Sales, etc.

Marketing

Certificate Program **Curriculum Code: 476** **Minimum 45 credits**

A condensed one-year curriculum for qualified students. The courses are designed to meet the needs of 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 section of the college catalog. Staff advisors in Business will recommend electives to students in accordance with their needs and goals.

Data Processing

Associate Degree Program **Curriculum Code: 450** **Minimum 90 credits**

Designed to provide trained graduates capable of meeting the ever 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 fully trained for occupations such as computer operator, coder, or computer programmer.

Certificate Program **Curriculum Code: 451** **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** **Minimum 90 credits**
Certificate Program **Curriculum Code: 456, 458** **Minimum 45 credits**

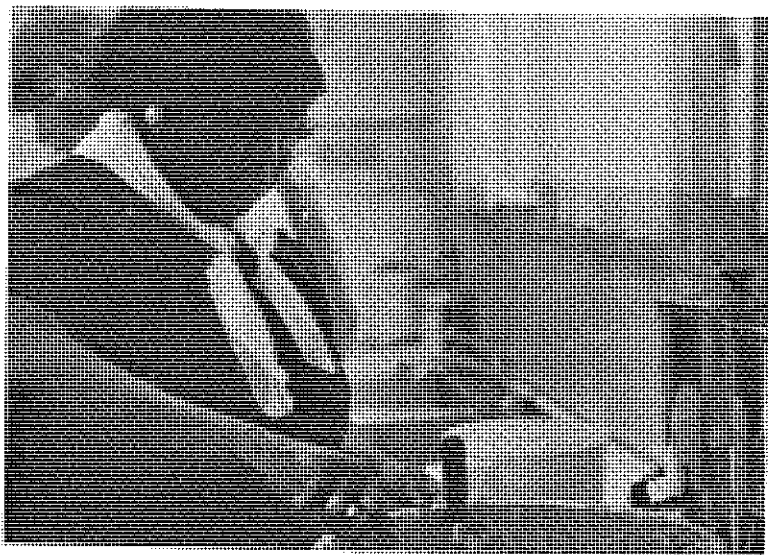
Lansing Community College offers both a one-year Certificate and two-year Associate Degree in Hotel, Motel Management and Food Service Management. Certified Hotel Administrator (CHA) courses are also available. These programs are designed to prepare the student for mid-management level positions as supervisory 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 1970's and 1980'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
Assistant Manager Trainee	Food Production Supervisor
Front Office Manager	Assistant Steward
Catering Manager	Dining Room Supervisor
Assistant Auditor	Assistant Manager - Institutional
Sales Representative	Food Service Hostess
Reservation Manager	Director of School Lunch Programs
Entertainment Director	Bartending
Food Service Management	

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 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
Certificate Program	Curriculum Code: 461	Minimum 45 credits

Programs in Law Enforcement and Criminal Justice are designed to prepare young 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 young man or woman for entrance into police work, and it can assist those in the field to promotion through necessary general and technical training.

The program includes a two-year curriculum leading to the Associate in Arts Degree, and a Certificate program involving basic training, to prepare the student 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 in Security are also available.

The Certificate Program

The students who are presently engaged in law enforcement and related work will receive a Certificate upon successful completion of eight special courses in the field. This program will include an introduction to law enforcement, police organization and administration, the theory of patrol, introduction to criminal investigation, criminal law and procedures, crime prevention, juvenile delinquency and youth behavior, and traffic law and accident investigation.

Corrections

Associate Degree Program	Curriculum Code: 465	Minimum 90 credits
Certificate Program	Curriculum Code: 464	Minimum 45 credits

Associate Degree and Certificate Programs are 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 understanding of modern, innovative and progressive correctional processes and institutions. Articulation with universities and the Michigan Criminal Justice Educator's Association has allowed for some uniformity of this program as well as assuring its quality and practicality.

Mid-Michigan Law Enforcement Center

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, East Lansing Police Department, 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 20 degree credits are granted for the successful completion of the ten-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.

Safety Management

Associate Degree Program	Curriculum Code: 474	Minimum 90 credits
Certificate Degree Program	Curriculum Code: 474A	Minimum 45 credits

Safety Management is a growing field with a demand for individuals possessing expertise in the safety areas which allow the increase and preservation of productivity by eliminating job hindrances as well as avoiding fines or penalties affected by safety rules and procedures. New legislation including the Occupational Safety and Health Act and MIOSHA have given emphasis to the importance of this operational phase of business, government and industry. Safety is a management-directed activity. An overall conceptual viewpoint of understanding the mutual responsibilities for compliance requirements and being able to direct effective practices can allow organizations to avoid employee hardships and O.S.H.A. penalties.

Pre-Business Administration

Associate Degree Program	Curriculum Code: 480	Minimum 90 credits
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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.

Real Estate

Associate Degree Program	Curriculum Code: 483	Minimum 90 credits
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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. It is possible to "try out" these various activities by working part time in many cases.

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.

COURSE DESCRIPTIONS

Accounting (ACC)

101 Accounting Information for Management Four credits

For general business and secretarial students who do not plan to transfer to a four-year institution. Emphasis is on accounting terminology, accounting information, and accounting reports for management. Topics covered include financial statement analysis, budgeting, and decision making. 4 (4-0)

210 Principles of Accounting I (AVT) Four credits

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. Includes the concept for the use of data processing equipment in performing accounting functions. 4 (0-8)

211 Principles of Accounting II (AVT) Four credits

Continuation of Accounting 210. Includes payroll and tax accounting, controlling accounts and subsidiary ledgers, cash records and forecasting, the voucher system, partnerships, corporations, and bonds. Show how the accounting services contribute to the recognition and solution of management problems. Prerequisite: ACC 210. 4 (0-8)

212 Principles of Accounting III Four credits

Continuation of Accounting 211 involving the study of income and valuation determination, and analysis and comparison of financial statements. Covers accounting principles related to mercantile businesses, branch accounts, manufacturing companies, cost accounting, budgeting, and sources and applications of funds. Prerequisite: ACC 211. 4 (4-0)

220 Intermediate Accounting I**Four credits**

Balance sheet; income and retained earnings statements; the accounting process (bookkeeping systems, voucher system, adjustments, deferrals and accruals, inventories, depreciation, closing entries, cash versus accrual methods); the accounting process illustrated; cash and temporary investments; receivables; inventories (cost procedures and special valuation procedures); estimating procedures in inventory valuation; current liabilities (nature and various types of current liabilities). Prerequisite: ACC 212. 4 (4-0)

221 Intermediate Accounting II**Four credits**

Investments in stocks (types of dividends, rights of various stockholders, exchange of stocks, and investments and tax accounting); investments in bonds (kinds of bonds, amortization, redemption, conversion, U.S. bonds, and long-term notes and mortgages); investments in funds and miscellaneous items; plant equipment (acquisition, use, retirement, depreciation, and depletion, and revaluation); intangible assets (kinds and goodwill); long-term liabilities. Prerequisite: ACC 220. 4 (4-0)

222 Intermediate Accounting III**Four credits**

Stockholders' equity from paid-in capital (capital upon corporate formation and subsequent changes in paid-in capital); stockholders' equity from retained earnings (source of retained earnings and types of dividends); statements from incomplete records (single-entry systems); errors and correcting entries; financial statement analysis (use of comparative data and special ratios and measurement); funds-flow and cash-flow reporting; price-level adjustments in financial reporting. Prerequisite: ACC 221. 4 (4-0)

230 Cost Accounting I**Four credits**

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. Prerequisite: ACC 212. 4 (4-0)

231 Cost Accounting II**Four credits**

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. Prerequisite: ACC 230. 4 (4-0)

240 Federal Taxes I**Four credits**

All aspects of Federal Income Taxes pertaining to individuals. Includes gross income, adjustments from gross income, deductions, and losses. Also includes basis of assets, capital gains and losses, income averaging, retirement income credit, non-taxable exchanges, sale or exchange or residence, and other special topics. Prerequisite: ACC 212. 4 (4-0)

241 Federal Taxes II**Four credits**

An in-depth study of Federal tax laws relating to business and professional income, farm income, self-employment taxes, partnership, subchapter S and corporate returns. Special topics include: employment taxes, pensions, profit sharing, stock options, professional responsibility of the tax preparer, and audit and appeal procedures. Prerequisite: ACC 240. 4 (4-0)

245 Michigan and Local Taxes**Four credits**

State of Michigan taxes relating to individuals and employers. Special emphasis on the Single Business Tax. City taxes and local property taxes will be reviewed. 4 (4-0)

250 Advanced Accounting**Four credits**

Areas of emphasis include installment and consignment sales, business combinations as a "pooling of interests" vs a purchase, and preparation of consolidated statements. Accounting practice for fiduciary relationships and separate sections on the implication of present value and compound interest are also included. Prerequisite: ACC 222. 4 (4-0)

266 Special Projects/Accounting**One credit**

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

267—2 credits requiring 40 to 50 hours of study

268—3 credits requiring 60 or more hours of study

280 Governmental and Institutional Accounting I**Four credits**

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. Prerequisite: ACC 212 or departmental approval. 4 (4-0)

281 Governmental and Institutional Accounting II**Four credits**

Continuation of Governmental Accounting I offering detailed accounting procedures and accepted practices in governmental accounting including institutional accounting for units such as hospitals and schools. Instruction is also provided in summarization and reports of activities and performance. Prerequisite: ACC 280. 4 (4-0)

282 Governmental Budgeting**Four credits**

Continuation of Governmental Accounting II with emphasis on recent changes and current practices in different government units. Considerable instruction and work is devoted to program budgeting and performance measurement. Prerequisite: ACC 212 or departmental approval. 4 (4-0)

290 Auditing**Four credits**

Specific topics covered are 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. The course prepares students for auditing positions and meets express requirements to sit for the C.P.S. examination. Prerequisite: ACC 222 or department approval. 4 (4-0)

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 LCG 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 his efforts to meet the standards required by the C.P.A. Examination.

810 Theory of Accounts Review**Two credits****811 Commercial Law Review****Two credits****812 Auditing Review****Two credits****813 Accounting Practice Review****Four credits****940 Individual Income Tax****Four credits**

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. 4 (4-0)

951 Accounting Seminar**One credit**

8-14 classroom hours on special topics of current interest offered by the department. 1 (1-0)

952 Accounting Seminar**Two credits**

15-24 classroom hours on special topics of current interest offered by the department. 2 (2-0)

953 Accounting Seminar**Three credits**

25-34 classroom hours on special topics of current interest offered by the department. 3 (3-0)

American Institute of Banking (AIB)

American Institute of Banking courses are designed to prepare the student for certification. All areas needed to prepare for bank management are presented in accord with requirements of the National AIB curriculum and the local advisory committee.

101 Principles of Bank Operations **Three credits**

Fundamentals of bank functions in a descriptive (and operational) perspective. The descriptive orientation is intentional. Banking is increasingly dependent upon personnel who have the broad perspective so necessary for career advancement. 3 (3-0)

102 Effective English **Three credits**

Considers both the purpose of the communication and the person who will receive it. The fundamental principles for using the English language. It points out the ways in which communication may be heightened by proper use of the techniques of language. 3 (3-0)

103 Bank/Letters and Reports **Three credits**

For those bank officers, supervisors, and employees who dictate or review correspondence. Since bank letters are actually public relations documents, all persons should be familiar not only with the mechanical forms of bank letters but also with the psychological principles that help the letter writer achieve best results. 3 (3-0)

105 Conference Planning/Leadership **Three credits**

A specific phase of the problem of human understanding. It is concerned with an important responsibility of management: to communicate and to coordinate ideas in the most effective way possible. It gives consideration to the dynamics of human interaction in groups convened to solve problems and make decisions. The essentials of parliamentary procedure are also stressed. 3 (3-0)

111 Information Processing **Three credits**

Covers methods which will increase flexibility and ease in processing information. Primary content is aimed at increasing the participant's rate of processing banking information and reports. 3 (3-0)

161 Fraudulent Check Seminar **One credit**

To identify counterfeit checks; verify information submitted for opening new accounts and servicing present accounts; proper handling of returned checks; identifying, determining validity and reporting discrepancies of Michigan operator's license, State of Michigan I.D., School I.D., Company I.D., Social Security card and other forms of identification. 1 (1-0)

203 Trust Service **Three credits**

Shows the services rendered by institutions engaged in trust business. Primarily for the personnel of trust departments in commercial banks and trust companies as a part of their formal education. 3 (3-0)

- 204 Credit Administration** **Three credits**
Directed toward the executive level. Concerns itself partly with a statement and a 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 are discussed. 3 (3-0)
- 205 Home Mortgage Lending** **Three credits**
Approaches the subject from the viewpoint of the mortgage loan officer who seeks to develop a sound mortgage portfolio. A picture of the mortgage market is presented first, then the acquisition of a mortgage portfolio, mortgage plans and procedures, mortgage loan processing and servicing, and portfolio management. 3 (3-0)
- 206 Money and Banking** **Three credits**
Stresses the practical aspects of money and banking and emphasizes the basic monetary theory. Emphasis also placed on such problems as 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 in affecting yield curves and the structuring of portfolios. 3 (3-0)
- 207 Installment Lending** **Three credits**
Techniques of installment lending with emphasis placed on establishing the credit, obtaining and checking information, servicing the loan, and collecting the amounts due. Other topics discussed are inventory financing, special loan programs, business development and advertising, and the public relations aspect of installment lending. 3 (3-0)
- 208 Commercial Lending** **Three credits**
From the viewpoint of the commercial loan office of a bank or financial institution. Commercial loan processing, procedures and servicing are included. Small business loans, real estate loans, various dealership loans and related areas to qualify for commercial loan status are covered in detail. 3 (3-0)
- 212 Analysis of Financial Statements** **Three credits**
Characteristics of financial statements and financial statement analysis. The first section serves as a useful review of basic accounting principles for those students who have studied accounting. For those who have not, this section provides the minimum accounting background necessary for profitable study of financial statement analysis. 3 (3-0)
- 214 Law and Banking** **Three credits**
To teach banking personnel the established legal principles and to provide a general knowledge of legal problems pertaining to business and banking. Includes contracts, consideration, statute of frauds, commercial paper, bank deposits, bank collections, sales, titles, agencies and others. Extracts from the Uniform Commercial Code are provided as a part of this course. 3 (3-0)

222 Bank Management**Three credits**

Presents new trends which have emerged in the philosophy and practice of management. The study and application of the principles provide new and experienced bankers with a working knowledge of bank management. Case studies will be used as an effective learning technique. 3 (3-0)

230 Bank Public Relations and Marketing**Three credits**

The basics of public relations, explaining the why, what, and some of the how of public relations and marketing. Intended as an overview for all bankers in terms of what everyone in banking should know about the essentials of bank public relations and marketing. 3 (3-0)

923 Management by Objectives**Three credits**

Advanced course in which the supervisor and subordinate identify and agree on major areas of subordinate responsibility. Goals are set, standards of performance to attain these goals are established, and the results measured against these standards by supervisor and subordinate. 3 (3-0)

Business (BUS)**010 Cashier-Checker Training (AVT)****Three credits**

Designed to teach the efficient use of the cash register and various topics as they relate to the checkout station. Includes a minimum of practice on three different registers. 3 (0-6)



095 Spelling **One credit**

To improve the spelling capabilities of students through concentration on correct word pronunciation, word roots, prefixes, suffixes, and syllabication for spelling aid. Includes instruction in spelling rules and mnemonic devices, along with drill on the most commonly misspelled words. 1 (1-0)

100 Typewriting (AVT) **Three credits**

A beginning course in typewriting designed for students with no previous typing experience. Primary emphasis is placed on mastery of the keyboard and building speed and accuracy on straight copy. Personal letters, business letters, postcards, centering, themes, and envelopes are included. 3 (0-6)

101 Typewriting II (AVT) **Three credits**

Intermediate typewriting serves as a refresher typewriting course and as a continuation of Typing 100. Special emphasis is placed on improving speed, accuracy and manipulation. The course covers tabulation, carbons, manuscripts, footnotes, business letters, and special communication forms. Prerequisite: BUS 100 or prior typing course. 3 (0-6)

102 Typewriting III (AVT) **Three credits**

A continuation of Business 101, designed to improve judgment, skill and accuracy on straight copy as well as tabulated reports, business forms, programs, speeches, financial statements, job applications, special business letter forms, duplication masters, and news releases. Prerequisite: BUS 101 or departmental approval. 3 (0-6)

103 Typing IV (AVT) **Three credits**

A continuation of Business 102 designed to increase typing speed along with skill and accuracy on governmental, medical, and technical reports, accounting reports and forms, legal documents, and the IBM Executive Typewriter. Prerequisite: BUS 102 or departmental approval. 3 (0-6)

104 Beginning Shorthand I **Four credits**

Designed to teach the basic principles of Gregg shorthand and build an elementary business vocabulary. Emphasis on theory and brief forms. Dictation speed performance levels 60-80 words a minute (2 min.) 4 (4-0)

105 Intermediate Shorthand II **Four credits**

Completes theory begun in Business 104. Develops speed and accuracy in reading from plates and individual notes. Emphasis on dictation skills. Dictation speed performance levels 70-90 words a minute (3 min.) Prerequisite: BUS 104 or departmental approval. 4 (4-0)

106 Advanced Shorthand III **Four credits**

Continuation of Business 105. Emphasis on higher speed in business dictation. Dictation speed performance levels 80-100 words a minute (3 min.) Prerequisite: BUS 105 and BUS 095. 4 (4-0)



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107 Business Machines I (AVT)**Three credits**

Designed to teach the operations of the adding, the printing, the rotary, and/or electronic calculating machines. Includes instruction in the use of the 10 key adding machine, printing calculator, rotary calculator, and/or the electronic display and electronic printing calculator. Operations of addition, subtraction, multiplication and division, plus the various calculations of business-type problems dealing in percentages, interest, etc. are taught. Prerequisite: BUS 117. 3 (0-6)

108 Business Machines II (AVT)**Three credits**

A continuation of Business 107. In addition, instruction is provided on the book-keeping machine. Prerequisite: BUS 107. 3 (0-6)

109 Secretarial Machines (AVT)**Three credits**

Operation and manipulation of the stencil and fluid duplicating processes. Includes study of machine transcription and filing procedure. Prerequisite: BUS 102. 2 (0-4)

114 Landmark I**Four credits**

An ABC shorthand system for taking notes or dictation. Designed to introduce writing principles and build an elementary vocabulary. 4 (4-0)

115 Landmark II**Four credits**

Reviews the theory from BUS 114. Develops speed and accuracy in reading individual notes. Develops skill through timed dictation and transcription. Prerequisite: BUS 114. 4 (4-0)

117 Business Mathematics**Four credits**

Designed to develop skill and accuracy in mathematics. Includes study of decimals, fractions, aliquot parts, percentages, discounts, inventory, payroll, interest. 4 (4-0)

Business (BUS)**118 Introduction to Business****Four credits**

Survey of business activities, covering principles, problems and practices related to our economic framework. Includes topics such as organization, production, marketing, personnel administration, finance and economics. 4 (4-0)

119 Office Methods**Three credits**

Offered primarily for the one-year office program. Emphasizes clerical office procedures and responsibilities. Includes the study and evaluation of effective personality traits. Prerequisite: BUS 101. 3 (3-0)

191 Independent Study-Management**One credit****192 Independent Study-Management****Two credits****193 Independent Study-Management****Three credits**

194 Independent Study-Management**Four credits**

Special research projects and individual readings, offering the opportunity to apply past or present aspects of personal and professional experience to the student's academic program providing they are directly related to the degree being pursued. Minimum of ten hours work per credit required. Prerequisite: Departmental approval. 1 ((0-1), 2 (0-2), 3 (0-3), 4 (0-4)

200 Advanced Shorthand IV**Four credits**

A continuation of BUS 106, emphasizing faster speed in business dictation. Designed for students who can take 100 words a minute from previous courses taken within the past five years. Prerequisite: BUS 106. 4 (4-0)

201 Transcription**Four credits**

Designed to provide instruction for production of the mailable transcript from student's shorthand notes taken at speeds exceeding 80 words a minute. Prerequisites: BUS 095, BUS 102, and dictation speeds from 80-100 wpm.

202 Shorthand Speed Building**Four credits**

Continuation of Business 201. Emphasis on business vocabulary, speed writing, and related topics of grammar, punctuation, spelling and transcription. Dictation speed performance levels 120-140 words a minute. Prerequisite: 100 words a minute skill level. 4 (4-0)

203 Secretarial Training**Three credits**

For the instruction of office procedures and responsibilities. Emphasizes the importance of pleasant, sincere personality and effective secretarial traits. Prerequisites: BUS 103 and BUS 200. 3 (0-6)

204 Business Correspondence**Three credits**

Writing principles are taught by illustration and application. Students learn techniques for writing business letters, memos and short reports. Prerequisite: BUS 095. 3 (3-0)

205 Legal Shorthand (AVT)**Two credits**

This course is designed to develop skill in writing and transcribing shorthand notes containing words and phrases commonly recurring in the spoken and written language of law. Background in law-office procedures, legal forms, and law reference books is also presented. Prerequisite: BUS 200. 2 (0-4)

207 Medical Terminology**Two credits**

Develops skill in writing and transcribing words and phrases occurring in the spoken and written language of medicine. 2 (-04)

215 Records Management I**Three credits**

Secretarial and business management students study increasing importance of records management; that is, managing the creation, protection, storage, and disposition of business records.

Included are clear-cut rules for alphabetic indexing, the foundation of other storage methods, principles for selection of proper records equipment, and procedures for the operation and control of filing methods and systems. 3 (3-0)

216 Records Management II **Three credits**

A continuation of BUS 215. Guidelines for the establishment, implementation, and maintenance of records control programs in all types of organizations. Prerequisite: BUS 215 or departmental approval. 3 (3-0)

220 Office Management I **Three credits**

Deals with the principles of office management. Includes study of office organization and layout; work flow, procedures, standards, personnel and supervision procedures; equipment, centralized services, and automation trends. 3 (3-0)

221 Office Management II **Three credits**

Deals with automation and trends in the problem areas of social, economic organization, management, feasibility, and automated service centers. 3 (3-0)

222 Small Business Management **Three credits**

Complete coverage of small business operation, including business and managerial functions. Emphasis on basic principles of management for various kinds of small business concerns. Includes environment of small business; financial, marketing, and production management of the "going concern." Legal and governmental relationships are covered, with actual case studies relevant to those involved in the smaller businesses. 3 (3-0)

223 Management and Supervisory Development **Three credits**

Management principles oriented to first-line supervisory levels in business, government, and other organizations. Emphasis is placed on 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. 3 (3-0)

224 Personnel Management **Three credits**

Survey of the principles, problems, and practices of modern business, government, and other organizations involved in the handling of employees from the recruiting stages through the post-retirement stage. Emphasis on the use of the appropriate practices in keeping with the type and size of organization. 3 (3-0)

225 Principles of Management **Three credits**

Management principles oriented to middle and upper level managers. Relationship of the management of people, communications, morale, and motivation to the leadership concept of management. Topics include history of management, theoretical framework and practical applications of management, qualifications of executives, business ethics, and in-depth study of managerial functions. 3 (3-0)

226 Management and Financial Control of Small Businesses **Three credits**

A study of the problems of small business management and financial control through use of a wide variety of actual case studies. Problems are identified and sound management principles employed to solve problems. 3 (3-0)

228 Human Relations in Business and Industry**Three credits**

Application of psychological principles and methods to selection, placement, training, supervision, evaluation and motivation of workers' and managers' efficiency. Accident prevention included. Introduction to problems of human relations and psychological illnesses in business and industry. 3 (3-0)

229 Public Relations**Three credits**

Techniques of public relations for those in managerial positions in business, government, and other organizations. Principles of creating and maintaining good public relations, including employee-employer relations. Customer-employee relations receive emphasis, while focusing on the programming of the total public relations effort and selecting of appropriate strategy, media, and persuasive devices to accomplish objectives. 3 (3-0)

236 Communication Techniques in Business**Three credits**

Study of special communication areas including public speaking, memo writing, information processing, message construction, perception, persuasion, effects of media, interpersonal and small group communication. Emphasis will be placed on applying communication methods to actual business situations. 3 (3-0)

240, 241, 242, and 243 Office Internship—Seminar**(Each) Three credits**

After successful completion of basic courses, usually following the freshman year, students may elect internship. This course allows the students to be placed in an approved training station, earn credits for satisfactory work performance, and earn wages for hours of work. To participate in this program, students must be qualified to receive approval from their department and enroll with the coordinator. Their occupational interests are considered with their background or related classes to determine employment arrangements. The flexibility of developing individual programs for interested students in any related occupational opening is accomplished in agreement with the training station supervisors and college coordinator. 3 (3-0)

251 Basic Investment Essentials**Three credits**

Fundamental principles of investing and its role in our economy. Emphasis will be upon developing terminology, types of investments (common and preferred stocks, bonds, mutual funds, and security analysis). An in-depth study of the stock exchanges and the external forces that affect them. Analysis of personal objectives and portfolio management will be discussed and put into practice. 3 (3-0)

252 Advanced Investment Essentials**Three credits**

Techniques of options buying, analysis of the commodities markets, fundamentals of speculative trading, uses of margin transactions to increase buying power. Prerequisite: BUS 251 or Departmental Approval. 3 (3-0)

253 NASD Qualification Examination**Three credits**

Designed to help sponsored people qualify for a sales license with the National Association of Security Dealers and the State of Michigan for Mutual Funds and Variable Annuity Registered Representative. 3 (3-0)

258, 259 Transportation Law I and II (Each) Three credits

The two terms of Transportation Law will include a study of the Interstate Commerce Act, amendatory legislation, leading decisions of the Interstate Commerce Commission (ICC) and courts, I.C.C. rules of practice, drafting of an I.C.C. complaint, canons of ethics applicable in I.C.C. practice, remedial provisions of the I.C.C. Act. Prepares student for the I.C.C. Practitioner's License. 3 (3-0)

260-265 Traffic and Transportation Management (Each) Three credits

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. 3 (3-0)

266 Special Projects/Business One credit

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

267 Special Projects/Business Two credits

2 credits requiring 40 to 50 hours of study

268 Special Projects/Business Three credits

3 credits requiring 60 or more hours of study

280 Property Valuation and Assessment Administration I Three credits

Covers history of property tax, public relations, local government financing, property tax law, assessment-valuation concepts and equalization, appeals, assessment, equalization and allocation. 3(3-0)

281 Property Valuation and Assessment Administration II Three credits

This course includes aerial photography, interpretation, property descriptions, tax law, and residential appraisal. Continues to acquaint the student with various sources of information available to appraisal personnel. Prerequisite: BUS 280. 3 (3-0) mmmmmmmmm

282 Property Valuation and Assessment Administration III Three credits

Provides discussion of valuation concepts, economic concepts of value, cost approach to value, market approach to value, and income approach to value as well as proper procedures, forms, reports, etc. 3 (3-0) 282-A (Society of Real Estate Appraisers) Enrichment study for private enterprise appraising. SREA Certificate upon satisfactory completion. Prerequisite: BUS 281. 3 (3-0)

283 Property Valuation and Assessment Administration IV Three credits

A study of the appraisal of residential, commercial, agricultural, and personal properties, and the proper procedures relative to these appraisals. Prerequisite: BUS 282 3 (3-0)

284 Property Valuation and Assessment Administration V **Three credits**
Continuation of residential, commercial, agricultural, and personal property appraisals presented in effective and organized manner for the professional advancement of personnel in property valuation and assessment administration. Prerequisite: BUS 283. 3 (3-0)

285 Property Valuation and Assessment Administration VI **Three credits**
Real and personal property appraisals, legal and procedural aspects of appraisal, and appeal procedures are studied. A Certificate is awarded upon successful completion of the Property Valuation and Assessment Administration courses. Prerequisite: BUS 284. 3 (3-0)

290, 291, 292, and 293 Management Internship (Each) **Three credits**
A cooperative offering involving weekly, on-campus independent seminars with the coordinator and the student intern. The student intern also receives actual training and experience in tasks performed by owners, proprietors, and managers in organizing and operating a business in our enterprise system. Coordinator's approval required. 3 (3-0)

295 Introduction of Labor Relations **Four credits**
A survey of the history, legal framework and purposes of the labor movement in the United States. A study of both labor's and management's approach to the solution of employer and employee problems in business, industry and related fields. 4 (4-0)

296 Labor Relations/Collective Bargaining **Four credits**
Collective bargaining as a mechanism for labor and management to jointly establish and administer the rules of the work place is investigated together with the traditional areas of wages, hours and conditions of employment. Both sides of the areas of dispute are examined together with the input from the public sector. Prerequisite: BUS 295 or departmental approval. 4 (4-0)

297 Labor Relations/Grievances and Arbitration **Four credits**
Grievance procedure and its administration is the keystone of the foundation of collective bargaining. Arbitration and substantive law have raised the entire administrative process of grievances to a high level of complexity. The entire grievance procedure will be examined in depth from both sides together with a review of the Federal and State legislation in the field and its impact upon collective bargaining setting. Prerequisite: BUS 296 or departmental approval. 4 (4-0)

298 Labor Relations in Government **Four credits**
Examines the various legal restraints that are placed upon government and public employees. Recommended for government employees. 4 (4-0)

299 Labor Law **Four credits**
An in-depth study of the major laws that affect labor relations, together with an examination of the primary U.S. Supreme Court Cases and N.L.R.B. meetings that have given these laws their current shape and direction, as well as a functional picture of the N.L.R.B. Prerequisite: BUS 295 or departmental approval. 4 (4-0)

908 Business Theory for Professional Secretaries**Four credits**

This 28-week course of study is designed for the secretary who wants to be well qualified in all office procedures, who wants to learn more about the operation and management of business, and who is interested in the study of human relations.

The program offers a special opportunity to the secretary who plans to prepare for the national CPS® examination. Classes are organized to review subject matter in four sections of the test.

Course content:

1. **Secretarial Procedures**
Includes office procedures, basic concepts of office management and records management, and a survey of data processing.
2. **Communications and Decision-Making**
Includes in-basket exercises involving some dictation, composition of letters, reports, abstracting information, and establishing priorities of work.
3. **Environmental Relationships**
Includes study of the basic principles of psychology as they pertain to human relations in group and individual encounters.
4. **Economics of Management**
Includes a study of the basic concepts of economics, management, and the elements of business operation.

909 Estate Planning**Two credits**

Topics include will, trusts, gift and estate taxes, life insurance in estate planning, and investments for estate building. 2 (2-0)

951 Office Seminar**One credit**

8-14 classroom hours on special topics of current interest offered by the department. 1 (1-0)

952 Office Seminar**Two credits**

15-24 classroom hours on special topics of current interest offered by the department. 2 (2-0)

953 Office Seminar**Three credits**

25-34 classroom hours on special topics of current interest offered by the department. 3 (3-0)

960 Transportation/Management Seminar**One credit**

Resource people from State and Federal regulation commissions, through lectures and panel discussions, inform the participants of current laws, regulations, policies, and procedures in the industry. 1 (1-0)

Court and Conference Reporting (CCR)

Court and Conference Reporting students have an option of completing the first year Machine Shorthand requirement by taking either four terms during the day for six credits each (CCR 101-104), or six terms at night for four credits each (CCR 111-116). Students who successfully complete the first year night sequence must enroll for day classes in the second year. Second year CCR classes are not offered at night. Students must receive at least a grade of "C" in any of the 100 level CCR classes in order to continue on with the next course.

First Year CCR-Day Sequence

101 Machine Shorthand I **Six credits**
Basic Touch Shorthand Computer-Compatible Theory taught on the Stenograph machine, developing speeds up to 80 wpm. 6 (8-0)

102 Machine Shorthand II **Six credits**
Additional Touch Shorthand Theory and speed building up to 100 wpm. Prerequisite: CCR 101 or departmental approval. 6 (8-0)

103 Machine Shorthand III **Six credits**
Intermediate speed building with skills up to 120 wpm. Introduction to jury charge and legal abbreviations. Prerequisite: CCR 102 or CCR 113 or departmental approval. 6 (8-0)

104 Machine Shorthand IV **Six credits**
Advanced speed building up to 140 wpm. Medical terminology and dictation. Prerequisite: CCR 103 or departmental approval. 6 (8-0)

First Year CCR - Night Sequence

111 Machine Shorthand I-N **Four credits**
Basic Touch Shorthand Computer-Compatible Theory taught on the Stenograph Machine, developing speeds up to 70 wpm. 4 (4-0)

112 Machine Shorthand II-N **Four credits**
Additional Touch Shorthand theory and speed building up to 90 wpm. Prerequisite: CCR 111 or departmental approval. 4 (4-0)

113 Machine Shorthand III-N **Four credits**
Touch Shorthand theory and speed building up to 100 wpm. Prerequisite CCR 112 or departmental approval. 4 (4-0)

114 Machine Shorthand IV-N **Four credits**
Intermediate speed building with skills up to 110 wpm. Introduction to jury charge and legal abbreviations. Prerequisite: CCR 113 or departmental approval. 4 (4-0)

Management and Marketing

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115 Machine Shorthand V-N

Four credits

Intermediate speed building with skills up to 130 wpm. Additional jury charge dictation. Prerequisite: CCR 114 or departmental approval. 4 (4-0)

116 Machine Shorthand VI-N

Four credits

Advanced speed building up to 140 wpm. Medical terminology and dictation. Prerequisite: CCR 115 or departmental approval. 4 (4-0)

Second Year CCR Classes

211 Q & A I

Four credits

Two-voice testimony dictation and speed building; 120-160 wpm. Prerequisite: CCR 104 or CCR 116 or departmental approval. 4 (4-0)

212 Q & A II

Four credits

Two-voice testimony dictation and speed building; 160-180 wpm. Prerequisite: CCR 211 or departmental approval. 4 (4-0)

213 Q & A III

Four credits

Two-voice testimony dictation and speed building; 190-200 wpm. Introduction to four-voice testimony. Prerequisite: CCR 212 or departmental approval. 4 (4-0)

214 Q & A IV

Four credits

Two-voice testimony dictation and speed building; 210-230 wpm. Expert witness testimony dictation. Prerequisite: CCR 213 or departmental approval. 4 (4-0)

221 Jury Charge I

Three credits

Jury Charge dictation and speed building; 130-140 wpm. Prerequisite: CCR 104 or CCR 116 or departmental approval. 3 (3-0)

222 Jury Charge II

Three credits

Jury Charge dictation and speed building; 150-160 wpm. Land Descriptions, Informations and Statutes dictation. Prerequisite: CCE 221 or departmental approval. 3 (3-0)

223 Jury Charge III

Three credits

Jury Charge dictation and speed building; 170-180 wpm. Argument dictation. Prerequisite: CCR 222 or departmental approval. 3 (3-0)

224 Jury Charge IV

Three credits

Jury Charge dictation and speed building; 190-200 wpm. Legal Opinion dictation. Prerequisite: CCR 223 or departmental approval. 3 (3-0)

231 Literary I **Three credits**
 Literary dictation and speed building; 100-120 wpm. Prerequisite: CCR 104 or CCR 116 or departmental approval. 3 (3-0)

232 Literary II **Three credits**
 Literary dictation and speed building; 150-160 wpm. Specialized terminology dictation. Prerequisite: CCR 231 or departmental approval. 3 (3-0)

233 Literary III **Three credits**
 Literary dictation and speed building; 150-160 wpm. Specialized terminology dictation. Prerequisite: CCR 232 or departmental approval. 3 (3-0)

234 Literary IV **Three credits**
 Literary dictation and speed building; 170-180 wpm. Specialized terminology dictation. Prerequisite: CCR 233 or departmental approval. 3 (3-0)

To receive credit for the second-year courses, the student must attain the top speed listed. If student does not reach the required speed, re-enrollment will be necessary until the course is successfully completed.

240 Court Practice **Four credits**
 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. Prerequisite: Q & A speed, 180 wpm. 4 (0-4)

Data Processing (DP)

001 Key Punch Training **Three credits**
 Provides speed and accuracy on a training tandem—a simulator for the numerical keys on a key punch machine. A programmed instruction guide is used to present facts about the key punch machine and data processing in general. The course provides actual practice on the key punch machine, using practical jobs, including the preparation of program cards and verification of the work on the card verifier. The student will obtain the necessary knowledge and needed skills for actual performance on a job. A Certificate is presented at completion of course. The key punch course is presented on a lab basis with open enrollment and individual assistance at all times. The student may establish his own hours and pace for learning. Previous typewriting is required (approximately 40 w.p.m.) 3 (0-6)

002 Key Punch Training **One credit**
 A follow-up of DP 001. It includes the Data Card Recorder 129, which both punches, verifies and corrects on the same machine.

There are four jobs to punch and verify in this course. This one-credit course is offered on a pass/fail basis in a laboratory situation with individual assistance at all times. The student may establish his own hours and pace for learning. A Certificate is presented at completion of the course. Prerequisite: DP 001. 1 (0-2)

003 Data Recorder Training**Two credits**

Programmed instruction to teach the operation of the "3742 dual data station" via keyboard to diskette. Prerequisite: DP 002. 2 (0-4)

110 Fortran**Three credits**

A basic understanding of the language and ability to program in it, including coverage of problem definitions, arithmetic statements, DO statements, arrays, and subprograms. The student will write and correct actual Fortran programs. 3 (3-0)

131 Survey of Data Processing**Three credits**

The objective of this course is to introduce the student to: (1) the principles and purposes of data processing, (2) the language of data processing, and (3) the application of data processing in a business environment. The course is basically an introduction and orientation course for the non-data processing student. 3 (3-0)

141 Small Computer Operations**Three credits**

The first of two courses in computer operation. The student will learn basic machine operation, and usage of tape and disk storage features on a small computer. Prerequisite: DP 171. 3 (3-0)

142 Large Computer Operations**Three credits**

Information and experience in unit record operations and control, forms handling equipment, equipment upkeep, forms inventory, supply storage and handling, tape and disk library systems and basic machine room procedures. Prerequisite: DP 171. 3 (3-0)

161 Introduction to Electronic Computers**Three credits**

To acquaint Data Processing majors with electronic computers. Includes uses for computers, internal operation, operating systems and file organization. Prerequisite: DP major. 3 (3-0)

162 Operations**Three credits**

The first of two courses in operations to provide the student majoring in Data Processing with information and experience in unit record operations and control, forms handling equipment, equipment upkeep, forms inventory, supply storage and handling, tape and disk library systems and basic machine room procedures. 3 (3-0)

163 Report Program Generator (RPG)**Three credits**

A beginning course in Report Program Generator (RPG) to give a basic understanding of the language and ability to program in it. Included are problem definitions, control levels, tables, and matching records. The student will write and correct actual RPG programs. 3 (3-0)

164 Advanced RPG**Three credits**

Further study of the RPG language, especially in the area of disk applications and additional RPG features. Prerequisite: DP 163. 3 (3-0)

165 RPG Applications**Three credits**

A third course in RPG to increase proficiency by writing a series of RPG programs which will constitute a term project. Prerequisite: DP 164. 3 (3-0)

171 Cobol I**Three credits**

Basic components of the Cobol language are covered and applied in learning to write efficient programs. 3 (3-0)

172 Cobol II**Three credits**

A continuation of Cobol I, including disk file organization and processing. A program to form and update an ISAM (Index Sequential Access Method) file containing rings and strings is developed. Prerequisite: DP 171. 3 (3-0)

173 Cobol III**Three credits**

An advanced Cobol course designed to provide additional programming experience in the ISAM data base environment. Prerequisite: DP 172. 3 (3-0)

174 Special Cobol Features**Three credits**

A continuation of Cobol I, including table handling, report writer feature and sort feature. Prerequisite: DP 171. 3 (3-0)

182 Assembly I**Three credits**

A study of the mechanics of a machine-oriented, symbolic programming language for third-generation "byte" computers, stressing the IBM System/370 type. Programs will be coded and run. Prerequisite DP 171. 3 (3-0)

183 Assembly II**Three credits**

A continuation of Assembly I, including indexing and table look-up, DTF entries (file processing), macro writing, subroutines and program linkage. Prerequisite: DP 182. 3 (3-0)

221 Forms Design and Control**Three credits**

Forms design and control from the initial phase of recognizing that a form is needed, to the utilization of the form. Topics covered are: (1) layout of items by importance, (2) design of margins and print spacing, (3) grades of paper - reproduction and binding, (4) forms processing by users. 3 (3-0)

222 Standards of Documentation**Three credits**

Topics include: (1) defining purposes and types of documentation, (2) the role of documentation in systems development, (3) showing the importance of documentation in project control, (4) outlining the methods of developing standards, (5) outlining a model documentation system. Prerequisite: DP 171. 3 (3-0)

223 Introduction to Systems Analysis**Three credits**

Basic Systems Design covers topics such as: (1) definition of the characteristics of a system, (2) definition of Systems Analysis, (3) definition of the role of the Systems Analyst, the importance of understanding how systems Analysis relates to the organization. Prerequisite: DP 173 or departmental approval. 3 (3-0)

230 Minicomputers**Three credits**

Examines the basic characteristics of minicomputer hardware and software design, the relationship between specific application perimeters and the resulting minicomputer hardware component and software configurations, the categories of application that are feasible with specialized I/O (input/output) devices and turn-key minicomputer hardware and software. 3 (3-0)

231 Teleprocessing**Three credits**

Fundamentals of telecommunications, including such topics as data transmission networks, communications interface equipment, types of terminal systems, software design and the teleprocessing computer. 3 (3-0)

232 Telecommunications**Three credits**

Understanding the major considerations in the design of a telecommunication system. These include: (1) user design requirements, (2) terminal specifications, (3) network requirements, (4) software requirements, (5) quantification techniques for design specifications. 3 (3-0)

246 DP Intern or Field Project**Three credits**

To provide each student with a meaningful contact in a Data Processing environment in the community. Note: The student should be within one academic year of completing the two-year degree program before enrolling in this course. Prerequisite: Departmental approval. 3 (3-0)

281 Assembler Applications**Three credits**

An advanced assembler course designed to provide additional programming experience through coding a program to form and update an ISAM file containing data characteristics in binary form. Prerequisite: DP 183. 3 (3-0)

282 Software Programming**Three credits**

Experience in the specialized field of software programming. Focuses on the development of a compiler (OPLANI) oriented to the needs of operational personnel in a modern data processing installation. Prerequisite: DP 183. 3 (3-0)

291 Special Projects/Data Processing**One credit**

20 to 30 hours of study in special data processing projects, available only with departmental approval. 1 (0-1)

292 Special Projects/Data Processing**Two credits**

40 to 50 hours of study in special data processing projects, available only with departmental approval. 2 (0-2)

293 Special Projects/Data Processing**Two credits**

60 or more hours of study in special data processing projects, available only with departmental approval. 3 (0-3)

351 DP Management and Control**Five credits**

Study management tools for controlling, planning and operating the organization, and the tools that a data processing staff uses to assist management. An integral part of this course will be the development of an information reporting system based on these tools. 5 (5-0)

352 DP Systems Design I**Five credits**

A study of: (1) Cobol tape and disk, (2) new developments in software and hardware, (3) a survey of new languages. 5 (5-0)

353 DP Systems Design II**Five credits**

Covers general assembly language, the nature of compilers, editors and operating systems. Prerequisite: DP 352. 5 (5-0)

Economics (EC)**101 Applied Economics****Three credits**

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 economic growth. 3 (3-0)

120 Consumer Economics**Three credits**

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. 3 (3-0)

201 Principles of Economics I**Four credits**

To develop objective consideration of economic issues; specifically, the knowledge and understanding of how resources are allocated by prices. Consists of price theory; consumer demand; cost structure of firms; aiding the supply of goods to the market; factor pricing, and income distribution. Prerequisite: Sophomore standing or departmental approval. 4 (4-0)

202 Principles of Economics II**Four credits**

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. Prerequisite: EC 201. 4 (4-0)

203 Economic/Business History**Three credits**

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, transportation, labor unions, and capitalization patterns. 3 (3-0)

Management and Marketing

172

- 266 **Special Projects/Economics** **One credit**
20 to 30 hours of study in special economics projects, available only with departmental approval. 1 (0-1)
- 267 **Special Projects/Economics** **Two credits**
2 credits requiring 40 to 50 hours of study. 2 (0-2)
- 268 **Special Projects/Economics** **Three credits**
3 credits requiring 60 or more hours of study. 3 (0-3)

Hotel-Motel Management (HMF)

- 101 **Introduction to Hospitality Industry** **Four credits**
(AHMA American Hotel Motel Association 103)
Introduction to the Hotel-Motel industry and its management departments, the industry's responsibilities, and opportunities for creative employment. 4 (4-0)
- 102 (AHMA 214) **Communications** **Four credits**
A study of the principles of communication, examining oral and written communications and explaining how to get your message accepted. To gain a basic understanding of communication principles; two-way communication; efficient listening; oral communication; communication on the job; written communication principles; writing effective letters; audio-visual communication; and the "chain" of communication. 4 (4-0)
- 103 (AHMA 216) **Training and Coaching Techniques** **Three credits**
To help develop supervisory skills needed to train employees; devise economical and efficient work methods; improve day-to-day job performance from subordinates through sound coaching techniques; and assist in setting realistic job performance standards. 3 (3-0)
- 190 **Internship and Seminar** **Three credits**
Offered to students who have successfully completed basic courses. Allows the student to be placed in an approved training facility; to earn credits for satisfactory work performance; and earn wages for hours worked. Prerequisite: Approval of coordinator. 3 (0-3)
- 191 **Independent Study-HMF** **One credit**
- 192 **Independent Study-HMF** **Two credits**
- 193 **Independent Study-HMF** **Three credits**
- 194 **Independent Study-HMF** **Four credits**
Each provides an opportunity to explore a topic or problem of interest through readings, research, etc., under the guidance of a faculty member. The student may elect the course offerings from one to four credits, with a requirement of at least ten hours work per credit. Prerequisite: Departmental Approval. 1 (0-1), 2 (0-2), 3 (0-3), 4 (0-4)

- 201 (AHMA 305) Hospitality Merchandising** **Three credits**
Sales promotion and methods used to obtain public recognition and good will. 3 (3-0)
- 202 (AHMA 312) Maintenance and Equipment** **Four credits**
Provides basic technical information in electronics, air conditioning, plumbing, heating, electricity, acoustics and other equipment to establish preventive maintenance routine and make necessary operating decisions. 4 (4-0)
- 203 (AHMA 307) Law and Innkeepers** **Three credits**
A course for innkeepers and their personnel, as well as HMF students. Presentation of safe, sound rules to assist in avoiding law suits and legal pitfalls. 3 (3-0)
- 204 (AHMA 106) Human Relations** **Three credits**
Basic knowledge of human behavior and suggestions of possible ways to channel that behavior to achieve worthwhile purposes. 3 (3-0)
- 205 (AHMA 106) Hospitality Management** **Three credits**
A presentation of various subjects and problems of hospitality management including general concepts of management, personnel, guests, and technical problems of operation. 3 (3-0)
- 206 (AHMA 301) Front Office Procedures** **Four credits**
Organization, control and operation of the front office as applied in the reservation and sale of rooms, service, keeping of accurate accounts, presenting bills and receipts of payment. 4 (3-1)
- 207 (AHMA 302) Financial Control & Management** **Four credits**
A systematic, integrated study of hotel, motel, and food institutional financial management. Principles, problems, and practices related to finance will be presented in a balanced manner with regard to their relative importance in the hospitality industry. Includes the nature of financial statements, front office procedures, and the interpretation of accounts and statements unique to the hospitality industry. 4 (4-0)
- 220 Apartment Management and Leasing** **Three credits**
Methods, problems, and practices related to the management of apartment buildings and projects will be presented as they pertain to the resident manager. Day-to-day operations, as well as brochures, advertising, legal forms, etc. will be presented. 3 (3-0)
- 225 Tourism** **Three credits**
Insight into future growth potential and economic benefits of tourism. Techniques of analyzing tourism demand and supply are included. 3 (3-0)

130 Table Service**Two credits**

Presents the basic principles and procedures of efficient service of food and beverage, enabling the student to gain a firm understanding of these principles so he can adapt them to any food and beverage operation. 2 (2-0)

131 Food Production I**Five credits**

Basic concepts in menu planning, food purchasing, nutrition, sanitation and food storage. Demonstration and laboratory. 5 (1-4)

132 Food Introduction II**Five credits**

Food production as applied to quantity operation and application, with emphasis on managerial methods and concepts utilized in the administration of special food functions. Laboratory course. Prerequisite: HMF 131. 5 (1-4)

133 (AHMA 315) Food Production III**Five credits**

Presentation of the various food production methods geared toward quantity production. Includes basic terminology with an overview of the entire food production area. Laboratory course. Prerequisite: HMF 132. 5 (1-4)

134 (AHMA 309) Food Service Operations**Three credits**

The five functions of management with emphasis on supervision and service. The student is to be trained in the art of food service, food handling, and sanitation. 3 (3-0)

135 (AHMA 308) Quantity Food Purchasing**Five credits**

Standards of quality applied to food, beverages, china, glass, silver, linen, furnishings and supplies, including the writing of specifications and establishing procurement policies. The menu planning and design phase of the course includes wording, selection of items, design and layout, projections of acceptability and the study of several market areas. Field project required. 5 (4-1)

141 Meat Identification**Three credits**

Covers methods of identifying wholesale and retail cuts of beef, pork, lamb, veal, poultry, and fish, and correct preparation procedures for each retail cut. 3 (3-0)

142 Meat Cutting I**Five credits**

Students will become acquainted with the retail cuts of beef and pork, and will prepare, process, cut, and merchandise each of the cuts for service, utilizing the basic equipment needed in meat cutting. Laboratory preparation. 5 (1-4)

143 Meat Cutting II**Five credits**

Student will identify and cut wholesale and institutional cuts of pork, beef, lamb, poultry and fish; learn preparation and merchandising techniques; run cutting tests; learn yield and loss percentage anticipated from each cut of the carcass; and learn the differences between retail and wholesale cuts. Laboratory preparation. Prerequisite: HMF 142. 5 (1-4)

144 Meat Cutting III**Five credits**

Students will demonstrate wholesale meat cutting, and give a verbal accounting to the class; direct the processing of each assigned wholesale cut, and prepare it for freezing. Covers the best methods to use in cutting and freezing; storage times; and the best cuts and grades of beef for home, retail, and restaurant use. The class will also prepare various types of sausage, and will cleau, fillet, and prepare fresh fish for cooking and storage. Laboratory preparation. Prerequisite: HMF 143 5 (1-4)

145 Meat Merchandising I**Three credits**

Covers the wholesale cuts of the whole beef; front and hind quarters; processing wholesale cuts into retail cuts; merchandising and displaying retail cuts; and meeting proper sanitation standards. Students will conduct cutting tests on loss and yields, and will learn cooking times and techniques on all retail cuts of beef. Laboratory preparation. 3 (2-1)

146 Meat Merchandising II**Three credits**

Covers wholesale and retail cuts of pork, veal, lamb, fish, and poultry. Yield tests are required along with cooking procedures. Laboratory preparation. 3 (2-1)

231 Nutrition and Man**Four credits**

Physical, chemical and biological characteristics of food are considered. Helps the student become a translator who interprets scientific nutrition evidence into meaningful facts a layman can understand and apply to food selection. Course objectives are to determine man's nutrient needs, the role of nutrients in various foods man eats, and the meanings of foods to different cultures. 4 (4-0)

232 (AHMA 410) Food and Labor Cost Control**Three credits**

Covers essential principles and procedures of effective food, beverage, and labor cost control and their adaptations to any food and beverage operation. 3 (3-0)

233 Food Service Sanitation**Three credits**

Subject matter and demonstrations pertain to responsibilities to oneself, employer, and the general public. Training in sanitation, hygiene, food controls, and equipment, with emphasis on service of food and beverages for both individual table and banquets. Especially designed for new employees in food service as well as in the kitchen area. 3 (3-0)

251 Wine Appreciation**Three credits**

Students will become familiarized with the five basic types of wine: red, white, rose, sparkling, and fortified. Includes a short history of wines and their making; a mastery of the presentation and serving of wines; judging wines on appearance, bouquet, and taste; selecting and storing wines for restaurant or retail use; and learning the relationship between wines and foods. Prerequisite: HMF major or departmental approval. 3 (3-00)

- 252 Wines of America** **Two credits**
A survey of the wine growing areas of the United States with emphasis on the varietal selections of California, New York, Michigan and Ohio. A study of wine making and comparative tastings and field trips acquaint the student with the wine industry in America. Prerequisite: HMF major or departmental approval. 2 (2-0)
- 254 Mixology** **Five credits**
Provides a mastery of over 100 mixed beverages and the serving of wines. Develops the skilled bartender by combining the arts of mixology and hospitality with control systems involving alcoholic beverages. Prerequisite: HMF major or departmental approval. 5 (2-3)
- 255 Practical Bar Management** **Four credits**
Exposure to all aspects of the bar business on a management level. Includes merchandising, controls, purchasing, labor, etc. Prerequisite: HMF 254 or departmental approval. 4 (4-0)
- 260 Basic Cookery** **Three credits**
Teaches the beginning cook correct techniques in pre-planning, preparation, service, and cleanup involved in a meal. Includes shopping lists, menus, recipes, cost, measuring units, and basic nutritional information. Prerequisite: HMF major or departmental approval. 3 (0-3)
- 261 Gourmet Foods/Basic** **Three credits**
Basic cookery using sauces and wines. Includes the preparation of hors d'oeuvres, canapes, fondue, party foods, and meat cookery. Laboratory preparation. 3 (0-3)
- 262 Gourmet/Foreign** **Three credits**
Foreign foods from around the world are prepared and tasted. Includes wine and cheese samplings. Laboratory preparation. 3 (0-3)
- 263 Gourmet/American** **Three credits**
An adventure into regional American cuisine. Involves preparing, serving and eating gourmet meals. Menus will include garnishes, soups, sauces, entrees, vegetables, and desserts. Laboratory Preparation. 3 (0-3)
- 264 Gourmet/Barbecue** **Three credits**
A spring and summer oriented course with most preparations occurring out-of-doors. Meat, vegetables, hors d'oeuvres, salads and desserts are prepared. Laboratory preparation. 3 (0-3)
- 265 Gourmet/Potpourri** **Three credits**
A combination of all other courses, this class offers a variety of foods and ideas for your role as a host or hostess. Laboratory preparation. 3 (0-3)

266 Chinese Cookery**Three credits**

Chinese cooking is noted for its diversity of taste, texture, and aroma. Chinese dishes will be prepared, i.e., sweet and sour pork, chicken almondine, and egg rolls, through the use of techniques such as sauteing and red cooking. Laboratory preparation. 3 (0-3)

267 Advanced Chinese Cookery**Three credits**

Student preparation of some of the more elegant Chinese dishes, and use of traditional Chinese spices and ingredients. Prerequisite: HMF 266. 3 (0-3)

270 Microwave Cookery**Three credits**

Production of various types of food geared toward introducing the student to the microwave oven and its capabilities. Laboratory Preparation. 3 (0-3)



271 Advanced Microwave Cookery **Three credits**

Expands on basic microwave cookery, using recipes from the Microwave cookbook, as well as adapting the student's own recipes to microwave use. The technical and theoretic principles of microwave cookery will be taught. Prerequisite: HMF 270. 3 (0-3)

275 Bakery Products/Cake Decorating **Three credits**

Familiarizes the student with baked products and cake and pastry decoration. A professional baker will demonstrate various types of baked goods and products from the kitchen and supervise student preparation. 3 (0-3)

321 (AHMA) Food Facilities Design and Layout **Four credits**

Conceptualization, design, layout and specification of food service industry facilities. 4 (4-0)

322 (AHMA) Work Study Analysis in Food Operations **Four credits**

Covers work methods and layout, and includes flow analysis, time and motion study, work simplification, data processing and setting of standards. 4 (4-0)

323 (AHMA) OSHA—MIOSHA/Food **Three credits**

An in-depth analysis of the Occupational Safety Health Act and the Michigan Occupational Safety Health Act as they relate to the hospitality industry, with emphasis on safety standards, equipment and operations. 3 (3-0)

Insurance (INS)**265 Principles of Risk and Insurance** **Four credits**

This course presents the fundamental principles involved within the business environment for handling risk, with emphasis on those indicating insurance solutions. 4 (4-0)

266 Life Insurance **Four credits**

This course is designed primarily for insurance majors or others wishing an in-depth study of life, health, State planning and annuity contracts in detail, including preparation for State licensing examination. 4 (4-0)

267 Casualty Insurance **Four credits**

A course designed principally for insurance majors, but including all those desiring an in-depth study of the major property and liability contracts, including preparation for State licensing examinations. 4 (4-0)

268 Agency Management **Four credits**

A course designed for insurance majors covering all aspects of the setup and operation of an insurance agency. Treats the agency as an independent business. 4 (4-0)

269 Portfolio Analysis**Four credits**

A stock market course geared to the life cycle approach of portfolio management emphasizing individual stock analytic techniques but including preparation for NASD mutual fund examinations. 4 (4-0)

271 Special Projects/Insurance**One credit**

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

272 Special Projects/Insurance**Two credits**

2 credits requiring 40 to 50 hours of study.

273 Special Projects/Insurance**Three credits**

3 credits requiring 60 or more hours of study.

Chartered Life Underwriter (CLU)**951 Insurance Seminar****One credit**

8-14 classroom hours on special topics of current interest offered by the department. 1 (1-0)

952 Insurance Seminar**Two credits**

15-24 classroom hours on special topics of current interest offered by the department. 2 (2-0)

953 Insurance Seminar**Three credits**

25-34 classroom hours on special topics of current interest offered by the department. 3 (3-0)

101 Individual Life and Health Insurance**Three credits**

An introductory course in the C. L. U. program that investigates Life Insurance in depth. The several types of life insurance and are discussed including options. Health insurance, probability concepts and mortality tables, and the construction of policies for individuals are treated. 3 (3-0)

102 Life Insurance Law and Mathematics**Three credits**

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. 3 (3-0)

103 Group and Social Insurance**Three credits**

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. 3 (3-0)

104 Economics **Three credits**

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. 3 (3-0)

105 Insurance Accounting/Finance **Three credits**

The importance and techniques of financial record-keeping and income measurement are presented in detail. Budgeting and methods of financing are covered. 3 (3-0)

106 Investments and Management **Three credits**

Various types of investments are discussed as they relate to family financial plans. Stocks, securities, mutual funds and real estate are among the topics covered. 3 (3-0)

108 Pension Planning **Three credits**

The forces underlying the pension movement and basic features of plans are discussed. Included are tax considerations and various types of funds. 3 (3-0)

109 Business Insurance **Three credits**

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. 3 (3-0)

110 Estate Planning and Taxation **Three credits**

An introduction to Estate Planning including acquisition, administration, disposition and taxation of property. Federal estate, gift and capital gains taxes are discussed in depth. 3 (3-0)

Life Underwriters Training Council (LUT)

The Life Underwriters Training Council Program is a 4-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, 102, 103	LUTC	Part I	Life Insurance	Three credits each
LUT 201, 202, 203	LUTC	Part II	Life Insurance	Three credits each
LUT 213	LUTC	Part III	Disability Income Insurance	Three credits
LUT 214	LUTC	Part IV	Securities	Three credits

Law (LAW)**120 Legal Research****Four credits**

Research procedures of law offices including the functions of a law library and research methods. In-depth investigation into the following Federal, National, and Michigan research tools: Encyclopedias, digests, reporter systems, practice manuals, statutes, periodicals, treatises, court rules, Attorneys General Opinions, court administrative publications and citators. Practical application of research techniques is required. 4 (4-0)

130 Introduction to the Michigan Judicial System**Two credits**

A survey course designed to provide an understanding of Michigan's overall judicial system. 2 (2-0)

NOTE: LAW courses 210, 211, 212, 221, 222, & 223 are designed to view the technical problems of the respective legal areas from the standpoint of the legal assistant.

210 Pre-Trial Procedures**Four credits**

In-depth study of pre-trial considerations necessary for litigation, including jurisdiction, venue, statues 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, Demands for Admissions, Pre-Trial Statements, and others. Prerequisite: Law 120. 4 (4-0)

211 Trial and Appellate Procedures**Four credits**

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. 4 (4-0)

212 Legal Field Specialties**Four credits**

Overview of specialty areas of law, including drafting of pleadings and related legal instruments. Areas covered include real estate, administrative law, corporate law, bankruptcy, probate, domestic relations, workmen's compensation, criminal law, and personal injury. 4 (4-0)

215 Business Law I**Three credits**

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, crime and torts, and the law of contracts, personal and real property, leases and mortgages and bailments. 3 (3-0)

216 Business Law II**Three credits**

The nature and law of sales, commercial paper, security devices, agency, employment, partnerships, corporation—profit and non-profit types—insurance, and the 1972 Michigan Uniform Commercial Code. Prerequisite: Law 215. 3 (3-0)

221 Real Estate Transactions**Four credits**

In-depth treatment of real property and common types of real estate transactions and conveyances. Includes drafting problems involving deeds, mortgages, notes assignments, leases, land contracts, summary proceedings, title opinions, closing statements, security agreements, financing statements, and others. Study of abstracts and examination thereof, recording systems, and tax histories. Prerequisite: Law 120. 4 (4-0)

222 Probate**Four credits**

Practical problems in probating estates including all procedures involved in the commencement of probate through settling and closing the estate. Prerequisite: LAW 120. 4 (4-0)

223 Domestic Relations**Four credits**

Includes case law, statutes, and rules pertaining to divorce, separate maintenance, annulment, the Child Custody Act, Family Support Act, Uniform Reciprocal Support Act, and paternity. Covers the practical activities and function of the legal assistant in the management of the typical domestic relations case. Prerequisite: LAW 120. 4 (4-0)

266 Special Projects/Law**One credit**

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.

267 Special Projects/Law**Two credits**

2 credits requiring 40 to 50 hours of study

268 Special Projects/Law**Three credits**

3 credits requiring 60 or more hours of study

915 Law and Social Issues**Two credits**

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 everchanging social system. Topics covered include abortion and family planning, drugs and alcoholism, conscientious objectors, discrimination, consumers' and debtors' rights, and others which prove timely. 2 (2-0)

Law Enforcement (LE)**101 Introduction to Law Enforcement and Criminal Justice** **Five credits**

Orientation course designed to acquaint the student with the fields of law enforcement. Municipal, County, State and Federal police organizations studied. Includes the history, philosophy and administration of justice. 5 (5-0)

102 Crime: Causes and Conditions **Three credits**

Analysis of causes and control of crime. Causes of crime and methods of dealing with criminal and potential criminals emphasized. 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 are examined. Prerequisite: LE 101 or departmental approval. 3 (3-0)

103 Criminal Law and Procedures **Five credits**

Elements of criminal law including its purposes and functions. Covers law of arrest, search and seizure, rights and duties of officers and citizens, elements necessary to establish crime and criminal intent. Other topics include general court procedure. Prerequisite: LE 101 or departmental approval. 5 (5-0)

104 Basic Elements of Criminal Investigation **Four credits**

Includes crime scene search; collection and preservation of evidence, identification, firearms identification; casting. Prerequisite: LE 103 or departmental approval. 4 (4-0)

105 Criminal Offense Investigation Techniques and Procedures **Four credits**

To investigate specific crimes, prepare cases for prosecution. Courtroom testimony. Prerequisite: LE 104 or departmental approval. 4 (4-0)

106 Juvenile Problems/Control and Prevention **Five credits**

Shows the role of the law enforcement officer in dealing with all aspects of juvenile offenses, providing the legal basis of the police officer's work with juveniles, and an understanding of the process involved when contact is made with persons under the age of 17. 5 (5-0)

107 Juvenile Problems: Control and Prevention Part II **Five credits**

Expands and presents new and additional materials on the legal and procedural methods of dealing with persons under the age of seventeen when official contact is made with the law enforcement agency. Prerequisite: LE 106 or departmental approval. 5 (5-0)

120 Basic Police Science **Five credits**

Introductory course provides the new police officer or student with the fundamental requirements of the patrol officer. Includes subjects covering human relations, history and philosophy of law enforcement, sex crimes, communications skills, organized crime, news media relations, custodial and rehabilitative facilities. Prerequisite: Approval of Law Enforcement Coordinator. 5 (5-0)

- 124 Advance Police Science** **Four credits**
Provides the student with an advanced level of presentation and scope, based on his learning experience, in order to acquire more detailed technical and comprehensive insights into his patrol function. 4 (4-0)
- 161 Fraudulent Check Seminar** **One credit**
Topics include: fraudulent check identification, personal identification, identification documents, victim and his dilemma, and things people do with checks. 1 (1-0)
- 201 Police Organization and Administration** **Four credits**
Analysis and study of functional divisions of the modern police department. Includes coordination of activities, communications, recruiting, training, public relations and a look at the future of law enforcement. Prerequisite: 15 hours of Law Enforcement or departmental approval. 4 (4-0)
- 202 Police Management and Supervision** **Three credits**
To recognize the dynamic nature of the middle manager's work, and develop and refine the skills of the middle manager. To update the knowledge of managerial concepts and techniques, and the skills in supervision and human relations. The skills in quantitative aspects of modern management are included as the managerial functions are examined. Prerequisite: LE 201 or departmental approval. 3 (3-0)
- 203 Theory of Patrol** **Three credits**
Study of patrol as a basic operation of the police function, the responsibilities of the uniform and patrol officers, purposes, methods, types and means of police patrol. Covers determination of patrol strength layout, beats, areas and deployment. Prerequisite: 15 hours of Law Enforcement or departmental approval. 3 (3-0)
- 204 Highway Traffic Administration** **Five credits**
Covers the 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. Prerequisite: 15 hours of Law Enforcement or departmental approval. 5 (5-0)
- 205 Current Issues in Criminal Justice** **Three credits**
A seminar to study and analyze current criminal justice problems, utilizing social research as one means of problem solution. Prerequisite: Departmental approval. 3 (3-0)
- 206 Police Interviewing and Interrogation** **Three credits**
A study of the techniques and tactics that can be successfully used in police interviewing and interrogation. Major emphasis is on the interview process as a method of gathering information. Includes constitutional law and court decisions regulating interviewing of suspects and criminal offenders. Prerequisite: Departmental approval. 3 (3-0)

207 Narcotic Drug Seminar **Three credits**
 Basic information relative to narcotics and drugs. Provides factual objective information upon which the students may build further beliefs and opinions. Prerequisite: LE 105 and departmental approval. 3 (3-0)

208 Organization of Criminal Activities **Three credits**
 The study of the development and history of organized crime throughout the world and the development of organized crime in Sicily and Italy with its transition to the United States.

The invisible government of crime is incomprehensible to the average American and this economic entity, a government within a government will be studied, including its funding and operations. Prerequisite: 15 hours of Law Enforcement and departmental approval. 3(3-0)

231 Directed Independent Study **One credit**
 Prerequisite: Coordinator approval. 1 (0-1)

232 Directed Independent Study **Two credits**
 Prerequisite: Coordinator approval. 2 (0-2)

233 Directed Independent Study **Three credits**
 Prerequisite: Coordinator approval. 3 (0-3)

234 Directed Independent Study **Four credits**
 Prerequisite: Coordinator approval. 4 (0-4)

NOTE: Minimum of ten hours work required per credit.

235 Basic Firearms **Four credits**
 Safety rules and regulations, range procedures, nomenclature and function of the various types of weapons and types of ammunitions. To provide the basic courses in firing to attain at least the basic marksmanship qualification. Prerequisite: Second year LE major or Law Enforcement Coordinator approval. 4 (4-0)

236 Basic Combat Firearms **Four credits**
 An intermediate firearms course designed as a transition from bull's-eye to field and combat shooting. Prerequisite: LE 235 and Law Enforcement Coordinator approval or Law Enforcement officer. 4 (4-0)

237 Advanced Combat Shooting **Four credits**
 A program of advanced combat shooting which includes Michigan Law Enforcement Officers Training Council and additional combat firing needs, primarily of the types used by practitioners. Prerequisite: LE 236 and Law Enforcement Coordinator approval or Law Enforcement officer. 4 (4-0)

241 Unarmed Defense**Two credits**

(May be taken three times for a total of six credits)

242 Unarmed Defense**Four credits**

(May be taken three times for a total of twelve credits)

Designed to teach law enforcement and related criminal justice personnel the correct and effective methods of pistol, knife and club disarming; ways to apply come-along techniques; how to use riot sticks, handcuffs or nunchaku. Search techniques, including legal aspects of a search, are also included. 2 (2-0), 4 (4-0)

247 Law Enforcement Internship**Three credits**

May be elected after successful completion of basic Law Enforcement courses. Allows the student to be placed in an approved training section and earn credits for satisfactory work performance. A practical training program is developed in agreement with the training station supervisors and the College. The teacher conducts an arranged seminar once each week with the internship students to accomplish course objectives and to maintain constant evaluation in conjunction with coordinated visits to training stations. Prerequisite: Departmental approval. 3 (0-3)

301 Criminal Investigation and Procedure**Five credits**

Includes crime scene search, collection and preservation of evidence; identification; firearms identification; casting; investigation of specific crimes; preparing cases for prosecution; court room testimony plus some hands-on work. Seminar. Prerequisite: Departmental/Law Enforcement Coordinator approval. 5 (5-0)

302 Michigan Criminal Law and Procedure**Five credits**

Study of elements of criminal law including its purposes and functions. Covers law of arrest, search and seizure, rights and duties of officers and citizens, elements necessary to establish crime and criminal intent. Other topics include general court procedure. Seminar. Prerequisite: Departmental/Law Enforcement Coordinator approval. 5 (5-0)

303 Theory of Patrol**Five credits**

Study of patrol as a basic operation of the police function, the responsibilities of the uniform and patrol officers, purposes, methods, types and means of police patrol. Covers determination of patrol strength layout, beats, areas and deployment. Hands-on work in seminar form. Prerequisite: Departmental/Law Enforcement Coordinator approval. 5 (5-0)

304 Field Investigation**Three credits**

A course covering the 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. Hands-on work in seminar form. Prerequisite: Departmental/Law Enforcement Coordinator approval. 3 (3-0)

- 255 Jail Operations** **Two credits**
An introduction and understanding of the basic procedures involved in the operations of local correctional facilities. 2 (2-0)
- 256 Jail Management** **Two credits**
An introduction and understanding of the basic procedures involved in the management of local correctional facilities.
Designed for majors, non-majors, and pre-service students; structured to allow individual students to progress at their own rate. 2 (2-0)
- 260 Introduction to Corrections** **Five credits**
An introduction and analysis of agencies and processes within the correctional system. An examination of correctional officer behavior and correctional legislation; the courts; rehabilitation; and correctional institutions and their operation and administration. 5 (5-0)
- 261 Corrections Organization** **Five credits**
An introduction and analysis of the correctional systems and processes of the United States, Great Britain, Canada, France, Sweden, and the Soviet Union. 5 (5-0)
- 262 Correctional Security** **Three credits**
A survey of the correctional process with primary emphasis on correctional security at the county jail and city lockup level. 3 (3-0)
- 263 Correctional Research** **Three credits**
Provides an opportunity for those whose primary interest is in the field of corrections to pursue an area of research that is of particular relevance. Also provides an opportunity for working students to participate in a program that under more structured conditions would not be available or accessible to them. 3 (3-0)
- 267 Advanced Correctional Operations** **Three credits**
An overview of major issues related to the operations of correctional facilities at the county jail. 3 (3-0)
- 268 Advanced Correctional Management** **Four credits**
This course is intended to be an overview of major issues related to the management of correctional facilities at the county jail. 4 (4-0)
- 269 Seminar in Correctional Problems** **Three credits**
An open seminar forum to discuss and analyze current problems in Michigan, the United States, and internationally. Students will be expected to question, discuss, analyze, and take positions on current correctional problems raised in the news media, publications, and by the instructor. 3 (3-0)
- 270 Probation/Parole** **Three credits**
Covers the duties of parole and probation officers. Emphasis will be placed on specific problems in treating the offender in the community. 3 (3-0)

271 Probation/Volunteer**One credit**

Introduces the student to the volunteer-in-probation concept. The major objective is the dissemination of information dealing with successful volunteer programs around the nation as well as locally. Information presented includes: volunteers-in-probation, nationally and locally; a police department's approach to delinquency; and volunteers-in-probation as they relate to the professional probation officer. Seminar. 1 (1-0)

272 Corrections in Michigan**Three credits**

Examines the physical plant, operations, and inmate populations of the various City, County, and State correctional institutions in Michigan. Includes the various types of work release and work study programs offered, and the types of training utilized by these departments for their correctional staffs. 3 (3-0)

280 Security Administration**Five credits**

Introduction to the historical, philosophical and legal framework for security operations, as well as detailed presentations of specific security processes and programs utilized in providing security. Provides an overview of the protection of governmental and proprietary systems and installations; a survey of the personnel, physical, informational processes and specialized programs for plants, railroads, retail stores, security education and training; and the total environmental, political, financial, and legal ramifications of security and the individual in society. 5 (5-0)

281 Loss Prevention**Three credits**

Encompasses the functional operational areas of security set in a framework of theoretical relevance, (risk management, risk control and risk accountability are defined and placed in a usable framework). 3 (3-0)

283 Security Officer Training**Variable credit**

An advanced course designed primarily for school security personnel. Provides an adequate amount of training and education for security employees to enable them to function efficiently, effectively and professionally. Seminar.

285 Security Training-S**Four credits**

Designed primarily for school security personnel. The major objective is the provision of an adequate amount of training and education for security employees to enable them to function efficiently, effectively and professionally in their jobs. 4 (4-0)

307 D. U. I. L. Enforcement**Three credits**

Basic alcohol countermeasure concepts examined through carefully tested teaching strategies that challenge the student to maximum performance, both during and after the course. Provides training to make officers aware of their role, relevant detection clues, and recommended techniques for sound alcohol enforcement. Prerequisite: Law enforcement officer. 3 (3-0)

311 First Aid I**One credit**

Examines the proper procedures for situations such as traffic accidents, home accidents, gunshot wounds, heart attacks, and drug overdose. Presents the basic techniques in control of bleeding and care for fractures. All first aid courses will be presented by certified American Red Cross First Aid instructors. Upon successful completion of this course the student will be eligible to receive the American Red Cross First Aid and Emergency Care Certification card. Prerequisite: Departmental approval. 1 (1-0)

312 First Aid II**One credit**

A brief review of the materials from LE 311, offering additional practice work in the skills of bandaging and splinting, and the lifesaving technique of cardio-pulmonary resuscitation as presented by the Michigan Heart Association. Prerequisite: LE 311. 1 (1-0)

313 First Aid III**One credit**

A brief review of the materials from LE 312 with special emphasis placed on the technique of cardio-pulmonary resuscitation. The advanced first aid topics of emergency childbirth, drug overdose, and auto-extrication will also be presented. Upon successful completion of this course, the student will be eligible to receive the American Red Cross Advanced First Aid and Emergency Care Certification. Prerequisite: LE 312. I (1-0)

314 Advanced First Aid**Four credits**

A complete course of emergency first aid techniques for law enforcement personnel. Materials presented will be a combination of those described in LE 311, 312 and 313, and considerable time will be allotted for practical application of these skills. Upon completion of the course, presented by Certified American Red Cross First Aid instructors, the student will be eligible to receive the American Red Cross Advanced First Aid and Emergency Care Certification. Students who have completed any or all of the series: LE 311, 312 and 313, will not be eligible to enroll in LE 314. 4 (4-0)

900 Interpersonal Communication and Awareness (IPCA)**One credit**

A course emphasizing personal awareness and interpersonal communication for the spouses of police personnel. LE 900 is a condensed version of LE 903. Prerequisite: Departmental approval. 1 (1-0)

903 Interpersonal Communication and Awareness**Three credits**

A course emphasizing personal awareness and interpersonal communication for police personnel, focusing on the individual police officer's relationship with other police personnel, the community, family and friends, and elements of the criminal justice system. Prerequisite: Departmental approval. 3 (3-0)

904 Police Traffic Services**Four credits**

Designed to develop teaching techniques and methods that permit officers assigned to police traffic training to more adequately instruct patrol personnel in accident and traffic incident investigation. Seminar. 4 (4-0)

923 Supervisory Improvement Program**Three credits**

Same course as LE 202, presented in seminar form. Prerequisite: Departmental approval. 3 (3-0)

926 Command Level**Five credits**

To enable command level officers, as part of a distinct management team, to prove their ability to lead, plan, organize, direct coordinate, control and evaluate, functions for which they have responsibility. This course will incorporate the system of MBO-Management by Objective. Prerequisite: Law enforcement coordinator's approval. Seminar. 5 (5-0)

Management (MGT)**111 Management Information Processing****Three credits**

Examines methods which increase flexibility and ease in rapidly processing large amounts of business and financial information that managers must examine. 3 (3-0)

113 Leadership/Parliamentary Procedure**Three credits**

The principles of group leadership and discussion; how to run a meeting and act as chairman and conference leader. Parliamentary procedure will be a focal point, discussing motions, amendments, point of order, point of information, appeals, and debating. 3 (3-0)

121 Beginning Management/Small Business**One credit**

A one-day seminar to present basic management concepts to small businessmen of the community, as well as disseminate information about the Small Business Administration and the ways it can assist small businessmen. 1 (1-0)

222 Pre-Managerial Training**Four credits**

Designed specifically to meet the needs of pre-managerial candidates. Course prepares potential candidates for positions that have managerial responsibility. Content includes: job of the supervisor, communications, human relations, and job training and leadership. This course give the participant the opportunity to determine if he or she is suited to this type of work. Seminar. 4 (4-0)

274 Eupsychian Management**Four credits**

Eupsychian management as developed by the late Dr. Abraham Maslow is an example of human organization in a health society populated by healthy people. Embraces several disciplines, primarily, organizational behavior, philosophy and social psychology. Eupsychia is a synthesis of several individual contributions to the field of human behavior and a massive application of the insight of Professor Maslow. Therefore a maximum yield from the course presupposes a significant level of student preparation, and a systematic approach to scientific inquiry. 4 (4-0)

- 300 Introduction to Management** **Four credits**
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. 4 (4-0)
- 301 Management Analysis and Behavior** **Three credits**
Provides a basic understanding of behavioral dynamics and interpersonal relations as they apply to decisions and actions of management. This is done through a series of cases that build upon one another to give the student an in-depth understanding of managerial relationships and responsibilities. 3 (3-0)
- 304 Organizational Development** **Four credits**
A pragmatic approach to understanding and effectively dealing with the multitude of people and performance problems faced by a student. Examines the skills needed to determine the real problem and then select an appropriate plan of action. 4 (4-0)
- 305 Introduction to Purchasing Management** **Four credits**
A survey of purchasing activities as related to the manufacturing and service industries. Includes such topics as purchasing organization, principles and practices, and relationship of purchasing department with other departments in a business. 4 (4-0)
- 306 Management by Objectives** **Three credits**
An advanced course in management considering the proper principles, concepts and practices of the management by objectives system. 3 (3-0)
- 307 Organizational Goal Setting** **Four credits**
An in-depth study of the goal setting process as applied to a realistic situation. Emphasis will be on the total organizational approach to goal setting using a task team model for information gathering and decision making. 4 (4-0)
- 308 Organizational Performance Analysis** **Four credits**
In-depth analysis of organizational operations and performance measurement as applied to a realistic situation. Specific emphasis will be placed on measurement of organizational, managerial, and individual performance measurement. 4 (4-0)
- 309 Advanced Communications in Business** **Four credits**
Designed to develop a more sophisticated forum for students who have had basic communication training for business and industry. Detailed practice and experience will be given to group dynamics, leadership and interviewing techniques. 4 (4-0)
- 310 Production Management** **Four credits**
Explains what a production function is and how it applies to all business and service organizations. Each component of production will be analyzed from a functional viewpoint to establish a theoretical base. The student will receive a complete overview of the production function with an awareness of the modern techniques and procedures used in management. 4 (4-0)

311 Safety Standards**One credit**

An approach to developing safety attitudes within people and focusing our attention chiefly upon the physical environment and on its proper administration and supervision. Primarily directed toward first line supervisors, operators, and safety specialists at all levels. Applies mainly to fork-lift operation. 1 (1-0)

312 Managerial Relationships**Three credits**

Consists of workshops in management by objectives and conflict resolution. Methods for bringing organizational manager-employee relations into close alignment are examined with emphasis on attaining objectives mutually agreed upon, and reckoning with dissonance. Seminar. 3 (3-0)

313 Manager Awareness**Three credits**

Consists of workshops in models for managers and transactional analysis. A study of management styles and a continuous self-analysis theme will increase the individual's awareness of personal tendencies, strengths and weaknesses. Seminar. 3 (3-0)

314 Effective Managerial Communication**Three credits**

Consists of workshops in manager effectiveness training and communication techniques. Extensive study is made in the dynamics of effective manager-employee communications. Seminar. 3 (3-0)

315 Work Group Processes**Three credits**

Consists of workshops in group dynamics, problem solving, decision making, and meeting techniques. Facilitation of the work group and both inter-and intra-group processes are examined with emphasis on effective synergistic functioning. Seminar 3 (3-0)

318 Organizational Policy**Four credits**

Examines the various aspects of the formulation of organizational policy, how it is communicated to the people who make up the organization, and how policy change occurs. 4 (4-0)

323 CAM Internship**Four credits**

An advanced internship project toward earning a Certificate in Advanced Management. This project must be outside and beyond the student's regular area of responsibility and have an employer's approval. Prerequisite: Departmental approval. 4 (4-0)

324 CAM Internship**Four credits**

A detailed quality report in the student's area of interest, applicable toward earning a Certificate in Advanced Management. To be selected jointly by the student and department coordinator. Prerequisite: Departmental approval. 4 (0-4)

328 Interaction-Interpersonal Relations**Four credits**

An exploration of the interpersonal relationships that develop between individuals, between individuals and groups, between groups, and between management and the foregoing. The course will be presented in four parts: understanding the individual; understanding managerial philosophy; modus operandi; and putting it all together. 4 (4-0)

338 Topics in Management**Four credits**

An examination of advanced topical problems in management to develop skill in analysis, resolution, and solutions to operating problems. All are contemporary and relevant problems. 4 (4-0)

345 Leadership: Attitudes and Motivation**Four credits**

Through total personal involvement in 74 group interaction projects, the participant will experience an effective "whole person" approach to self-discovery, growth and self-realization, and find enriching new dimensions in assessing personal leadership aptitudes. 4 (4-0)

348 Planning and Control of Production**Four credits**

Explores modern methods of analyses, their relationship to the production process and their utilization in management planning and control. Cases and problems will be used. Provides a frame of reference within which the manager can operate successfully. 4 (4-0)

350 Introduction to Safety**Three credits**

An introduction to the basic principles of accident prevention. In examining the basis and philosophy of accident prevention, the student will develop an understanding of the theory of multiple causation; i. e., those factors which combine together in random fashion to cause accidents. 3 (3-0)

351 Safety Inspection & Accident Investigation**Four credits**

A procedure for collecting, analyzing and recording data as a principal function for locating accident causes. Helps determine what safeguarding is necessary to protect against hazards, and recommends countermeasures which prevent or reduce the number of accidents and injuries. 4 (4-0)

352 Human Factors Engineering**Three credits**

A practical approach to the systematic application of relevant information about human characteristics and behavior to the design of things people use, the methods for their use, and the design of the environments in which people work and live. 3 (3-0)

353 Supervision and Safety**Three credits**

Explains the fundamentals and responsibilities of an industrial supervisor for safety in his job. Covers such facets as cost of accidents, the human element in safety, maintaining employee interest, training for safety, protective equipment, guarding, housekeeping, material handling, and fire control. 3 (3-0)

354 Product Safety and Accountability**Three credits**

Deals with the responsibilities of safety professionals towards insuring that manufactured products are designed and made with product safety integrated, as a means of reducing injuries by the end product. Involves the evaluation of overall effectiveness and safety effectiveness. 3 (3-0)

355 Job Safety Analysis**Three credits**

Examines the procedure used to review job methods and uncover hazards that may have been overlooked in the layout of the building and the design of the machinery and equipment; or to uncover hazards that may have developed after production started. 3 (3-0)

356 Occupational Safety Laws**Three credits**

Designed for those individuals who must keep abreast with the Federal and State Occupational Safety and Health rules and regulations. Provides the necessary tools for understanding the responsibilities of the employer and employee in complying with safety and health laws. 3 (3-0)

357 Techniques of Safety Instruction**Three credits**

Examines the various methods and procedures used in safety training based on clearly defined objectives that determine the scope of the training and guide the selection and preparation of the training material. Topics include: training needs, program objectives, training methods, and the lesson plan. 3 (3-0)

358 Safety Management**Four credits**

An approach to provide management and safety personnel with greater understanding and appreciation of their roles as managers, dedicated to the recognition, avoidance, and prevention of accidents. Explores the concept of "total loss control"; i. e., the elimination of all factors that contribute to downgrading the effectiveness of a business enterprise. Prerequisite: Management 350. 4 (4-0)

359 Human Relations in Safety**Three credits**

Safety attitudes must be developed within people if there is to be any progress in on-the-job safety. Human relations and safety mindedness must be practiced by all personnel at all levels, but safety is the responsibility of first line supervision. This course provides step-by-step procedures for sound principles of management, and for solving actual job related problems. 3 (3-0)

370 Managerial Finance**Four credits**

Many managers within an organization do not have a financial background, yet are required to deal with financial matters and to communicate with those people who specialize in finance. Course is designed to provide the necessary skills to perform these tasks. 4 (4-0)

390 Management Law**Three credits**

Overview of the various legal elements that affect managers and other employees within the organization. Topics include the background and recent developments in Equal Employment Opportunity (EEO); Occupational Safety and Health Act (OSHA); the Federal Trade Commission (FTC); other governmental agencies and regulations; antitrust; competitive pricing; and distribution policies and practices. 3 (3-0)

395 Manager's Role in Labor Relations**Three credits**

For the manager who is not assigned full-time responsibilities as a Labor Relations expert, but whose decisions affect the collective bargaining process. Assists in building harmonious management/labor relations throughout the entire organization. 3 (3-0)

823 Computer Basics for Management**One credit**

Introduces the student to what computers can do with data. Emphasis will be placed on providing a conceptual basis for understanding data-handling systems, particularly Electronic Data Processing (EDP). Storage and manipulation of information will be covered in terms of files and file manipulation. Seminar. 1 (0-1)

834 Computer Fundamentals for Managers**One credit**

Provides a basic survey understanding of computer and data processing concepts of value to managers in non-data processing areas. Seminar. 1 (0-1)

835 Supervisory Effectiveness**One credit**

Provides a basic understanding of the principles of effective supervision, with emphasis on communications and personal aspects of the supervisor's job. A good introduction to supervisory techniques and concepts for new or prospective supervisors. Seminar. 1 (0-1)

836 Communication for Results**One credit**

Provides a comprehensive understanding of the communications process in modern business. Emphasis will be on areas of practical application such as speaking, listening, interaction, and various channels for communication within the organization. Seminar. 1 (0-1)

837 Human Behavior in the Organization**One credit**

Provides an understanding of the complex area of human behavior as it applies to the management of productive organizations. Major areas of emphasis include psychological concepts, interpersonal relationships, and group behavior. Seminar. 1 (0-1)

838 What Managers Do**Two credits**

Clarifies the perceptions of the manager's job. Particular emphasis will be placed on relationships, contributions, hierarchy structure, superior-subordinate relations, and social interactions. The student will gain insight into managerial situations, rules, and regulations. Seminar. 2 (0-2)

- 839 Training and Developing Today's Work Force** **One credit**
Provides a comprehensive understanding of training and development in the modern work environment. Emphasis will be placed on history and psychology of training and development, determination of needs, methodology, and evaluation methods. Seminar. 1 (0-1)
- 840 Getting Results with Time Management** **One credit**
Identifies many of the underlying causes of poor time utilization such as insufficient or improper delegation. Specific emphasis will be placed on situational analysis, identification of problem areas, and action to be taken in correcting the problem. Seminar. 1 (0-1)
- 841 Decision Making for Managers** **One credit**
Provides problem solving and decision-making skills, placing emphasis on five elements: environment, organization, decision-maker, relationships, and alternatives. The mathematical approach to decision-making will be used with diagrams and computational rules. Seminar. Prerequisite: Math 213. 1 (0-1)
- 842 Quantitative Aids to Decision Making** **One credit**
An introduction to the mathematical and statistical methods of analysis and decision-making in business. The emphasis is on how data can be used in the management of the business, including statistical techniques and mathematical models. The types of problems appropriate for quantitative methods will also be covered. Seminar. Prerequisite: Management 841. 1 (0-1)
- 843 Performing the Operations Analysis** **Two credits**
Provides a comprehensive understanding of the various aspects of operations analysis. Special emphasis will be placed on specific applications in areas such as management, marketing, personnel, manufacturing, purchasing and engineering. Seminar. 2 (0-2)
- 844 Management Information Systems** **One credit**
To provide an outline of the classes of Management Information System's (MIS) inputs and outputs; how they are developed from routine information flows; and the basic structure of an MIS, so that the underlying design decisions become clear. Will better enable the student to communicate with analysts, and evaluate potential effectiveness of systems. Emphasis will be on data collection and report generation. Seminar. 1 (0-1)
- 917 Advanced Management Series I** **(Each) One credit**
This series includes eight management courses in current topic areas of interest to the management community. Guest speakers conduct these seminars in an effort to bridge the gap between theory and practice. Topics include: Meeting Techniques, Transactional Analysis, Management by Objectives, Organizational Communications, Individual Communications, Conflict Resolution, Problem Solving, and Decision Making. These courses may be taken independently or as a series. Seminars. (Each) 1 (1-0)

918 Advanced Management Series II**(Each) One credit**

This series includes eight management courses in current topic areas of interest to the management community. Guest speakers conduct these seminars in an effort to bridge the gap between theory and practice. Topics include: Time Management, Leadership, Assertiveness Training, Manager Effectiveness Training, Stress Management, Motivation, Handling the Problem Employee, and Making Effective Presentations. These courses are to be taken independently or as a series. Seminars. (Each) 1 (1-0)

922 Middle Management**Three credits**

Examines the unique skills required of a manager with subordinate managers who must report to a higher level manager. This position requires more time spent in the planning and organizing functions than does a first level managerial position. 3 (3-0)

930 Women in Management**Three credits**

For women who are interested in understanding and analyzing effective management. The program addresses itself specifically to the challenges and barriers that women are faced with when put into managerial positions. Seminar. 3 (3-0)

Marketing (MKT)**120 Sales****Three credits**

An analysis of the fundamentals of salesmanship and its role in the marketing mix. Emphasis is on developing skills in behavioral sciences and those needed to enter or understand the field of sales. Deals with customer buying habits, the sales process, product demonstration techniques, and analysis of human relations aspects of sales. 3 (3-0)

122 Advanced Sales**Three credits**

An in-depth analysis of salesmanship and marketing, offering an opportunity for practical field sales experience in consumer and industrial sales. The student joins a business, is trained, and then performs actual sales in the community. Class time will be in the field, learning advanced techniques of selling and further refining individual selling skills. Prerequisite: MKT 120. 3 (0-3)

130 Retailing**Three credits**

A comprehensive consideration of the activities involved by retailers in selling goods to ultimate consumers. Emphasis is placed on areas relating to the needs and interests of the class. 3 (3-0)

131 Fashion Merchandising**Three credits**

Examines fashion merchandising functions, policies, what, when, where, how much, how to, and from whom to buy. Includes an introduction to fashion history, textile construction, design, color, figure types and fashion trends. Career opportunities are also explored. 3 (3-0)

- 140 Basic Advertising** **Three credits**
Presents methods and techniques used in modern advertising, providing instruction in doing the entire advertising job. Copywriting, selection of media and how the advertiser can approach his problems most effectively are included. 3 (3-0)
- 141 Retail Advertising** **Three credits**
Planning, development, and execution of retail advertising for greater effectiveness. Each method of advertising is examined for strengths and weaknesses as feasibility is determined. The advertising budget is carefully analyzed. 3 (3-0)
- 142 Advertising Copy/Layout** **Four credits**
This course is intended primarily for people who have the responsibility for advertising in a business or organization, and for those considering a career in advertising. Through readings, individual practice, and class discussions of examples from the media, students will learn the basic principles of and techniques involved in the creation of advertising messages. 4 (4-0)
- 190 Introduction to DECA Leadership** **Three credits**
Utilizes Distributive Education Clubs of America (DECA) materials on skills and understanding involved in leadership, parliamentary procedure, officer responsibilities, self-management techniques, community colleges and community service, social skills, individual adjustment and "right" spirit for competitive events in marketing, merchandising and management. 3 (3-0)
- 200 Introduction to Marketing I** **Four credits**
A general study of the problems and policies of manufacturers, wholesalers, and retailers in the marketing of goods and services. Channels of marketing, customer relations, functions of sales departments, price policies and communications are included. For the student wanting a basic marketing orientation. 4 (4-0)
- 201 Introduction To Marketing II** **Four credits**
A continuation of Marketing 200 for marketing majors. More detailed in all marketing functions. Prerequisite: MKT 200. 4 (4-0)
- 202 Managerial Marketing** **Four credits**
Study of the total enterprise regarding problems, analytical tools, and approaches to decisions. Concerns allocation of funds to various means of market cultivation, development of promotional strategy, price policy, and management of field selling efforts. The case will be used extensively. Prerequisite: MKT 201. 4 (4-0)
- 220 Sales Management** **Three credits**
Study from the viewpoint of management, dealing with the organization and operation of the sales division within the business enterprise. Planning, organizing and controlling of the total sales effort is emphasized. The case method of learning is employed extensively. Prerequisite: MKT 120 or departmental approval. 3 (3-0)

230, 231, 232, 233 Independent Study - Marketing (Each) **Three credits**
Offers advanced marketing students opportunity to design, implement and draw conclusions about an area of interest in the marketing field. Minimum of ten hours work per credit is required. Prerequisite: Departmental approval. 3 (0-3)

235, 236, 237, 238 Marketing Internship-Seminar (Each) **Three credits**
After successful completion of basic courses, students may elect internship. Allows students to be placed in approved training stations, earn credits for satisfactory work performance, and earn wages for hours of work. To participate in this program, students must be qualified to receive approval from their department and enroll with the coordinator. Prerequisite: Coordinator approval. 3 (0-3)

Real Estate (RE)

270 Real Estate Business Math **Two credits**
Comprehensive review of all math involved in real estate transactions, including interest, percentages, amortization, and commission. 2 (2-0)

271 Real Estate Business I **Three credits**
A practical approach to problems arising in day-to-day real estate transactions, introducing all facets of the real estate business. Primary objective of the course is to present points of law and real estate principles useful to the salesman and broker alike. The first course toward GRI designation. 3 (3-0)

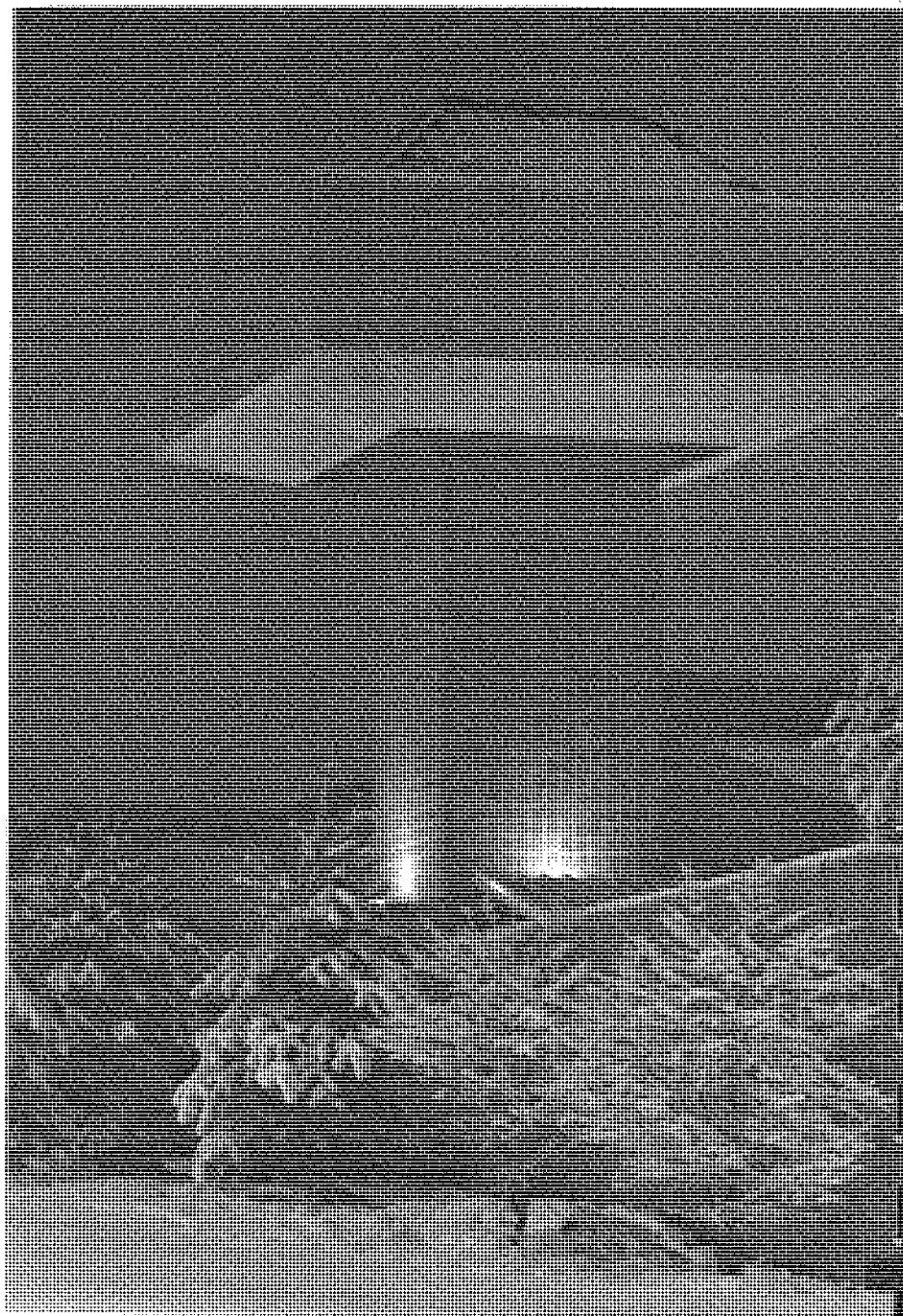
272 Real Estate Business II **Three credits**
Covers material of interest and value to the established broker as well as to those who are planning to become brokers. Introduces real estate closings and taxation, and expands on subjects such as appraisal, management, investment and finance. Prerequisite: RE 271 or coordinator approval. 3 (3-0)

273 Real Estate Business III **Three credits**
Advanced real estate course which may be applied toward the educational requirements for the Graduate, Realtors Institute (GRI) designation, awarded by the Michigan Association of Realtors. Prerequisite: RE 272. 3 (3-0)

274 Real Estate License Examination **Three credits**
Intensé study in preparation for passing the state examination required for real estate licensing. Prerequisite: RE 271. 3 (3-0)

276 Real Estate Law **Three credits**
Study of the legal problems relating to salesmen and brokers. Covers all aspects of real estate law. 3 (3-0)

277 Property Management **Three credits**
Owners of income producing properties are increasingly entrusting their management responsibilities to professional individuals and firms. This course deals with the subject matter by utilizing principles presently known and understood. 3 (3-0)



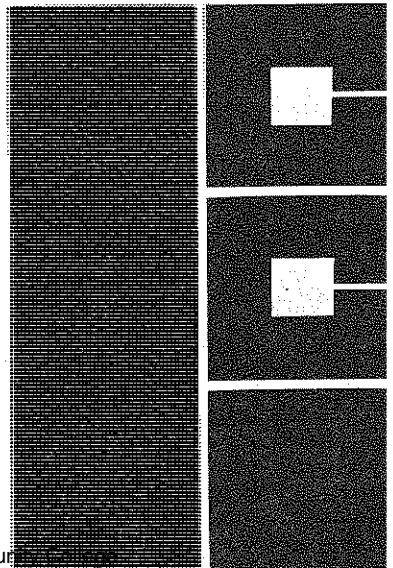
DIVISION OF APPLIED ARTS AND SCIENCES

Department of
Engineering Technology

Department of
Applied Technology

Department of
Health Careers

Department of
Performing and
Creative Arts

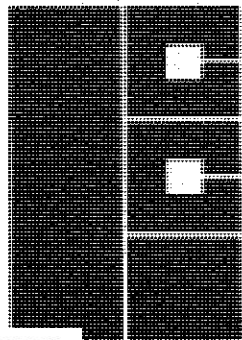


DIVISION OF APPLIED ARTS AND SCIENCES



Dean William Monroe

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 chairman 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. Objectives of this division, spanning a multitude of activities and programs, include:

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 of 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 (Building and Service Trades Apprenticeships)

Asbestos Worker	Machine Repair (Business)
Auto Body Man	Painting & Decorating JATC
Auto Mechanic	Photo Engraver
Bricklaying J.A.C.	Plumber-Pipefitter JATC
(Joint Apprenticeship Committee)	
Carpenter	Plumber-Pipefitter Maintenance
Carpenter J.A.C.	Sheet Metal
Diesel Mechanic	Sheet Metal (Residential)
Drywall Taping	Silk Screen Processor
Electrical Construction JATC	Stone Cutter
(Joint Apprenticeship Training Committee)	
Electrical Maintenance	Technical-Dental
Electrical Residential	Technical-Optical

Certificate and Associate Degree

Auto Body & Paint	Millwright
Automotive Servicing	Machinist
Die Maker (Tool and Die Maker)	Tool Maker
Diesel Engine Technology	Numerical Control Programmer
Heating, Air Conditioning and Refrigeration	Plastics Technology
Industrial Management	Residential Builder
Industrial Technology	Sheet Metal
Labor Studies	Vocational-Technical-General
Machine Repair	Weldor
Industrial Apprenticeships	
Auto, Truck and Trailer Repair	Maintenance Machinist
Die Design	Millwright
Die Engraver	Mold Maker
Die Maker	Model & Patternmaker
Die Sinking	Plumber-Pipefitter, Industrial
Die Trimmer Maker	Sheet Metal, Industrial
Draftsman	Structural Steel
Electrical, Industrial	Tool Designer
Engraver	Tool & Die Maker
Machine Builder	Tool Inspector
Machine Repair	Tool Maker
Machinist	Weldor, Tool & Die
Employee-In-Training Oldsmobile & Fisher Body	
Assembler/Experimental Auto	Machinist-Forge Plant
Blacksmith	Metal Finisher-Hand Form
Boring Mill Operator	Milling Machine Operator
Bricklayer-Furnace Building	Millwright
Building Repair-General	Painter
Carpenter	Pipefitter
Cutter Grinder	Planer Operator
Die Tryout	Pneumatic Tool Repair
Draftsman-Layout Sr.	Power House-Substation Operator
Dynamometer Operator-Engineer	Refrigeration and Air Conditioning Maintenance
Electrician	Safety Appliance Maker
Elevator Maint. & Repair	Shaper Operator
Garage Mechanic & Repair	Sheet Metal Worker
Gear Cutter-Experimental	Template Maker
Grinder Operator	Tinsmith
Hardener-Tool and Die	Tool Gage and Fixture Repair
Inspector-Layout Gages or Tech.	Tool Maker
Inspector-Standard Tool	Truck Repair-Gas and Electric
Inspector-Gage Check & Repair	Weldor-Arc, Gas and Layout
Jig Borer Operator	Weldor-Die
Lab Pyrometer Man	Weldor-Maintenance-Gas and Arc
Lathe Operator	Woodworker or Modelmaker
Machine Repair	

Engineering Technology

Architectural Technology
 Avionics Technology
 Civil Technology, Highway
 Civil Technology, Sanitary
 Civil Technology, Structural
 Civil Technology, Construction
 Civil Technology, Surveying
 Civil Technology, Traffic Engineering

Industrial Drafting Technology
 Electro-Mechanical Technology
 Electronics Technology
 Fire Science Technology
 Industrial Safety Management
 Mechanical Technology
 Quality Control & Reliability Technology
 Technical-General
 Truck Driver Training

Health Careers

Continuing Health Careers
 Cytotechnology
 Dental Assistant
 Dental Hygiene
 Emergency Medical Services Technician
 Nursing, Associate Degree
 Operating Room Technician
 Practical Nursing
 Radiologic Technology
 Respiratory Therapist
 Respiratory Therapy Technician

Performing and Creative Arts**Art**

Artist/Tradesman
 Commercial Art
 Interior Decorating and Design

Dance

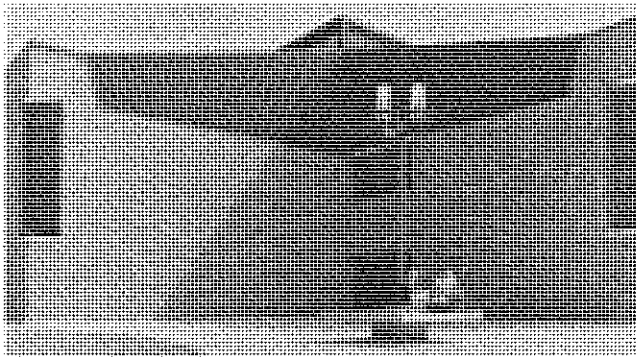
Modern or Ballet Emphasis

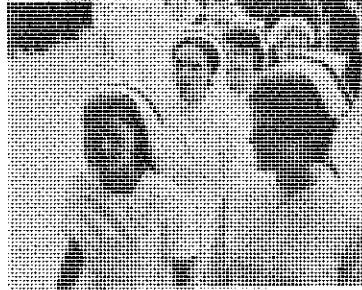
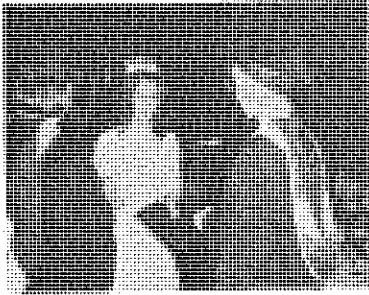
Music

Commercial
 Instrumental
 Vocal
 Applied Lessons
 Instrumental
 Vocal
 Piano Tuning

Theatre

Acting
 Costume Design
 Directing
 Lighting and Sound
 Set Design and Construction





Transfer Programs

- with Associate Degrees.
- designed to help a student to qualify for entering a professional school in some of the fields of Performing and Creative Arts.
- for the student planning to transfer individual courses to a university.

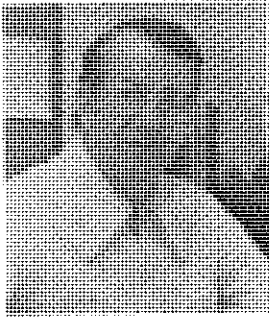
Since universities differ in their policies regarding transferring credit, a student who wishes to transfer to a specific institution should check with the counselor of transfer programs to verify the transferability of courses.

COMMUNITY SERVICE PROGRAMS

- individually designed to satisfy broad segments of the community served.
- ranging from industrial service to production of Broadway musicals.
- with 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 | Michigan Dept. of State Highway |
| Advanced Special Burner | Oil Burner |
| Apprentice | OSHA-MIOSHA (Occupational Safety & |
| Automotive Body M.D.T.A. | Health Act—Mich. Occupational |
| (Manpower Development Training Act) | Safety & Health Act) |
| Automotive Mechanics M.D.T.A. | Safety |
| Automotive Service M.D.T.A. | Truck Driver |
| Drafting | Waste Water (State Health Dept.) |
| Electronics | Welding (In-plant) |
| Fire Science | Welding M.D.T.A. |
| Heating and Air Conditioning | Art Lecture |
| Industrial Management (Basic Skills) | Art Lecture-Art and Industry |
| Industrial Management | Band and LanSymphonic Choir |
| (Front Line Foreman) | Dental Radiology |

*Department of Engineering Technology (ET)**Chairperson: Edwin C. Bergmann*

The rapidly changing technological developments facing our industrialized society have resulted in the demand for technically prepared personnel in all fields of industrial employment. Lansing Community College Engineering Technology Department has as its primary objective the responsibility for providing opportunities for students to prepare for jobs as technicians.

A technician is an employee whose job requires basic scientific and mathematical knowledge, specialized education or training in some aspect of technology, science or industry and who, as a rule, works directly with scientists, engineers, or other professional personnel.

In general, technicians are more intensively trained in fundamentals than craftsmen and more intensively trained in manipulative skills than full professionals. Technicians usually become qualified through formal technical training, on-the-job training, or a combination of both.

In addition to receiving technical training in a specific field, the prospective technician will be required to take selected courses of a general education nature that will give him a better understanding, appreciation and knowledge of his home, civic and community responsibilities. Upon completion of a selected area of technology the student is awarded an Associate Degree in Science, with qualifications suitable for positions in a number of industrial and technological occupations.

Associate Degree Programs require the successful completion of 90 credits including one course in American Government. The more popular Associate Degree Programs offered by this department are described in detail in the following paragraphs.

The Associate Degree in Science or Associate Degree—General may be granted for other groupings of courses upon approval of the department chairperson.

The requirements for Certificate Programs vary considerably. In each case, the requirements are tailored to meet a specific objective. The most popular Certificate courses are described in subsequent paragraphs in this catalog.

The Engineering Technology Department has also assumed the responsibility for providing opportunities for individuals to upgrade themselves in their present positions or for guidance in the selection of a new occupation. Individual courses are offered in all technology areas for these specific purposes.

Architectural Technology Associate Degree in Science (AT)

The College offers a specific two-year Associate Degree Program designed to prepare students to become competent technicians in the area of Architectural Technology.

An architectural technician is a highly trained semi-professional working in direct support of a professional architect or engineer.

Courses emphasize the preparation of architectural working drawings, the ability to think, communicate, and illustrate with drawings.

The curriculum is designed to prepare a student for employment with an architectural or engineering firm. Many other opportunities are available in the building industry.

Architectural Technology Certificate Program (AT)

The one-year Certificate Program is designed for initial job placement in the architectural field. Some may wish to enroll in a Certificate Program for job advancement or to find a new field of employment. All courses completed in the Certificate Program may be transferred to an Associate Degree Program after completion. A minimum of 45 credit hours is required.

Aviation Technology (AFT) (APA) (APG) (APP)

William Wilgus, Program Director

Aviation Flight Technology (AFT) Associate Degree Program

This program provides complete training for students who wish to become professional pilots. The degree includes all flight training, flight simulator training and associated ground schools to qualify students for Private, Commercial and Instrument pilot licenses. The student is permitted a wide range of electives in Aviation, Business, Marketing, and Management to fulfill the Associate Degree requirement of 90 credits. The curriculums are fully approved by the Federal Aviation Administration, Michigan Department of Higher Education and Veterans Administration. Because this program is designed to assure qualifications for licensing and maximum safety in practice in the area of aviation, applicants are expected to satisfy admission requirements for the College as well as those for the aviation program.

**Aviation Maintenance Technology (APA) (APG) (APP)
Associate Degree Program**

This 30 month (144 credit) program is designed to develop the skills, knowledge, attitudes, and experiences which will prepare the student for a career in the Aviation Maintenance Field. Graduates in this program will also be working toward the qualifications required to pass the Federal Aviation Administration Examinations and acquire an Air Frame and Powerplant Mechanic License. Graduates will receive an Associate Degree in Science, specializing in Aviation Maintenance Technology.



During the program, students will cover a wide variety of subjects dealing with airplanes and helicopters, reciprocating, turbine and jet engines, propellers, ignition, electrical, hydraulic and other diversified aircraft systems which are common in today's modern aircraft.

The program is offered in three sections and requires approximately 1900 hours of classroom, shop and laboratory instruction. The sections are: Airframe and Powerplant Mechanic, General: 400 hours; Powerplant Mechanic: 750 hours; and Airframe Mechanic: 750 hours.

Students should be high school graduates or qualify by making an acceptable score on the GED tests administered by the College. All Aviation Maintenance Technology applicants are expected to satisfy admission requirements for the College as well as those for the aviation program.

Pilot Refresher Courses

Continuous program involving ground school instruction, flight simulators and specific refresher training needs.

High School Dual Enrollment Program

Aviation Science Ground Schools designed to acquaint students with aviation theory and the future of aviation. Students will be offered Flight Simulator Training and will have the option of taking Flight Training if desired.

Flight Simulator

Two GAT-1 Flight Simulators are operated by the College. Each simulator is completely equipped with the latest in instrumentation for instrument flight training. The simulators are available for all phases of training. An instrument-rated pilot is available for instruction and counsel when the simulators are in operation.

Avionics Technology (AFT, ET)

Lansing Community College offers a two-year Associate Degree program in Aviation Electronics (Avionics). Avionics Technicians install and maintain electronic equipment used aboard aircraft, such as communications and navigation equipment, weather radar, transponders and autopilots. During this program, the student is offered courses which provide a strong background in fundamentals of electronics, orientation to the area of avionics, study of digital and communications systems, and several specialized courses in avionics systems. In the laboratory the student works with modern, high-quality test instruments and avionics equipment of the same kind as is found in a typical avionics shop. Included in this curriculum is preparation for the F.C.C. Second Class License, which is required for work on the transmitting portion of avionics equipment.

General Aviation, that segment of the aviation industry which includes private and corporate aircraft, is currently experiencing rapid growth. Along with this growth comes a need for more Avionics Technicians. LCC's Avionics Technology program can help you prepare for a challenging and rewarding career as an Avionics Technician.

Civil Technology (CT)

Civil engineering technology is one of the broadest fields in the overall practice of engineering because its work is coordinated with so many other branches of the science. Civil Engineering is concerned 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 and scientists to find practical uses for scientific discoveries. He also serves as the link between the engineer and the skilled craftsman.

A civil engineer 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.

Civil Technology—Construction Option

The objective of the Construction Technology program is to provide basic training in the design and construction of buildings and structures. The aim is not to train skilled draftsmen or professional designers, but to train technicians who will work with both of these groups. Persons so trained may qualify, with additional work experience, as estimators, engineering aides, construction superintendents, contractors, building inspectors or for other related fields of work.

Civil Technology—Highway Option

This two-year curriculum is designed to provide the background and skills to prepare for employment as an engineering draftsman, topographical draftsman, structural draftsman, structural detailer, instrument man, traffic technician, construction inspector, materials laboratory technician, specification writer, estimator, or construction equipment salesman.

Civil Technology—Sanitary Option

This two-year curriculum provides the background and skills to prepare for employment as a sanitary engineering draftsman, sewer or water system construction inspector, sewage treatment plant technician, water treatment plant technician, public health technician, laboratory technician, water pollution investigator, or process and equipment salesman.

Civil Technology—Structural Option

A two-year curriculum allowing the student to prepare for employment as a structural draftsman, construction draftsman, construction estimator, construction inspector, materials laboratory technician, technical specification writer or building materials and supplies salesman.

Civil Technology—Surveying Option

The objective of the Surveying Technology option is to provide the fundamental principles of surveying and the necessary training to use surveying instruments and equipment. Theory, field work and field problems are included in the courses.

The courses are available on an individual basis or as part of a Certificate or Associate Degree Program.

Civil Technology—Traffic Option

There is a growing concern in this country about the ability of the street system in our urban areas to meet the demands of ever-increasing traffic volumes. The traffic engineer is responsible for the development of a complete traffic system in a community, the planning and implementation of programs and the administration of the traffic engineering functions. He is assisted by the traffic engineering technician in performing the above functions.



1976-78 Catalog Lansing Community College

The traffic engineering technician is concerned with data collection, the analysis of data, and the preparation of tentative recommendations for the correction of problems in the roadway system.

Students desiring an Associate Degree in Civil Technology need 90 credit hours of instruction; a one-year Certificate requires 45 credit hours of instruction; or a special certificate may be obtained after completing the required courses listed under each Civil Technology option.

Industrial Drafting Technology Associate Degree Program (DT)

The College offers a two-year Associate Degree Program in the area of Industrial Drafting. This program enables the industrial drafting student to prepare for employment in the field of production design, tool design, or die design in a wide range of industries.

Emphasis is placed on the application of principles involved in product drafting and the procedures and techniques in the use of jigs, fixtures, cutting, forming and assembly.

The program provides drafting room experience supplemented by related shop and laboratory experiences, as well as general courses designed to enable the student to enter an industrial drafting room as a qualified draftsman.

The program also provides valuable background information for those desiring to enter other occupational classifications relating to industry.

Industrial Drafting Technology Certificate Program (DT)

The college offers a one-year Certificate Program which helps to prepare a student to qualify for the position of draftsman in industry. Drafting skills are indispensable in virtually all manufacturing, construction and service industries.

The drafting program is designed to prepare graduates to enter these industries. The program is scheduled during the evening to enable persons presently employed to upgrade themselves or prepare for positions as industrial draftsmen.

Courses are oriented to practical experiences in the various areas of drafting. These experiences are supplemented by study in the related areas of manufacturing, mathematics and materials.

Those desiring more in-depth training may transfer the credits earned in the one-year Certificate Program to the two-year Associate Degree Program.

Electro-Mechanical Technology (EM) (ET)

Electro-Mechanical Technicians are employed in a liaison capacity between skilled electrical mechanics and electrical engineers. They perform such duties as setting up preventative electrical maintenance programs, maintaining electrical apparatus, troubleshooting malfunctioning machinery, installing replacement equipment. These technicians are also able to advise skilled electrical mechanics and electrical engineers on the selection of equipment most appropriate for the desired electrical function. With additional training, the graduate might seek employment as an electrical engineer.

The College offers a two-year program in industrial electricity leading to an Associate Degree in Electro-Mechanical Technology. Considering the diversity of electrical technical jobs, and the rapidly changing state of the art, the program stresses basic knowledge and basic technical skills. The student will be taught to manipulate the math of AC and DC circuits, read wiring diagrams and blueprints, and use a wide variety of meters and tools. In addition, the student will be given a theoretical and practical introduction to rotating machinery, conventional and static motor control, and maintenance techniques and practices.

A number of Certificate Programs are available for those students who need sequence of courses in a particular area. Certificates are granted in the following areas:

- | | |
|------------------------|-----------------------------------|
| Electrical Theory | Rotating Machinery |
| Electrical Mathematics | Electrical Motor Controls |
| Blueprint Reading | Industrial Electrical Maintenance |

Those students with prior experience or education in the electrical field can earn college credit for specific courses by successfully completing a proficiency exam for that course.

Electronics Technology (ET)

Electronic technicians are needed in many areas of business and industry today. The list of jobs performed by ET's includes analytical, experimental and testing work, and repair and maintenance of electronic equipment and instrumentation. ET's may be employed in virtually any segment of business and industry including business machines and digital computers, biomedical instruments and patient monitoring equipment, automotive instruments and communication equipment, two way radio, television, audio entertainment, broadcasting, etc. Because of this diversity, we offer an Associate Degree Program that stresses the fundamental areas of circuit analysis and semiconductor devices, and applies them to the areas of digital equipment, radio frequency circuitry, and troubleshooting and repair. The student can build on the background as new devices, processes and instruments become available.

Fire Science Technology (FST)

Throughout the country there is a shortage of skilled personnel in the areas of fire protection, suppression, and prevention. Fire control is more urgently needed today than it has been because of the concentration of value in business and industry.

To cope effectively with the tremendous hazards, fire science personnel must be trained to function in a team effort with a variety of technical equipment. Accuracy, timing and good judgment are demanded if human life is to be preserved, property protected and insurance rates held down.



Fire Science programs are designed to assist those now in the field to secure the technical information necessary for promotion, and earn the credentials that professionalism demands.

Certificate Programs require 45 credit hours of instruction. The Associate Degree requires 90 credit hours.

Industrial Safety Management (SAF)

There is an increasing emphasis on industrial safety practices in the country due largely to the recently enacted Federal and State laws and regulations on safety and health standards. As a result there will be many Federal, State, OSHA-MIOSHA, and local governmental agencies that will need professionally trained people to carry out the functions of the above mentioned standards. Industry will also need trained people other than safety engineers to carry out safety practices within individual companies and departments.

Mechanical Technology (MT)

It has long been evident that machines will be among the most important factors in our future economy. History records many sequences: the horse, the steam locomotive, the automobile, the aircraft, and now the missile. Men with a full understanding of machinery will be needed because the need for machines is expanding everywhere. Automation prescribes machines that operate themselves, but automation does not and will not displace the man who designs, builds or repairs the machines. The need for mechanical technicians exists in every industry: steel mills, wood processing, construction, transportation, communications, chemical, food, clothing, medical, and almost all other divisions of our economy.

Quality Control and Reliability Technology (ST)

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 ever more challenging.

The task of controlling the quality and reliability of goods and services for industry and government is approaching the status of a professional discipline. Control concepts and techniques have been devised and proven effective during the past twenty years.

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 semiprofessional 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.

Pre-Engineering

The pre-engineering curriculum parallels in content those offered by four-year institutions within the State of Michigan as well as others outside the state. It is planned to satisfy general education requirements and the entrance requirements of the professional schools.

Admission requirements to professional programs vary among the schools, colleges and universities. Therefore, it is imperative that the student make an early decision on the institution to which he wishes to transfer and then elect the courses which will allow him to meet the requirements of that institution.

Cooperative education programs are available at a number of colleges for Lansing Community College pre-engineering students. Students should consult a counselor in the Student Personnel Services office for assistance in choosing a proper sequence of courses for these schools or other schools of their choice.

Transportation Training Program

Edward D. Jenkins, Program Director

The Transportation Training program provides drives and operator training for a career in the transportation industry.

This program includes studies of the following subjects:

Accident Prevention and Reporting	History & Importance of Industry
Air Brake System	D.O.T. Safety Regulations
Communications	Job Injury Prevention
Customer and Public Relations	Labor Relations
Driver's Daily Logs	Loading & Securing Loads
Driver's Responsibility & Maintenance	Mathematics
Driver Situations	Orientation
Fire Fighting	Psycho-Physical
Freight Handling	Registration
Health & First Aid	State Code
Highway Regulations & Laws	

Range instruction consists of 120 hours actual driving time in diesel rigs. 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 conducted on public highways.

Because this program is designed for qualifying for licensing and to assure maximum safety practices in the area of truck driver training, specific admission requirements have been established. Applicants are expected to satisfy admission requirements for the College as well as those for the truck driver training program. Students should be between the ages of 18 and 45.

Enrollment requirements for this program include good health, ability to communicate in the English language, both spoken and written, a good driving record, good moral character, freedom from addition to drugs or excessive use of alcohol.

COURSE DESCRIPTIONS**Architectural Technology (AT)****100 Beginning Architectural Drawing** **Three credits**

For students without previous drafting courses or experience. Drafting and lettering techniques will be stressed. Orthographic projection, types of pictorial drawings and sketching are included. 3 (2-2)

130 Interior Landscaping **Two credits**

Prepares the student to venture into gardening on an indoor scale. Covers buying and caring for green and flowering plants, using plants to decorate a home, office or building entrance. Covers light, temperature, humidity and the kind of soil important to growing plants. No prerequisite. 2 (2-0)

131 Residential Planning **Three credits**

General interest courses for those planning to buy, build or remodel a house. Little or no drafting involved. Topics include construction details as well as architectural styles and planning concepts. Some reading of blueprints, and use of working drawings is included. Not a required course for architectural majors. 3 (3-0)

132 Residential Landscaping **Two credits**

A basic course designed for home owners interested in improving their landscaping, lawns, flower gardens, vegetable gardens, and house plants. Field trips will be planned for visiting gardens, greenhouses, lawn and garden supply houses, and nurseries. 2 (2-0)

135 Architectural Pictorial Illustration **Four credits**

Fundamental course for illustrators or those interested in working as illustrators. Course covers principles of axiometric projection, one and two point perspective shading and shadows, with some experience offered in the use of rendering media. Prerequisite: AT 100 or equivalent. 4 (2-4)

230 Architectural Drawing I **Four credits**

Covers proper selection of building materials and the preparation of architectural details using these materials. Emphasis is placed upon using reference material and developing working drawings from architectural sketches. Prerequisite: AT 100 or equivalent. 4 (2-4)

231 Architectural Drawing II **Four credits**

Essentials of designing and drawing floor plans. Course allows student to exemplify present skills and knowledge as they pertain to the construction industry. Students select an architectural project, design it, select proper materials, and prepare working drawings in accordance with the needs of a mythical customer, and as dictated by local building codes. Prerequisite: Architectural Technology 230. 4 (2-4)

232 Architectural Drawing III**Four credits**

The student prepares final working drawings (primarily elevations) and completes a set of specifications covering the project designed in AT 231. The final result of 231 and 232 should be a well prepared resume of the student's architectural drafting abilities and his general knowledge of the construction industry. 4 (2-4)

233 Architectural Drawing IV**Four credits**

Primary emphasis is placed upon commercial and industrial construction. Course covers both low-rise and high-rise buildings. Prerequisite: Architectural Technology 230, 231 and 232 for drafting technology majors; others, approval of department. 4 (2-4)

234 Architectural Landscaping**Four credits**

Site and urban planning. Design and composition of architectural and natural elements in open spaces. 4 (2-4)

235 Structural Drawing**Four credits**

Acquaints the student with the standard graphic representation of various structural designs using concrete, steel, and wood; structural components, and structural details. 4 (2-4)

241 Office Practices and Procedures**Four credits**

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. 4 (4-0)

242 Building Utility Systems**Four credits**

Components and arrangement of residential and commercial plumbing and electrical systems. Heating and cooling systems will be introduced. Emphasis placed on code and specification requirements. 4 (4-0)

245 Architectural Advanced Landscaping**Four credits**

The development of creative skills in architectural design, theory of aesthetic design, color, materials and textures in site planning. 4 (2-4)

246 Heating and Air Conditioning**Three credits**

Components and arrangement of residential and commercial heating and air conditioning systems. Emphasis is placed on environmental factors, specification requirements, and code provisions. 3 (3-0)

247 Architectural History**Four credits**

Development of architecture as an art form in each of the civilizations or architectural periods from antiquity to contemporary. 4 (4-0)

251 Uniform Building Code I**Three credits**

This course will be of interest to all individuals connected with inspecting, designing, contracting or constructing buildings. The primary emphasis will be placed on the use, interpretation and application of the Uniform Building Code. Some typical areas of instruction include: occupancy requirements based on types of construction, engineering regulations, fire standards, excavation, and material requirements. 3 (3-0)

252 Uniform Building Code II**Three credits**

A continuation of Uniform Building Code I offering more depth in the areas of occupancy requirements based on types of construction, regulations, fire standards and material requirements. Prerequisite: AT 251. 3 (3-0)

253 Mechanical Building Code**Three credits**

This course is designed to serve mechanical dealers, their salesmen, estimators, and field employees; structural and mechanical designers; job foremen and supervisors, and others connected with buildings, their development alteration, repair and renovation. The course covers applications to and within buildings of different types and occupancies, and provides the student with a knowledge of mechanical designing to penetrate a structure throughout, and still maintain the building's integrity, according to Code. 3 (3-0)

254 BOCA Building Code**Three credits**

Students receive information on the background of the State laws, construction codes, four areas of code enforcement processes, Sanderson's and O'Bannon's books, code of ethics and philosophy. 3 (3-0)

271 Structural Design**Four credits**

An introductory course in statics with the application of these physical forces to structural elements of steel, wood, and concrete. The purpose is to develop an awareness of the physical forces which must be resisted through the selection of building materials and their effect upon architectural design. 4 (4-0)

281 Materials of Construction**Four credits**

A study of the usual construction materials used for the enclosure and structural support of buildings. Emphasis is placed on masonry, steel, concrete, and wood as materials and the customary methods of building with these products. Will develop a sensitivity to the use of building products based upon a knowledge of their properties, limitations and availability. No prerequisite. 4 (4-0)

285 Residential Cost and Estimating**Four credits**

Covers the estimating of the amount of material (lumber, brick, concrete) required for building a home. Also involves the cost of the material and labor required for carpentry, plumbing, excavating, etc. 4 (4-0)



308 Project Laboratory (Architectural)**Three credits**

For students who have completed the basic courses in the architectural curriculum and desire an in-depth project in a particular area of architectural technology. The student, under the guidance of an instructor and through research, designs or constructs a project to meet the requirements of a three-credit architectural course. Requires departmental approval before enrolling. 3 (3-0)

309 Project Laboratory (Architectural)**Six credits**

Designed for students with a strong background in architectural technology who wish to advance their ability in design. Each student spends a minimum of 12 hours per week on an architectural technology project. The student, under the guidance of an instructor and through research, designs or constructs a project to meet the requirements of a six-credit architectural course. Requires departmental approval before enrolling. 6 (0-6)

**Aviation Technology (AFT) (APG) (APP)
Ground Schools (AFT)**
100 Private Pilot Ground School**Six credits**

This is a ten-week, 60-hour course designed to develop knowledge, skills, and techniques required for successful completion of the FAA Private Pilot written examination. In addition to the sixty hours of classroom work, an audio-visual tutorial system is used to provide supplemental study opportunity. This course is first in a required series of ground school courses leading to an Associate Degree in Aviation Technology with a commercial pilot's license and instrument rating. Prerequisite: Admission to program. 6 (6-0). Lab fee.

150 Instrument Pilot Ground School**Six credits**

A comprehensive ten-week, 60-hour course to prepare students for the FAA Instrument Rating written examination. This course is second in a required series of ground school courses leading to an Associate Degree in Aviation Technology. It is also designed to provide instrument ground school training for local area pilots who desire upgrading or a refresher course in instrument flying practices and procedures. Prerequisite: AFT 100 or private pilot license. 6 (6-0). Lab fee.

220 Commercial Pilot Ground School**Four credits**

A 10-week, 60-hour course designed to prepare the student for successful completion of the FAA Commercial Pilot written examination. This course includes a review of instrument regulations and procedures. Prerequisites: AFT 100 and AFT 150 or private pilot's license with an instrument rating. 4 (4-0). Lab fee.

255 Flight Instructor Ground School**Four credits**

Designed to provide the student with the theoretical skills and knowledge necessary to pass the FAA Flight Instructor and FAA Flight Instructor Fundamentals written examinations. May also be used to prepare for the FAA Advanced Ground School instructor's license. Prerequisites: AFT 204, AFT 214, AFT 220 or commercial pilot license with instrument rating. 4 (4-0). Lab fee.

256 Instrument Flight and Instrument Ground Instructor **Four credits**
A 10-week, 40-hour course designed to prepare the student for the FAA Instrument Ground Instructor and FAA Instrument Flight Instructor written examinations. Prerequisites: AFT 255 or Certified Flight Instructor Certificate. 4 (4-0). Lab fee.

260 Airline Transport Pilot **Five credits**
A 10-week, 50-hour course covering areas necessary for the FAA Airline Transport Pilot written examination. Subjects include: subsonic, transonic, and supersonic aerodynamics; jet engine theory, operation, and performance; high altitude weather; heavy transport weight and balance calculations; high altitude flight planning; and FAR's 121. Prerequisites: Commercial Pilot license with instrument rating. 5 (5-0). Lab fee.

Flight Training (AFT)

201 Flight Training I **Six credits**
Part one of a six-course series leading to a Commercial Pilot's license with an Instrument Pilot Rating.

This series of flight training courses introduces the student to the beginning fundamentals of flight, and progressively trains him/her in the maneuvers, navigation, and instrument flying skills that are required of a commercially licensed, instrument-rated professional pilot. Each Flight Training course, I through VI, provides 30 hours of concentrated flight training. There are prerequisite courses and flight simulator courses required for all Flight Training. Flight schedules are arranged by the Aviation Flight Department.

All Flight Technology applicants are expected to satisfy admission requirements for the College as well as an Aviation Technology Admissions Examination administered by the Aviation Program Director's office. Prerequisites: Departmental approval, ability to pass FAA Class II medical exam. Minimum age, 15-1/2 years. Co-requisites: AFT 100 and AFT 211. Lab fee required.

202 Flight Training II **Six credits**
Part two of the six part Flight Training series. Prerequisites: AFT 201, AFT 211, AFT 100, and/or departmental approval. Co-requisite: AFT 212. Lab fee required.

203 Flight Training III **Six credits**
Part three of the six part Flight Training series. Prerequisites: AFT 202, AFT 212, AFT 100, and/or departmental approval. Co-requisite: AFT 213 and AFT 150. Lab fee required.

204 Flight Training IV **Six credits**
Part four of the six part Flight Training series. Prerequisites: AFT 203, AFT 213, AFT 100, ART 150 and/or departmental approval. Co-requisites: AFT 213 and AFT 220. Lab fee required.

205 Flight Training V**Six credits**

Part five of the six part Flight Training series. Prerequisites: AFT 204, AFT 214, AFT 150, AFT 220, and/or departmental approval. Co-requisites AFT 215. Lab fee required.

206 Flight Training VI**Six credits**

Part six of the six part Flight Training series. Prerequisites: AFT 205, AFT 215, AFT 150, AFT 220 and/or departmental approval. Co-requisites AFT 216. Lab fee required.

207 Flight Training VII**Six credits**

Prepares the Commercial Pilot for the FAA Flight Instructor Rating. The professional flight instructor rating is the key to our continuing growth in the aviation industry. It is a highly concentrated flight training course designed to provide the confidence, skill, knowledge, precision and professional attitudes required of a Federally licensed flight instructor. Prerequisites: AFT 206, AFT 216 or a commercially rated Instrument Pilot License, and departmental approval. Co-requisite: AFT 255. Lab fee required.

208 Flight Training VIII**Six credits**

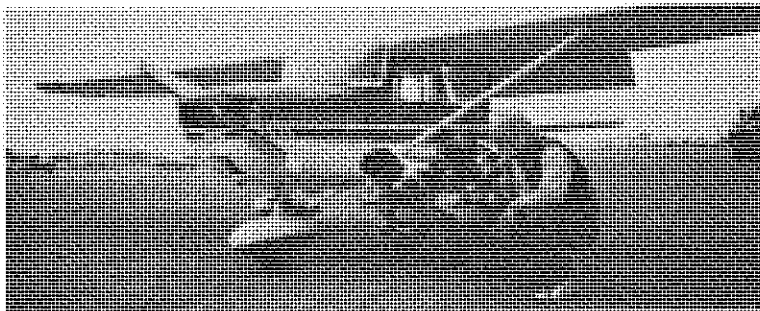
This course provides the commercially licensed instrument pilot or instrument rated private pilot with the opportunity to obtain a Multi-Engine Pilot Rating. It may also be tailored to provide pilot refresher or Airline Transport Pilot Rating training.

The flight training and associated ground training will be provided by a selected local commercial aviation operation by contract with the College. The lab fee for this course is subject to change from term to term, as it is in all flight training courses. See current term schedule for fees. Prerequisites: AFT 206, AFT 216 or commercially licensed Instrument Pilot License and departmental approval.

209 Flight Training IX**Six credits**

This course provides helicopter flight training to licensed private or commercial pilots who desire to obtain either a Private or Commercial Pilot License.

The flight schools and associated ground schools are contracted for by the College with a local commercial aviation operator. The lab fee rate is subject to change from term to term and current term schedules should be consulted. Prerequisites: Private Pilot or Commercial Pilot License and departmental approval.



Flight Simulator (AFT)**211 Flight Simulator I****Two credits**

All flight simulator courses provide 5 hours of dual instruction in the sophisticated GAT-1 Link Flight Simulator and 15 hours of associated ground instruction. The first three hours of Flight Simulator I provide instruction in the four basics—straight and level, turns, climbs, and descents. The remaining two hours of flight simulator training teach basic VOR navigational procedures. This training provides an opportunity for pilots to upgrade present ratings or refresh and improve old skills. Flight simulator courses are also used in conjunction with our flight training courses as co-requisites and supplementary training tools. Each LCC Flight Training course, I through VI has a co-requisite of Flight Simulator courses. There is a lab fee which is subject to change from term to term. Consult the current term schedule for lab fees. Prerequisite: In sequence or with departmental approval. Lab fee required.

212 Flight Simulator II**Two credits**

A continuation of AFT 211 emphasizing VOR and ADF navigational procedures. This course also includes a review of applicable private pilot maneuvers. Prerequisites: AFT 211 or departmental approval. Lab fee required.

213 Flight Simulator III**Two credits**

This course and the three remaining simulator courses provide a concentrated series of training in the maneuvers and procedures necessary for an Instrument Rating. Flight Simulator III emphasizes basic instrument flying (turns, climbs, descents, partial panel, steep turns, stalls, unusual attitudes, etc.) and VOR navigational procedures. Prerequisites: AFT 212 or Private Pilot License. Lab fee required.

214 Flight Simulator IV**Two credits**

A continuation of AFT 213, part two of the Instrument Simulator series. Topic areas include VOR and ADF orientation (with and without DME); tracking and intercepts; VOR and ADF holding patterns (at station and at intersections); VOR and ADF approaches. Prerequisites: AFT 213 or departmental approval. Lab fee required.

215 Flight Simulator V**Two credits**

A continuation of AFT 214, part three of the Instrument Simulator series. Topic areas include: a review of VOR and ADF holding; ILS front and back course approaches; ASR and no gyro approaches; and lot communication procedures. Prerequisites: AFT 214 or departmental approval. Lab fee required.

216 Flight Simulator VI**Two credits**

A continuation of AFT 215, the final part of the Instrument Simulator series. The course includes a review of all instrument maneuvers and procedures. Prerequisites: AFT 215 or departmental approval. Lab fee required.

217 Multi-Engine Flight Simulator**Two credits**

A two-credit introductory course for the Instrument Rated Commercial Pilot (airplane) who desires to obtain the knowledge and skills necessary to pass a six-month instrument proficiency check in multi-engine aircraft. The course provides ten hours of instruction in the Flightmatic Multi-Engine Simulator and ten hours of related ground instruction. Ten instructional periods will be scheduled on an arranged basis with each period to consist of one-hour dual-simulator instruction and one hour of supervised ground instruction. Prerequisites: Instrument Rating and Commercial Pilot Certificate (airplane). Lab fee required.

Aviation Maintenance (APG)

Department approval is required for all APG, APP, and APA courses. All Aviation Maintenance Technology applicants are expected to satisfy admission requirements for the College as well as those for the Aviation Technology program.

100 Aviation Mathematics**Two credits**

Mathematics related to the aircraft maintenance trades. Review of basic mathematics, fractions, decimals, ratio and proportion, basic algebra, formulas in algebra and geometry, trigonometry, and slide rule. 2 (2-0).

101 Aircraft Drawing**Three credits**

Basic installation drawings of aircraft components, blueprint reading, and drawing techniques and symbols for aircraft. 3 (2-2).

102 Aviation Physics**One credit**

The study of physics as applied to the aircraft maintenance career field, covering fluids, light, heat, and electrical applications. 1 (1-0)

103 Aviation Electricity**Six credits**

The study of basic electrical theory and its application to the aircraft maintenance career field. Includes AC, DC, magnetism, generators, motors, capacitors, relays, transformers, circuit breakers, etc. 6 (4-4)

104 Ground Operations and Servicing**Two credits**

Practical application and study of aircraft ground operations, servicing techniques and safety applications. 2 (1-2)

105 Maintenance Publications, Forms and Records, and Mechanics Privileges**Three credits**

A study of the various aircraft maintenance publications, forms and records and the mechanics' privileges and limitations. 3 (2-2)

106 Fluid Lines and Fittings**Two credits**

A study of fluid lines and fittings, their identification, use and applied demonstrations in typical aircraft fluid systems. 2 (1-1)

107 Materials and Processes**Six credits**

A study of the materials and processes of aircraft construction. Includes materials analysis and processes for mechanically and chemically changing the characteristics of metals, plastic processes and wood and fabric processes. 6 (4-4)

108 Cleaning and Corrosion Control**Three credits**

A study of the methods and chemicals used in treating aircraft materials and surfaces, and for cleaning and corrosion control purposes. 3 (2-2)

109 Weight and Balance**Three credits**

Study and practical solution of aircraft weight, balance, loading principles and practices. 3 (2-2)

110 Basic Hand Tools**Two credits**

A practical course in the use and care of basic hand tools associated with aircraft maintenance. 2 (1-2)

Airframe Mechanic (APA)**200 Aircraft Wood and Fabric****Two credits**

Theory and practical applications of wood and fabric aircraft construction and repair methods. 2 (1-2)

201 Aircraft Finishes**Two credits**

Theory and practical applications of various aircraft finishes to metals, wood, fabric and plastic surfaces. 2 (1-2)

202 Aircraft Metal Structures**Nine credits**

A complete study and practical application of sheet metals: aluminum, titanium, steel, and other metal compositions to aircraft structural manufacture and repair. 9 (4-10)

204 Assembly and Rigging**Four credits**

The assembly and rigging of aircraft for flight and certification. 4 (2-4)

205 Aircraft Electrical Systems**Seven credits**

Analysis, troubleshooting, and repair of aircraft electrical systems and components. 7 (4-6)

206 Hydraulic and Pneumatic Systems**Five credits**

Study, analysis, and repair of aircraft hydraulic and pneumatic systems and components. 5 (3-4)

207 Gear and Warning Systems**Seven credits**

Study, analysis, troubleshooting and repair of aircraft landing gear and its various malfunction warning systems. 7 (4-6)

208 Aircraft Fuel System**Three credits**

Study, analysis, troubleshooting and repair of various aircraft fuel systems and their components. 3 (2-2)

209 Aircraft Instrument Systems**One credit**

Study of the application of various instruments to the measurement of heat, pressure, suction, fluid flow, or quantity and mechanical measurements as they apply to aircraft. 1 (1-1)

210 Communications and Navigation Systems**One credit**

Study of the various communications and navigation systems installed in modern aircraft. 1 (.5-1.5)

211 Environmental Systems**Two credits**

A study of aircraft environmental modification and control systems. 2 (1-2)

212 Ice, Rain, and Fire Systems**Two credits**

A study of aircraft systems used to control ice accumulation and rain dispersal, and detect and eliminate fires in aircraft systems and components. 2 (1-2)

213 Airframe Inspection**One credit**

The system of inspection and preventive detection of airframe malfunction, contamination, and fatigue. 1 (.5-1.5)

214 Aircraft Welding**Three credits**

Welding applications and practice on aircraft structures, load bearing members and surfaces. 2 (2-2)

215 Air Frame Test Preparation**Two credits**

Review of all airframe subjects in preparation for taking the Federal Aviation Agency written and practical tests for Airframe Mechanic's License and Certification. 2 (2-0)

Powerplant (APP)**300 Reciprocating Engine Overhaul****Six credits**

Theory, application, and practice of reciprocating aircraft engine overhaul. A variety of radial and horizontally opposed engines will be overhauled by students in closely supervised conditions. 6 (2-8)

301 Inspect and Repair Reciprocating Engines**Four credits**

Troubleshooting, inspection and repair of reciprocating aircraft piston engines. 4 (2-3)

302 Inspect, Check, Service and Repair All Reciprocating Engine Installation**Four credits**

Inspection, operational checking, servicing and repairing reciprocating piston aircraft engine installations on various aircraft. Students use FAA publications and directives and manufacturers' specifications to service aircraft engines. 4 (2-3)

- 303 Install, Troubleshoot and Remove Reciprocating Engines** **Three credits**
Practical installation, troubleshooting and removal of typical aircraft engine installation. 3 (1.5-2.5)
- 304 Overhaul Turbine Engines** **Four credits**
Theory and practice of turbine aircraft engines. 4 (2.5-1.5)
- 305 Inspect, Check, Service and Repair Turbine Engine Installations** **One credit**
Theory and practical application of turbine engine service and repair. 1 (1-1)
- 306 Remove, Install, and Troubleshoot Turbine Engines** **One credit**
Continuation of APP 205. 1 (1-1)
- 307 Perform Powerplant Conformity and Airworthiness Inspection** **One credit**
Perform inspections per FAA specifications. 1 (.3-.7)
- 308 Engine Lubrication Systems** **Six credits**
Study of aircraft engine lubrication systems and components. 6 (4-3)
- 309 Engine Fuel Systems** **Five credits**
Study and analysis of aircraft engine fuel systems and components. 5 (3-4)
- 310 Carburetors and Carburetor Systems** **Two credits**
A study of aircraft carburetion requirements, applications, and the service and repair of carburetors. 2 (1-1)
- 311 Engine Cooling and Exhaust Systems** **Three credits**
Study and analysis of aircraft engine liquid and air cooling systems. 3 (1.5-1.5)
- 312 Aircraft Ignition Systems** **Six credits**
Study, analysis, service and repair of aircraft ignition systems and components. 6 (4-5)
- 313 Engine Electrical Systems** **Five credits**
Study, analysis, service and repair of aircraft electrical systems and components. 5 (3-3)
- 314 Engine Operating, Control and Protection Systems** **Three credits**
Study, analysis, service and repair of various aircraft engine operating, control and protection systems. 3 (2-1)
- 315 Aircraft Propellers, Systems and Controls** **Six credits**
Study, analysis, service and repair of aircraft propellers, systems, and controls. 6 (4-4)
- 316 Powerplant Test Preparation** **Two credits**
This is a review of all powerplant subjects in preparation for the FAA Powerplant Mechanic written and practical tests. 2 (2-0)

Avionics Technology Program (AFT, ET)

Avionics is the term used to describe the electronic devices used aboard aircraft for navigation and communication. Avionics technicians install, maintain and repair avionics equipment.

General aviation, which encompasses both private and corporate aircraft, is experiencing rapid growth, increasing the quantity of avionics equipment in use. Avionics technicians are needed to service this equipment and Lansing Community College offers a program to help you become skilled in this challenging and rewarding field.

The Avionics Technology program at Lansing Community College is a two-year Associate Degree program. Program objectives include the following:

1. To provide the student with a sound background in the fundamentals of electronics and the necessary mathematic skills.
2. To orient the student to the field of avionics so he can properly use avionics terminology and gain an understanding of the various avionics systems and their use from the pilot's point of view.
3. To prepare the student for successful completion of the Federal Communications Commission Second Class Radiotelephone Operator's License, required of individuals who work on the transmitting portion of avionics equipment.
4. To give the student practical "hands on" bench experience with state-of-the-art avionics equipment and test equipment. In this phase of the program the student calibrates, adjusts and repairs modern avionics equipment in the laboratory.

AFT 103 Avionics Orientation**Four credits**

Designed to acquaint future avionics repairmen with the various systems they will deal with. Examines communication systems, ADF, VOR, ILS, glide slope, marker beacon, DME, ATC, weather radar, radio or radar altimeter, autopilot, flight director and gyro systems. Students will use some of these systems in a flight simulator in order to become familiar with their function from the pilot's point of view. Prerequisite: AFT 100 4 (3-1)

ET 290 Aircraft Electrical Systems**Five credits**

A study of the properties and characteristics of electric and magnetic circuit elements as applied to aircraft DC components and systems. Familiarizes students with Federal Aviation Regulations governing proper installation and inspection of electrical systems, batteries, DC power systems and instruments. Basic properties and characteristics of 400 Hz. alternating voltage systems are also discussed. Prerequisite: ET 112. 5 (3-4)

ET 291 Avionics Navigation and Communication I**Ten credits**

A study of communication and navigation systems used in aircraft. Topics include communication receivers and transmitters; ADF, VOR, ILS, glide slope and marker beacon receivers; antennas; transmission lines; audio systems; instrument panel orientation; and noise suppression. The student will operate, make performance checks on, and trouble-shoot the systems under study using appropriate test equipment and manufacturer's manuals. Prerequisite: ET 290 & AFT 103. 10 (5-10)

ET 292 Avionics Navigation and Communication II**Ten credits**

A continuation of ET 291 with emphasis on trouble-shooting and installation of the equipment being studied. Prerequisite: ET 291. 10 (5-10)

ET 293 Avionics Pulse Systems**Eight credits**

A study of distance measuring equipment (DME), transponders (ATC), weather radar, and radio or radar altimeters. Students will become familiar with these devices through using and trouble-shooting the equipment. Noise suppression, techniques, antennas, transmission lines, and placement within the aircraft will also be covered. Prerequisite: ET 231, ET 232, & ET 292. 8 (5-6)

ET 294 Avionics Control Systems**Eight credits**

Examines aviation control systems including autopilots, flight directors, area navigation, gyros and servos. Covers installing, trouble-shooting and repairing these systems. Prerequisite: ET 292. 8 (5-6)

Public Interest Courses (AFT)**161 Aviation Flight Safety Seminar****Three credits****162 Aviation Flight Information Seminar****Three credits****163 Experimental Aviation Seminar****Three credits**

These courses are offered as a community service to the aviation public. They are announced through the local news media and in our term schedules as they are offered. Prerequisite: None.

270-271-272-273 Aircraft Engine Overhaul 1, 2, 3, and 4 (Each) Five credits

In these four courses the student will disassemble aircraft engines, clean and inspect, using Magnaflux-Magnaglo magnetic particle inspection system for ferrous, and zygo dye penetrate for non-ferrous type metals. Parts will be repaired, reconditioned or replaced as necessary. Accessories will be overhauled using the same procedures. Engine and accessories will be assembled with accessories tested and installed on engines, and engines installed on test stand and ground tested. No prerequisite for AFT 270. The series must be pursued in numerical sequence. Five credits each course.

275-276-277 Aircraft Restoration 1, 2, and 3**(Each) Five credits**

Three courses showing how to repair, rebuild and restore, to FAA standards, aircraft made of wood, metal and combined type construction. Includes dope and fabric work. Finished aircraft will be licensed and flown. No prerequisite for AFT 275. The series must be pursued in numerical sequence. Five credits each course.

280 Control Line Model Aircraft Building and Flying**(Each) Two credits****281 Free Flight Model Aircraft Building and Flying****Two credits**

282 Radio Controlled Model Aircraft Building and Flying **Two credits**

In these three courses the student builds and flies a control line gas-powered model airplane, a free-flight gas or rubber-band powered airplane and a radio controlled model airplane. Lab fee for materials and equipment. See current term schedule for fees. Prerequisite: Minimum age 14.

285-286-287 Homebuilt Aircraft Project 1, 2, and 3 **(Each) Five credits**

Build aircraft from plans, with all operations being done in class. No prerequisite for AFT 285. The courses must be pursued in numerical sequence. Five credits each course.

Civil Technology (CT)**Construction****101 Construction Materials I** **Four credits**

This course deals with the determination of the properties of aggregates and concrete. Teaches methods of designing concrete mixes for different uses and methods of sampling and testing. Co-requisite: TEC 151. 4 (2-4)

102 Construction Materials II **Four credits**

Continuation of Construction Materials I dealing with the determination of the properties of bituminous materials. Teaches methods of designing bituminous mixes for different uses and methods of sampling and testing. Prerequisite: CT 101 and TEC 151. 4 (2-4)

103 Construction Methods **Four credits**

Study of techniques and equipment used in constructing bridges, buildings, highways and pipelines. Comparison of building codes and construction specifications. Prerequisite: TEC 151. 4 (4-0)

201 Construction Costs **Four credits**

Gives methods of preparing material takeoffs and labor estimates and applying current unit prices to estimate construction project costs. Prerequisite: CT 103. 4 (4-0)

202 Construction Contracts **Four credits**

Fundamentals of contract law liability and workmen's compensation are covered with the various contract documents. Prerequisite: Construction Costs 201. 4 (4-0)

203 Project Lab **Four credits**

Gives the student the opportunity to undertake and complete an independent study of project in Construction Technology. Prerequisite: Graduation Term. 4 (arranged)

Highway (CT)**111 Soils** **Four credits**

Teaches testing and classification of soils. Also includes discussion of basic geologic principles related to soils. 4 (2-4)

112 Hydraulics **Four credits**

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. Prerequisite: TEC 151. (3-2)

113 Hydrology **Four credits**

Study of the analysis of 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. Prerequisite: TEC 151. (3-2)

115 Soil Erosion I **Three credits**

Assists local public officials in the development, implementation and enforcement of soil erosion and sedimentation control regulations. Benefits builders, architects, contractors, planners, developers, environmentalists and conservationists, etc., enabling them to be more knowledgeable about the Soil Erosion and Sedimentation Control Act and how it will affect them. 3 (3-0)

116 Soil Erosion II **Three credits**

A continuation of CT 115 dealing with implementation of the Soil Erosion and Sedimentation Control Act, including elements of agency programs, enforcement procedures, review and permit issuance, map interpretation, etc. Prerequisite: CT 115. 3 (3-0)

117 Soil Erosion III **Three credits**

A continuation of CT 116 devoted to further coverage of the Soil Erosion and Sedimentation Control Act. Prerequisite: CT 116. 3 (3-0)

211 Highway Technology I **Four credits**

Covers plan and profile drawing, highway planning, financing, organization, geometrical design, traffic studies, pavements, mass diagrams, earthwork and costs. Prerequisite: CT 111, TEC 153. 4 (2-4)

212 Highway Technology II **Four credits**

Continuation of Highway Technology I with discussions on trends in mass transportation systems. Prerequisite: CT 211. 4 (2-4)

213 Project Lab **Four credits**

Gives the student the opportunity to undertake and complete an independent study or project in highway technology. Prerequisite: Graduation Term. 4 (arranged)

Drafting (CT)**107 Civil Drawing I** **Four credits**

Civil Drawing I is a course which emphasizes traverse and topographical drawing problems. The course includes a short introductory review of previous mechanical drawing problems and includes a critique of previously acquired lettering skills and line techniques. Will equip the student with the ability to prepare a clear, readable, graphical presentation of rough notes furnished by the survey party. Prerequisite: DT 100. 4 (2-4)

108 Civil Drawing II **Four credits**

Civil Drawing II is an advanced course for Civil Drafting which emphasizes Plan Development procedures in preparing a final set of construction drawings in various kinds of Civil Engineering projects. The course includes a critique of previous drafting skills and will give the student an introduction to actual on-the-job applications. Prerequisite: CT 107. 4 (2-4)

109 Civil Drawing III **Four credits**

Civil Drawing III is an advanced course for Civil Drafting which further emphasizes Plan Development procedures in preparing a final set of construction drawings in various kinds of Civil Engineering projects. Will continue the critique of previous drafting skills and give the student an introduction to on-the-job applications. Prerequisite: CT 108. 4 (2-4)

Sanitary (CT)**251 Water Supply and Treatment** **Four credits**

Study of sources of water supply, quality and quantity measurements, process and structural devices to accomplish sedimentation, coagulation, filtration, softening, iron removal, and sterilization and distribution systems. 4 (2-4)

252 Waste Water Treatment **Four credits**

Design, construction, and functioning of sewerage and waste water treatment facilities. Includes sedimentation, coagulation, filtration, aeration, digestion, sludge processing and sterilization, quality of effluent. 4 (2-4)

253 Project Lab **Four credits**

Allows the student to undertake and complete an independent study of a project in Sanitary Technology. Prerequisite: Graduation term. 4 (arranged).

Structural (CT)**121 Structural Concepts** **Four credits**

Introduction to 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 building will be discussed. 4 (3-3)

122 Statics**Four credits**

Study of loads and forces due to loads. Conditions of stability and equilibrium in structural frames. Free body analysis for reactions and member forced. Prerequisite: Civil Technology 121. 4 (3-3)

123 Strength of Materials**Four credits**

Covers stress, strain, creep, fatigue, yield, tension, compression, shear, bending, torsion, combined stresses and deflections. Prerequisite: Civil Technology 122. 4 (3-3)

221 Structural Technology I**Four credits**

This course deals with the basic analysis and design techniques related to structural steel bridges and building. Emphasis will also be given to standard detailing practices. Prerequisite: Civil Technology 123. 4 (2-4)

222 Structural Technology II**Four credits**

Continuation of Structural Technology I, emphasizing basic analysis, design and detailing methods related to reinforced concrete structures. Prerequisite: Civil Technology 221. 4 (2-4)

223 Project Lab**Four credits**

Gives the opportunity to undertake and complete an independent study of project in Structural Technology. Prerequisite: Graduation Term. 4 (arranged)

Surveying (CT)**131 Basic Surveying I****Four credits**

Introduction course in surveying which includes the study of terminology, the use of tape, level and transit for measuring distances, elevations and angles. Also analysis and use of verniers. Co-requisite: TEC 151. 4 (2-4)

132 Basic Surveying II**Four credits**

Continuation of Basic Surveying I which covers field notes and the reducing of notes for office use. Traverse computations, dividing off land, U.S. Public Land System, and subdivision plats. Prerequisite: CT 131 and TEC 151. 4 (3-2)

133 Basic Surveying III**Four credits**

Continuation of Basic Surveying II with emphasis on field work for bench mark circuits, profiles, cross-sections, traverses, topography and mapping. Prerequisite: CT 132. 4 (2-4)

231 Advanced Surveying I**Four credits**

Covers stake-out for various construction projects, for horizontal and vertical control. Inaccessible distance problems. Prerequisite: CT 132. 4 (2-4)

232 Advanced Surveying II**Four credits**

Continuation of Advanced Surveying I, covering precise surveying principles, ground and aerial photogrammetry, astronomy, and geodetic surveying. Also, the use of tilting levels, theodolites and other precise instruments. Prerequisite: CT 231. 4 (3-2)

233 Project Lab**Four credits**

Gives the student the opportunity to undertake and complete an independent study of project in Surveying Technology. Prerequisite: Graduation Term. 4 (arranged)

Professional Registration (CT)**144 P E (Profession Engineers) Exam Mechanical****Two credits**

Provides a theoretical background in mechanics as a review to prepare individuals for the Registered Professional Engineers Examination. 2 (2-0)

145 P E Exam Hydraulics**Two credits**

Provides a theoretical background in hydraulics as a review to prepare individuals for the Registered Professional Engineers Examination. 2 (2-0)

146 P E Exam Strength of Materials**Two credits**

Provides a theoretical background in strength of materials as a review to prepare individuals for the Registered Professional Engineers Examination. 2 (2-0)

147 P E Exam Thermodynamics**Two credits**

Provides a theoretical background in thermodynamics as a review to prepare individuals for the Registered Professional Engineers Examination. 2 (2-0)

148 P E Exam Electricity and Electronics**Two credits**

Provides a theoretical background in electricity and electronics as a review to prepare individuals for the Registered Professional Engineers Examination. 2 (2-0)

149 P E Exam Engineering Economics**Two credits**

Provides a theoretical background in engineering economics as a review to prepare individuals for the registered Professional Engineers Examination. 2 (2-0)

241 Engineering Exam Part II**Three credits**

This course is open to qualified individuals who are preparing to write the Registered Professional Engineer Examination. Topics covered are soil mechanics, road design, road construction, bridge construction, highway drainage, traffic operations, traffic geometrics, highway planning and route location. 3 (3-0)

242 Land Surveyor Review I**Three credits**

This course is open to qualified individuals who are preparing to write the Registered Land Surveyor Examination. Topics covered are math for plane surveying, range of accuracy and route surveying. 3 (3-0)

243 Land Surveyor Review II**Three credits**

Continuation of Land Surveyor Review I. Includes legal requirements, instrument adjustments, space survey, latitude, longitude and use of the solar ephemeris. 3 (3-0)

Traffic Engineering (CT)**260 Introduction to Traffic Engineering****Three credits**

This course offers a general overview of the field of traffic engineering technology and provides insight into related career opportunities. It relates human factors and driver characteristics to the vehicle, roadway and environment. Traffic characteristics are defined in terms of speed, design, speed zoning, density, gaps and lags, and traffic volume. The course serves as an introduction for traffic engineering technology students and as a survey course for students majoring in other related fields. The laboratory is used for problems, experiments and field trips. 3 (3-0)

261 Principles of Traffic Administration**Three credits**

By studying traffic administration and safety, the student learns how budget, public relations, interagency problems and other system's operations affect traffic engineering. Stressing traffic safety as a basic consideration for all technical aspects of the field, the student is shown that field traffic surveys, control devices, geometric design, traffic studies, traffic laws and urban transportation planning constitute the major subject areas of traffic engineering technology. 3 (3-0)

262 Field Traffic Surveys**Four credits**

By collecting actual field data, the student solves problems related to accident reporting, collision diagramming, intersection surveys, pedestrian volumes; and parking studies related to control, financing, design, demand characteristics, meters, terminals, vehicle dimensions. Signs and parking. Emphasis is placed on the methods and equipment required for the collection of field data, the writing of reports and the formulation of recommendations to solve these related problems. 4 (3-2)

263 Control Devices**Three credits**

In the general context of design maintenance and placement, the course emphasizes sign illumination, lettering, response time type and design; signals: cycle length, phases, offsets, equipment and maintenance; marking and lighting: highways, intersections, special areas; and delineation. 3 (2-2)

264 Geometric Design**Four credits**

Horizontal, vertical, and transitional curves, Vertical curves, super elevation, pavement grip, widening, curb radii, shoulders, acceleration and deceleration lanes, channelization stopping distance, reaction in braking time, sight distances and channelization combined with other considerations in the geometric design of roadways in rural, urban and downtown areas. The design laboratory is used for the geometric layout and the preparation of geometric design plans for the solution of practical field problems. 4 (2-4)

265 Traffic Studies**Four credits**

Using actual field problems, the student is taught how to plan and execute traffic engineering studies. Studies concerned with illumination, origin and destination, speed and volume stress the basic concepts of counting procedures, counting equipment, ADT, cordons, flow maps, short counts, peak hour, platoon flow, composition, thirtieth HV, and other traffic concepts. Emphasis is also placed on the use of data processing and statistics to reduce bulk data and analyze results. 4 (2-4)

266 Traffic Laws and Regulations**Three credits**

A thorough study of Federal, State, and local laws and regulations provides the legal framework to be used in geometric design, vehicle characteristics, wheel loads, bus stops, parking, signs, signals, markings, pedestrian and driver characteristics, warrants, and general traffic law enforcement. 3 (3-0)

267 Urban Transportation Planning**Four credits**

This course combines new concepts in benefit, cost economic analysis, traffic forecasting and needs studies with the fundamental concepts learned in previous course to plan large scale transportation systems. Although a traffic engineering technician would probably not be involved in such a large scale undertaking early in his career, he is shown how small segments of a project are carefully woven into a master planning concept. 4 (3-2)

Industrial Drafting Technology (DT)**100 Basic Drafting****Three credits**

For students without previous drafting experience or who need a refresher course for understanding basic concepts in orthographic projection, auxiliary projection, sketching: both orthographic and pictorial. Lettering technique will also be stressed and a brief approach to industrial dimensioning practices. DT 100 is a prerequisite to DT 101 for those students who do not have a sufficient background in drafting. 3 (2-2)

101 Industrial Drafting I**Four credits**

A course in drafting designed to enable the student to become efficient in reading, understanding, and drawing. Areas stressed are orthographic projection, sectioning, pictorial drawing, auxiliary views, and dimensioning according to industrial standards. Various problems in each area are developed by the student. Prerequisite: Industrial Drafting Technology 100 or a one-year high school (or equivalent) background in drafting. 4 (2-4)

102 Industrial Drafting II**Four credits**

A continuation of drafting practices stressed in DT 101 with emphasis on advanced techniques to develop a skill in drafting correlated to the demands of industry. Gears, cams, and beginning layout practices are also covered. Advanced detailing and assembly type drawing is done by each student. Prerequisite: Industrial Drafting Technology 101. 4 (2-4)

103 Descriptive Geometry**Four credits**

A basic course in the science of graphic representation and solution of space problems through the practice of fundamental principles of advanced orthographic projection. Covers the following topics: points, lines, and planes; primary and successive auxiliary views; parallelism; perpendicularity; concurrent vectors; developments and intersections; pictorial projections; shades, and shadows. Makes a study of civil and mechanical engineering problems. Prerequisite: Drafting Technology 101. 4 (2-4)

104 Jigs and Fixtures I**Four credits**

Jigs and fixtures function to properly locate and hold a work piece while work is performed. Jigs and fixtures may be provided with necessary devices for drilling, grinding, milling, supporting, clamping, and gaging. Each student will work on drawing problems in designing various types of jigs and fixtures. Prerequisite: Drafting Technology 102. 4 (2-4)

105 Jigs and Fixtures II**Four credits**

The study and design of advanced jigs and fixtures and a continuation of DT 104. Prerequisite: Drafting Technology 104. 4 (2-4)

110 Blueprint Reading I**Four credits**

Covers orthographic projection, linear and angular measurement and reading of prints with three views given in the three principal planes of projection. Deals mainly with part prints. 4 (2-2)

111 Blueprint Reading II**Four credits**

Covers application of orthographic projection principles in more detailed blueprints than DT 100. Deals with part prints and assembly drawings. Prerequisite: Drafting Technology 100 or permission of instructor. 4 (2-2)

135 Industrial Pictorial Illustration**Four credits**

Fundamental course for those who are interested in becoming draftsmen or illustrators, or for those who are already employed in these fields. Includes exposure to various methods of illustration currently used in industry, such as sketches, photographs, isometric, and three point perspective grid. Use of various line weights, instead of renderings, achieves the desired effects in drawings. Prerequisites: Drafting Technology 102 or equivalent experience. 4 (2-4)

202 Die Design and Construction I**Four credits**

Emphasis of the design of blank and pierce dies, basic forming dies and basic trim dies, material types, heat treat requirements and press requirements as applied to the design. 4 (2-4)

203 Die Design and Construction II**Four credits**

Emphasis on the design of progressive dies, forging dies, hot form dies, diffusion bond dies. Study of exotic metals as applied to the type of die. Related study in the areas of EDM, processes, and estimating. Prerequisite: Drafting Technology 202. 4 (2-4)

204 Body Design I**Four credits**

Basic automotive body design will acquaint the student with the techniques and drafting procedures used in actual industrial drafting rooms. The tools, materials and techniques differ from those used in mechanical drawing in many ways, principally because of the preponderance of curved lines and surfaces. Prerequisite: Drafting Technology 103. Lecture and Laboratory. 4 (2-4)

205 Body Design II**Four credits**

Reviews basic descriptive geometry as applied to actual automotive true view problems. Includes basic study of simple and compound surface development, surface development and true view practice applied to actual automotive design problems. Lecture and Laboratory. 4 (2-4)

210 Industrial Dimensioning Practices**Three credits**

Establishes the rules, principles and methods of dimensioning and tolerancing for specific design requirements on engineering drawings. Also establishes uniform practices for stating and interpreting these requirements. Considerable coverage will be given to geometric tolerances and introducing the symbolic method of specifying them. Prerequisite: DT 101 or equivalent. 3 (3-0).

306 Project Laboratory (Industrial)**Four credits**

This course will give the student an opportunity to further his skills in Drafting Technology with particular emphasis on beginning layout and advanced detailing. Each student will be given an advanced problem to pursue and complete in one term and will be responsible for some research in design application. Recommended for students enrolled in Drafting Technology or working toward a Drafting Certificate. 4 (0-6)

307 Project Laboratory (Industrial)**Six credits**

Designed for students with a strong background in drafting, who wish to advance their ability in design. Each student spends a minimum of 12 hours per week on layout procedures. Upon completion of this course and 45 credits, the student meets the drawing requirements for a drafting certificate and is fully qualified to become a draftsman in industry. Class requirements include the design of a mechanical device and making a complete design drawing. The student is evaluated on his ability to create and complete this mechanical device. 6 (0-12)

Electro-Mechanical Technology (EM and ET)**Electro-Mechanics (EM)****211 DC Motors and Generators****Four credits**

Previous theoretical courses are applied to rotating DC machines. The students learn the "how and the why" of DC machines and also learn techniques for analyzing the operating characteristics and present condition of the machine. Series, compound, and compound DC motors and generators are discussed. There is a heavy emphasis on lab work. Prerequisite: ET 201 and ET 109. 4 (2-3)

212 Single Phase AC Motors**Four credits**

Practical application of AC theory to rotating machinery begins with phase shift. The types of motors studied include split-phase induction motors, capacitor start motors, capacitor start-capacitor run motors, repulsion start motors and synchronous motors. There is a heavy emphasis on lab work. Prerequisite: EM 211 4 (2-3)

213 Three Phase Motors**Four credits**

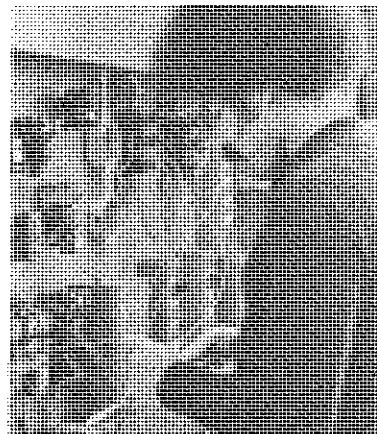
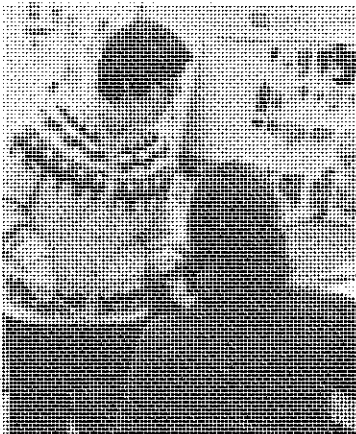
Phase relationships existing in rotating machinery and transformers are examined. Motor types include wound rotor induction, squirrel cage induction and synchronous. Heavy emphasis is placed on lab work. Prerequisite: EM 212. 4 (2-3)

221 Industrial Relay Logic and AC Motor Control**Four credits**

Theory and application of relay logic and three-phase AC motor starting controls in industrial settings is the main thrust of the course. Specific consideration is given to input and output devices and their interaction in combined manual and automatic relay logic circuitry. The student becomes familiar with the components, symbology, interconnection of components. Laboratory work is extensive and forms a critical part of the course. Prerequisite: ET 201 and ET 109. 4 (3-2)

222 Industrial Solid State Logic and DC Motor Control**Four credits**

The control of machinery with solid state or programmable controller devices is the main topic under consideration. Study includes the design and reading of diagrams. Specific components are studied individually and then are combined with topics that include transistor switch theory, logic control equations, truth tables, memories, shift registers, counters, dedicated systems, programmable controls, and language systems. The student, upon successful completion, will be able to design elementary solid state circuitries to replace relay logic controls. Laboratory work includes the use of digital logic trainers and industrial logic controls. Laboratory work forms an integral part of the course. Prerequisite: EM 221. 4 (3-2)



223 Advanced Industrial Controls**Four credits**

Within industry there are special and/or unique control systems which have not been covered in EM 221 and EM 222. The object of this course is to investigate these systems. Topics of interest are SCR motor control, welding and press control systems, analog control systems (with a brief investigation of servo-mechanisms), a continuation of programmable controllers and computer control, and rotating and magnetic amplifiers. The lab assignments will entail more individual student initiative and self-study and will combine all previously used lab equipment. Prerequisite: EM 222. 4 (3-2)

231 Wiring Systems Maintenance**Three credits**

Teaches setting up and running a preventive maintenance program for electric wiring systems and associated devices, such as electric metallic tubing, rigid conduit, busways, troughs, and gutters. Students visit industrial installations where these wiring systems are in use. Prerequisite: ET 101. 3 (2-2)

232 Control Maintenance**Three credits**

A study of the fundamentals of preventive maintenance, minor repairs, and emergency repairs to controls. DC, AC, and solid state, and the setting up of a preventive maintenance schedule for each type of control. Includes observation of motor controls and motor control maintenance in industrial installations. Lab work involves procedure for typical repairs and trouble-shooting techniques for equipment found in current use. Prerequisite: EM 231 or departmental approval. 3 (2-2)

233 Motor Maintenance**Three credits**

Consists of testing motors for operating characteristics, making minor repairs and setting up preventive maintenance and checklists for common types of motors. Class is required to test, repair and set up preventive maintenance schedules for at least ten different motors. Lab work includes one-line testing as well as bench work. Prerequisite: EM 232 or departmental approval. 3 (2-2)

Industrial Electricity (ET)**101 Basic Electricity****Four credits**

A survey course emphasizing practical electrical technology. Topics include electrical wiring techniques, mathematics of electrical circuits, use of meters, electrical safety, electrical terminology, and materials. Extensive lab work is required. The course is designed to allow students to explore individual interests in electrical topics. Prerequisite: High school algebra. 4 (3-2)

140 Intermediate Electricity**Four credits**

A basic course in DC theory. Topics include atomic and electron theory, electron flow, electrical circuits, mathematics of network analysis, magnetism and electro-magnets, and power calculation. Lab work is required and emphasizes proper use of electrical apparatus and instruments and the construction and analysis of electrical circuits. Prerequisite: ET 104. 4 (2-2)

201 Advanced Electricity**Four credits**

A basic course in AC theory. Topics include sine wave, inductance, transformers, capacitance, phase diagrams, RL and RC, LC and LCR series and parallel circuits and power factor correction. Lab work is required and includes use of the oscilloscope in measuring AC circuits. Prerequisite: ET 105. 4 (2-2)

104 Math for Electricians I**Four credits**

Basic arithmetic and algebra using electrical applications. Mathematical skills include fractions, decimals, scientific notation, percentages, basic algebra. These skills are applied to electrical concepts such as Ohm's Law, series and parallel circuits, Kirchhoff's Law and the use of various meters. Prerequisite: None. 4 (4-0)

105 Math for Electricians II**Four credits**

A continuation of ET 104 with the emphasis on the trigonometry used on AC circuits. Topics include inductance, capacitance, impedance, and phase relationships in AC circuits. Some work in proper construction of graphs is included. Prerequisite: ET 104. 4 (4-0)

109 Math for Electricians III**Four credits**

Covers topics specifically applicable to industrial electricity. Investigation into electric space heating, lighting, National Electrical Code calculations, and Boolean Algebra form the major topics. Some class time is devoted to learning the application of a pocket calculator to include basic calculations as well as trigonometric functions. Prerequisite: ET 105. 4 (4-0)

103 Electrical Blueprint Reading I**Three credits**

This course introduces the electrical symbols most often used in electrical work. Heavy emphasis is placed on the interpretation of motor control circuits beginning with simple concepts of start-stop control to relays, reversing and jogging principles. Small and large appliance prints, house prints, simple electronic circuits are also covered. Lab work involves identification of a wide variety of electrical components including their proper terminology, symbology, and function. Prerequisite: None. 3 (2-2)

108 Electrical Blueprint Reading II**Three credits**

A continuation of ET 103. Heavy emphasis on construction prints with National Electrical Code interpretations. Students are given several sets of architectural prints to use during the term. Other topics include apparatus diagrams, control systems, and power distribution. Prerequisite: ET 103. 3 (2-2)

Electronics Technology (ET)**100 Basic Electronics****Four credits**

A survey course covering the fundamental concepts of electricity to electronic amplification, using transistors. Major emphasis is on laboratory work. Not intended for students in Electronics Technology Associate Degree Program. 4 (2-4)

Courses leading to the Electronics Technology Associate Degree:

102 Electronics Drawing **Two credits**

Describes a wide variety of electronic components and certain of their characteristics. Schematic diagrams are drawn and practice is afforded in relating the schematic diagram to the electronic equipment it represents. Upon completion of this course, the student should be able to identify the components commonly found in electronic equipment, by sight, and to relate their interconnection to the schematic diagram for the instrument and, using the schematic diagram as a guide, be able to locate the components in the equipment. 5 (4-2)

111 Electrical Circuits I **Five credits**

Normally the first of a sequence of courses taken to obtain an Associate Degree or Certificate in the electronics area. An introduction to 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. Prerequisite: H.S. Algebra & TEC 151 taken concurrently. 4 (4-2)

112 Electrical Circuits II **Five credits**

A continuation of ET 111 with emphasis on sinusoidal voltage and current and vacuum tubes. Topics include analysis of RC, RL and RLC circuits, both series and parallel; series and parallel resonance; coupled circuits; and vacuum tubes. Load line and equivalent circuit analysis of simple vacuum tube circuits are performed. Laboratory work includes measurement of A.C. voltage and current, impedance measurements, construction and analysis of resonant circuits, and construction and testing of various vacuum tube circuits. Prerequisite: ET 111 & TEC 152 taken concurrently. 5 (4-2)

113 Electrical Circuits III **Five credits**

A continuation of ET 112, with emphasis on semiconductor devices. Topics include PN diodes, Zener diodes and bipolar transistors; small signal and large signal characteristics and biasing of bipolar transistors; classes of amplifiers and stability. Laboratory work includes construction and testing of solid state circuits including transistor amplifiers of various kinds. Prerequisite: ET 112 and TEC 152 taken concurrently. 5 (4-2)

206 Project Laboratory **One credit**

The student selects a project compatible with his chosen field of work, and under the guidance of the instructor and through research, constructs and tests an electronic device. Project approval must be granted by supervising instructor prior to registration. 1 (0-2)

207 Project Laboratory **Two credits**

Same as ET 206 except 2 credits. 2 (0-4)

208 Project Laboratory **Three credits**

Same as ET 206 except 3 credits. 3 (0-6)

211 Electronic Applications I**Four credits**

ET 211 Electronic Applications is a sophomore-level course dealing with specific applications of electronics. Topics include rectifiers, filters, Zener diode and VR tube regulators and active regulators, junction and MOS field effect transistors and applications. Prerequisite ET 113. 4 (3-2)

212 Electronic Applications II**Four credits**

ET 212 is a continuation of ET 211 dealing with linear integrated circuits, operational amplifiers, and optoelectric devices. Prerequisite ET 211. 4 (3-2)

213 Electronic Applications III**Four credits**

ET 213 is a continuation of ET 211 and ET 212, which deals with thyristors, thyristor triggering devices and circuits, and servomechanisms. Prerequisite: ET 212. 4 (3-2)

231 Digital Electronics I**Four credits**

The first of a series of three second-year courses intended to introduce digital circuitry and applications. ET 231 covers number systems, logic and switching algebra, logic gates and applications to synchronous switching devices. Laboratory work utilizes integrated circuits and breadboard techniques. Prerequisite ET 113. 4 (3-2)

232 Digital Electronics II**Four credits**

A continuation of the digital circuitry series. ET 232 covers waveform analysis, wave shaping, measurement techniques, flipflops, counters and applications to synchronous devices. Laboratory work utilizes integrated circuits and breadboard-ing techniques. Prerequisite: ET 231. 4 (3-2)

233 Digital Electronics III**Four credits**

The third course in the digital series deals entirely with applications of digital circuitry to the digital computer. Laboratory work includes the operation and maintenance of a minicomputer. Prerequisite: ET 232. 4 (3-2)

261 Radio Servicing**Five credits**

A laboratory oriented course during which AM, FM-MPX radio operation is discussed with emphasis placed on theoretical and practical trouble-shooting techniques. A block diagram of a superheterodyne receiver is used to introduce the student to radio concepts. Vacuum tube and transistor radio topics are discussed. Students are to provide their own set of small hand tools, and are encouraged to bring their own radios to the lab. Prerequisite: ET 113. 5 (3-4)

262 Television Servicing**Five credits**

A laboratory oriented course during which the principles of operation of black and white television receivers are discussed. A block diagram introduction to television is used as a foundation for trouble-shooting techniques. Students are encouraged to bring their own sets to class, and are to provide their own set of small hand tools. Prerequisite: ET 261. 5 (3-4)

263 Advanced Television Servicing**Five credits**

A laboratory oriented course using the basic principles of black and white television operation as a basis for discussing color television receivers. Laboratory emphasis will be placed on trouble-shooting and alignment of color circuits. Students will have the opportunity to repair their own color sets or others provided in the course, and are to provide their own set of small hand tools for this course. Prerequisite: ET 262. 5 (3-4)

264 Audio Systems Servicing**Five credits**

A laboratory-oriented course covering both vacuum tube and transistor audio circuits. Topics covered will include monaural and stereo amplifiers and speaker systems. Emphasis will be placed on trouble-shooting audio amplifiers, measuring power output, distortion and other characteristics of audio systems. 5 (2-6)

265 Stereo Fundamentals**Two credits**

A consumer-oriented introduction to stereo fundamentals. At the conclusion of this course, the student should be able to make valid cost versus performance judgments based on manufacturers' technical specifications. Includes specifications typically used to describe speakers, turntables, cartridges, preamps, power amps, tape devices, FM stereo and Quad. 2 (2-0)

271 Communications I**Four credits**

The first of a series of three courses dealing with electronic communication principles and devices. The purpose of the series is two-fold: to teach the principles of communication theory and to prepare the student to take the FCC exams for a commercial radiotelephone license. This course includes the topics of FCC rules and regulations, power sources and audio amplifiers. Prerequisite: ET 113. 4 (3-2)

272 Communications II**Four credits**

A continuation of ET 271. Topics covered include RF amplifiers, oscillators, amplitude modulation and single sideband. Prerequisite: ET 271. 4 (3-2)

273 Communications III**Four credits**

Topics covered include frequency modulation, antenna, transmission lines and basic two-way servicing. Prerequisite: ET 272. 4 (3-2)

280 Bio-Medical Instrumentation I**Four credits**

Covers electronic instrumentation and measurements in biology and medicine pertaining to the cardio vascular systems, electrocardiography, transduction of physiological signals to electrical signals, the nervous and respiratory systems, etc. Prerequisite: Medical and electronic background. 4 (4-0)

281 Bio-Medical Instrumentation II**Four credits**

A continuation of ET 280 which deals with instruction in ultrasound applications in medicine, lab or clinical lab instrumentation, x-ray and radiology techniques, and laser applications. Prerequisite: ET 280. 4 (4-0)

Fire Science Technology (FST)

- 130 Fire Protection Historical Overview** **Three credits**
A historical and philosophical overview of fire prevention and control. Students investigate and report on employment opportunities within the field. 3 (3-0)
- 140 Fire Prevention and Inspection** **Three credits**
Covers information on fire prevention and inspection procedures. Subject matter will deal with all types of properties, common and special building features and accessories. 3 (3-0)
- 160 Fire Fighting Strategy and Tactics I** **Three credits**
Fundamentals of fire fighting strategy and tactics; planning methods of attack and preplanning fire problems. 3 (3-0)
- 161 Basic Fire Protection** **Three credits**
An investigation of local, County, State, Federal and private fire protection agencies as to organization and function. Study of the history of loss of life and property by fire, and the history and philosophy of fire protection. Also considers future employment and career opportunities. 3 (3-0)
- 164 Fire Protection Systems and Equipment I** **Three credits**
Study of fire detection and alarm systems, special hazard protection systems, sprinkler systems and fire extinguishing equipment. 3 (3-0)
- 165 Hazardous Materials I** **Three credits**
Fire fighting methods relating to hazardous materials; to include solids, liquids and gases, and their storage. Consideration also given to the laws, standards and handling techniques of hazardous materials. Prerequisite: TEC 202 3 (3-0)
- 166 Ordinances and Codes** **Three credits**
Study of State laws and regulations, local ordinances and national standards including Interstate Commerce Commission regulations as to fire prevention. 3 (3-0)
- 167 Fire Hydraulics** **Three credits**
Fundamentals of fire hydraulics. Includes a study of water supply problems, standards on pump requirements, formulas, test criteria and physical laws relating to hydraulics, and practical application of fire fighting problems. 3 (3-0)
- 168 Math for Firemen** **Four credits**
Introduction of basic arithmetic operations and algebraic equations as they relate to fire science of operations and equipment. 4 (4-0)
- 170 Physics for Firemen** **Three credits**
A fundamental course covering several basic principals of physics. The divisions included are solids and their characteristics, liquids in motion, gas laws and applications. 3 (2-2)

177 Fire Hydraulics II**Three credits**

Continuation of Fire Hydraulics I with emphasis on applications of hydraulic circuitry in pumping operations of fire fighting equipment. Prerequisite: FST 167. 3 (3-0)

180 Fire Fighting Strategy and Tactics II**Three credits**

A study of manpower assignments for stations and apparatus in communities of various sizes. The course is designed to assist officers in making good decisions in organizing and operating fire fighting forces. Prerequisite: FST 160. 3 (3-0)

204 Fire Protection Systems and Equipment II**Three credits**

Continuation of Fire Protection Systems I. Students will study the proper installation and need for standpipe systems, pressure tank installations, hydraulic calculations and water supplies, and study of actual installation shop drawings. Prerequisite: Fire Science Technology 164. 3 (3-0)

263 Building Construction for Fire Security I**Three credits**

Involves the essentials of building design and construction. Includes special features and considerations related to fire security. 3 (3-0)

264 Fire Investigation I**Three credits**

Fire behavior and importance of determining origin. Procedures used in identifying accidental, incendiary or arson type fires. Methods of recognizing and identifying motivation for arson. Laws relative to the intentional setting of fires. 3 (3-0)

266 Fire Investigation II**Three credits**

Continuation of FST 264. Preservation of evidence and photographic coverage of fire. Methods of interrogation related to fire investigation and conduct for investigators. Study of libel, slander and court procedures relative to evidence and statements. Importance of cooperation between investigative agencies; records, reports and case histories. Prerequisite: FST 264. 3 (3-0)

267 Fire Department Organizational Procedures**Three credits**

Further study of fire department organization. Considers personnel administration, communications, records and reports, maintenance, training, fire equipment, fire prevention and fire fighting, fire company organization and duties of the company officer. 3 (3-0)

268 Hazardous Materials II**Three credits**

Designed to cover 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. Prerequisite: FST 165 3 (3-0)

283 Building Construction for Fire Security II**Three credits**

A study of building construction and protection of openings in floors, walls and partitions, exits, smoke and heat venting; protection against exposures; life safety codes; sprinkler systems, and special structures. Prerequisite: FST 263. 3 (3-0)

290 Fire Administration **Three credits**

A broader context providing chief officers with a better understanding of motivation with proper direction from management, and reflecting modern approaches to the challenge which faces today's fire executives. 3 (3-0)

306 Project Laboratory **Three credits**

Affords the student the opportunity to undertake and complete an independent study or project under the supervision of the staff. Students should consult with Departmental Advisor before enrolling. 3 (Arranged)

307 Project Laboratory **Six credits**

Advanced opportunity to undertake and complete an independent study or project under the supervision of the staff. Students should consult with Departmental Advisor before enrolling. 6 (Arranged)

Industrial Safety Management (SAF)**303 Industrial Safety Standards** **Four credits**

An approach to developing safety attitudes within people and focusing attention chiefly upon the physical environment and its proper administration. The course is primarily directed to first line supervisors, operators, and safety personnel at all levels. Prerequisite: MGT 356. 4 (4-0)

304 Industrial Hygiene **Four credits**

An introduction to the fundamentals of industrial hygiene, a science devoted to the recognition, evaluation, and control of those environmental factors or stresses arising in or from the work place that may cause sickness, impaired health or significant discomfort to employees or residents of the community. Prerequisite: TEC 202 or Department Approval. 4 (4-0)

305 Safe Practices and First Aid **Three credits**

Designed to acquaint individuals with First Aid and treatment through lectures, demonstrations, and practice as outlined in the course of study issued by the American Red Cross or equivalent. Safe working practices in performing with hand tools and around machines are stressed. Information about the safety devices of machines and how to identify and use them is covered. Upon successful completion of the course a certificate may be granted. 3 (3-0)

306 Handling Hazardous Materials **Three credits**

Designed to acquaint accident prevention personnel with the fundamental information needed to make judgements on the degree of hazard, and the problems which are likely to arise whenever hazardous materials are used, stored, or transported. Prerequisite: TEC 202 or Department Approval. 3 (3-0)

310 Public Safety and Fire Codes **Three credits**

Designed to point out the various elements in developing a basic emergency preparedness plan to promote safety for employees, visitors, and customers, as well as protect the property and the operation. Topics will include chain of command, medical treatment plans, communication systems, shutdown and evacuation procedures. No prerequisite. 3 (3-0)

311 Material Handling Safety**Three credits**

Handling of materials accounts for 20 to 25 percent of all occupational injuries. This course examines the problems and safe handling techniques involved in the manual, and the mechanical handling of materials. 3 (3-0)

312 Accident Prevention for Motor Vehicle Fleets**Four credits**

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 material. No prerequisite. 4 (4-0)

313 Construction Safety Standards**Three credits**

Deals with Occupational Safety and Health Act requirements; recognition, avoidance and prevention of environmental hazards, and an overall safety awareness dedicated to the prevention of accidents in the construction industry. Prerequisite: MGT 356. 3 (3-0)

Mechanical Technology (MT)**108 Materials and Processes in Manufacture****Four credits**

Covers a wide field of manufacturing including casting (sand, die, investment, centrifugal, etc.); powdered metallurgy; hot-working processes (rolling, forging, piercing, drawing, extrusion, etc.); cold working processes (swaging, cold heading, extrusion, rolling, drawing, spinning, stamping, etc.); plastic molding (casting, extruding, etc.); welding (arc, gas, resistance, etc.); machining, related techniques (layout, jigs and fixtures, automation and tape control, etc.); and making extensive use of audio-visual aids. 4 (4-0)

201 Processing and Plant Layout**Three credits**

Part processing techniques, process engineering cost analysis, and plant layout methods. A knowledge of basic manufacturing process is recommended. 3 (2-1)

209 Strength of Materials**Four credits**

Stress, strain, torsion, pure bending, compound stresses, failure theories, beam deflection, columns, and connections. Prerequisite: Mathematics for Technicians 151. 4 (4-0)

210 Kinematics and Machine Elements**Four credits**

Motion analysis of linkages, cams, and gears. Study of machine components such as camshafts, slides, brakes, and clutches. Prerequisite: DT 101 Engineering Drawing, Applied Science. 4 (2-2)

211 Machine Design**Four credits**

Practical design and fundamentals, strength of materials and kinematics are applied to solve basic machine design problems. Prerequisite: MT 210 and Math for Technicians 153. 4 (1-3)

306 Project Laboratory (Mechanical)**Three credits**

An advanced course, recommended only for students wishing to do in-depth work in the mechanical technology area after finishing basic prerequisites. Student selects a project compatible with his chosen field of work. The student, under the guidance of the faculty and through research, designs or constructs a mechanical device or mechanism. Projects and class hours of work are comparable to a three-credit course in the Mechanical Technology program. 3 (Arranged)

307 Project Laboratory (Mechanical)**Six credits**

Advanced course, recommended only for students wishing to do in-depth work in the mechanical technology area after finishing basic prerequisites. Student selects a project compatible with his chosen field of work. The student, under the guidance of the faculty and through research, designs or constructs a mechanical device or mechanism. Projects and class hours of work compare with a six-credit course in the Mechanical Technology program. 6 (Arranged)

Quality Control and Reliability Technology (ST)**100 Introduction to Quality Control****Three credits**

Modern concepts and techniques for quality control in relation to manufacturing problems. Emphasis is on the broader aspects of quality control, with only a minimum of statistics being taught. No prerequisite. 3 (3-0)

101 Critical Path Method**Four credits**

The CPM method of project control involves planning, scheduling, and monitoring. The course includes construction of the arrow logic diagram, float calculations, management and crew restraints, time-cost functions, manpower and equipment leveling, project expediting, and network flow calculations. PERT probability estimates are discussed and various computer techniques are investigated and compared. 4 (4-0)

102 Statistical Quality Control**Four credits**

An introductory course in quality control methods. The program develops basic statistical concepts and orients the student to a recognition of variation in whatever form it may occur. Graphical solution of quality control problems is emphasized. Actual case studies are used as the basis of class projects. 4 (4-0)

General Technology (TEC)**101 Technical Report Writing****Four credits**

Writing assignments include memorandums, letters, employment applications and resumes, work orders, accident reports, etc. The student will also be required to give an oral report from notes. Prerequisite: TEC 102. 4 (4-0)

102 Industrial Communications**Four credits**

Designed for the student who lacks facility in the basics of sentence and paragraph structure. Includes review of high school grammar and spelling with weekly writing assignments. Especially helpful to those now employed, and others preparing for industrial occupations, such as technicians, supervisors, and skilled trade apprentices. 4 (4-0)

201 Applied Physics**Four credits**

This course is a study of the fundamental phenomena commonly encountered in various technician, apprenticeship, and craftsman careers. It includes fundamentals of technology principles involved in mechanical technology, electricity and electronics, civil technology, hydraulics, metal working, and heating and air conditioning. It will provide the basic training in fundamental physical phenomena necessary for the student preparing for a technology career. Emphasis will be placed on teaching technology fundamentals by means of practical problems encountered in the various technician, apprentice, and craftsman careers. 4 (3-1)

202 Industrial Chemistry**Four credits**

A basic course in general chemistry designed for the technician. Topics include atomic and molecular theory, bonding, properties of the elements. Also discussed are oxidation reduction reactions, kinetic-molecular theory, phase diagrams, solutions and electrochemistry. 4 (3-1)

205, 206, 207 and 208 (Arranged) Internship-Seminar**Three credits**

After successful completion of basic courses, usually following the freshman year, students may elect internship. This course allows the student to be placed in an approved training station, earn credits for satisfactory work performance, and earn wages for hours of work. To participate in this program students must be qualified to receive approval from their department and enroll with the coordinator. Their occupational interests are considered along with their background or related classes to determine employment arrangements. The flexibility of developing individual programs for interested students in any related occupational opening is accomplished through a practical training program in agreement with the training station supervisors and the college coordinator.

151 Mathematics for Technicians I**Five credits**

Applications of topics taken from algebra and trigonometry to the areas of civil technology, electronics technology and mechanical technology. Emphasis is placed on applying mathematical skills to practical problems. Topics covered are units of measurement, approximations, logarithms, linear equations, and plane trigonometry. Prerequisite: High school algebra and geometry or equivalent. 5 (5-0)

152 Mathematics for Technicians II**Five credits**

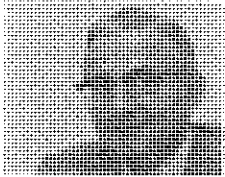
A continuation of TEC 151. Topics covered are exponents and radicals, complex numbers, quadratic and higher order equations, variations, vectors, oblique triangles, trigonometric identities, and trigonometric equations. Prerequisite: TEC 151. 5 (5-0)

153 Mathematics for Technicians III**Five credits**

Covers the applications of differential and integral calculus to practical technical problems. Prerequisite: TEC 152. 5 (5-0)

Department of Applied Technology

Chairperson: Harold J. Walper



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.

Primary Functions of Department of Applied Technology

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 enable individuals to prepare for job entry positions requiring basic knowledge and skills, (3) two-year Associate Degree Programs to give greater breadth and depth, and (4) advanced knowledge to allow individuals to promote and update themselves in their present occupations or in new fields.

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 in the belief that participation reinforces the lecture portion of any subject matter taught.

Recognizing that the social elements of our community require greater attention than ever before, special attention is necessary to aid disadvantaged and minority persons. The department develops programs to assist government and local agencies to strengthen the educational and skill levels of these persons.

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, however, 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 high school graduation. Age limits are, in general, 18 through 25, but exceptions are sometimes made. School records, test results and personal interviews are used by building trades committees in determining the qualifications of an applicant.

Applications for most building trades apprenticeships are available at the Applied Technology office. 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.*

Applicants approved for apprenticeship training are assigned a day to report for classes by the coordinator. After enrollment via the Applied Technology office, building trades apprentices are referred to the instructor for the trade.

An apprenticeship coordinator advises all apprentices as to courses they must take during their training programs. *Apprentices must have the approval of the coordinator for courses selected each term in conformity with the apprenticeship standards for the individual trade and company.*

Building trades apprenticeships include:

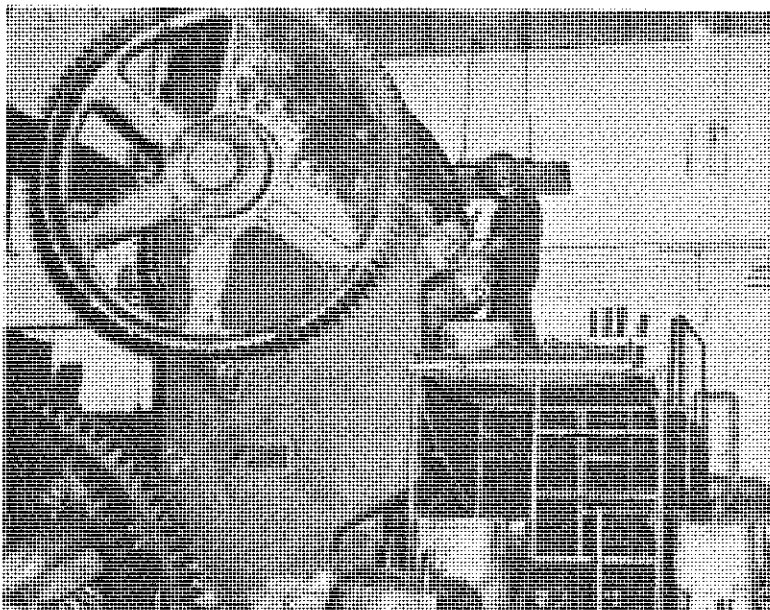
Asbestos Worker	Electrical (Residential)
Bricklaying	Painting and Decorating
Carpentry	Plumbing and Pipefitting
Electrical (Inside)	Sheet Metal

Industrial trades apprenticeships include:

Die Making	Millwright
Die Sinking	Model Making
Draftsman	Plumber-Pipefitter (Industrial)
Electrician (Industrial)	Tool Inspection
Machine Repair	Tool Making
Machinist	Tool and Die Making
Maintenance Machinist	Welder

Service trades apprenticeships include those of:

Automotive Body Repair	Automotive Servicing
Automotive Painter	



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 upgrade the individual's working effectiveness, provide additional knowledge and develop new skills. Seminars consist of lectures, laboratory experience or a combination of both.

Human relations and technical skills are emphasized. Competence in selecting, preparing, utilizing and evaluating tools and methods will be stressed according to need. The seminars are offered upon request, and credit varies.

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 also may 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 office.

To prevent student misunderstanding of the nature of the Certificate Programs of the Applied Technology Department of Lansing Community College, all students will be requested to read and sign a statement prior to commencing the program.

Applied Technology Certificate Programs:

Auto Body Repair & Painting	Machine Repair
Automotive Servicing	Machinist, Toolmaker
Die Maker—Tool and Die Maker	Millwright
Diesel Engine Technology	Pipefitter
Heating and Air Conditioning	Plastics
Industrial Technology	Residential Builder
Industrial Management	Sheet Metal
Labor Studies	Welder
Machine Repair	

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 departmental chairperson, or a counselor, to determine the transferability of credits to a particular college or university.

Applied Technology Associate Degree Programs

Automotive Technology
Diesel Engine Technology
Heating, Air Conditioning and Refrigeration
Industrial Management
Industrial Technology
Labor Studies
Machine Maintenance Technology
Numerical Control Programmer
Welding Technology

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, pulleys, compressors, valves, coils, piping, ducts, electrical wiring and automatic controls that make up an air conditioning unit.

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.

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.

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 an automobile. This series of courses will provide an individual with job entry skills enabling him to seek employment in the Automotive Service industry. Ecology has placed heavy demands on the auto industry for control of auto emissions, resulting in a need for trained technicians to service emission controls. Students 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 laboratory courses providing hands-on experience.

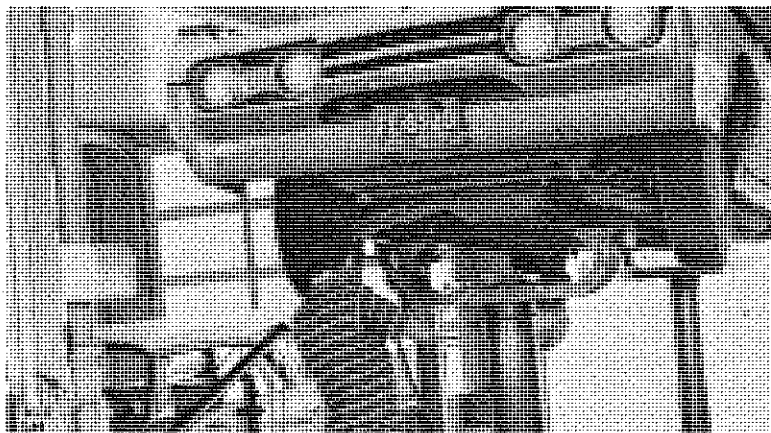
Industrial Management—Associate in Science Degree Program

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 communication 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 students'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 can include courses among the following:

ATR 165	Employer-Employee Relations
ATR 166	Front Line Foreman I
ATR 167	Front Line Foreman II
ATR 168	Front Line Foreman III
ATR 170	Industrial Labor/Management Relations
ATR 180	Industrial Organizational Communication
AUT 170	Auto Shop Management
FST 267	Fire Department Organizational Procedures
FST 290	Fire Administration
MT 201	Processing and Plant Layout
MT 203	Industrial Management
SAF 300	Industrial Accident Prevention I
SAF 301	Industrial Accident Prevention II
SAF 303	Industrial Safety Hazards
SAF 305	Safe Practices and First Aid
ST 101	Critical Path Method
ST 102	Statistical Quality Control
TEC 101	Technical Report Writing
TEC 102	Industrial Communications I
TEC 103	Industrial Communications II
Seminar:	Supervision of Patient Care Team Administration of Radiology Department

Numerical Control Programmer—Associate in Science Degree

Minimum of 90 credits required.

The advent of numerical controls has done much to take human labor from the machining processes. This change has created a new job classification: Numerical Control Programmer.

To qualify, an individual first must acquire a solid machining background, as he must decide exactly what each machine is capable of doing. This curriculum also will provide necessary mathematical skills for computing precision movements. A programmer must become expert at reading blueprints, for they determine the finished machined part.

Many companies include the numerical control program in their engineering department.

The curriculum should provide job entry skills and enough related knowledge to communicate with all personnel in the field.

Labor Studies Program Associate in Science Degree or Certificate Program

A new 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) will be offered. These programs are designed to meet the needs of organized labor in today's ever-changing society. However, the courses will be open to everyone.

The Labor Studies programs will 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 for Fall 1976 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.

COURSE DESCRIPTIONS

Applied Technology General (ATG)

110 Custodial Maintenance I **Three credits**

A basic course to give custodial personnel a workable knowledge of building cleaning and a general knowledge of topics applicable to the trade. 3 (3-0)

111 Custodial Maintenance II **Three credits**

Enables the custodian to do minor repairs of the physical plant such as plumbing repair, electrical repairs, boiler, grounds, and swimming pool maintenance. Introduction to first aid. Prerequisite: ATG 110. 3 (3-0)

112 Custodial Maintenance III **Three credits**

Emphasis is placed on the role of the custodial supervisor with respect to employer and employee relations. Prerequisite: ATG 110 and 111. 3 (3-0)

130 Basic Woodworking **Three credits**

A project-oriented, hands-on experience that will include wood characteristics, hand and portable power tools, woodworking machinery, joint construction, fastening methods, woodworking techniques and procedures, related technical information and basic wood finishing. Laboratory fee. 3 (2-2)

- 133 Furniture Making** **Three credits**
Introduction to the basic principles of design and construction of simple furniture. Primarily a lab class with emphasis on selection of materials, options available for joints and fastening methods, laminating, steam bending, construction techniques, assembly procedures, finishing and problem solving. Prerequisite: ATG 130 or equivalent experience. 3 (2-2)
- 135 Antiquing and Furniture Refinishing** **Three credits**
Step-by-step procedures for removal of old finishes, minor repairs, considerations for the selection of the new finish, surface preparation techniques and methods of application of the new finish—optional approaches and skill development for antiquing. Fabric work and upholstering are not included in this course. Laboratory fee. 3 (2-2)
- 140 Gunsmithing** **Three credits**
For the individual interested in the restocking and conversion of military rifles into sporting rifles. Also covered in the course is the building of muzzle loaders from kits. Laboratory fee. 3 (2-2)
- 150 Alternate Sources of Energy** **Four credits**
The student discuss the wide range of alternate sources of energy. The class starts out with a short course in basic electricity and develops into the hands-on building of energy developing devices. 4 (2-4)
- 175 Graphics I*** **Three credits**
The first of a three-term printing-graphics series designed for those on apprenticeship programs and for those interested in the field of graphics. The student begins exploring all the basic printing processes and operations. Laboratory fee. 3 (2-0)
- 176 Graphics II*** **Three credits**
Continuation of Graphics I with the students gaining more depth with offset techniques, stripping, layout and composition processes. Laboratory fee. 3 (2-2)
- 177 Graphics III*** **Three credits**
The third term offers the student further study in individual interest area: press operations, process camera, halftones, etc. Laboratory fee. 3 (2-2)
- *This series of graphics courses may be repeated for a maximum of 36 credits.
- 199 Customer Relations** **Two credits**
A course for individuals in the service trades that will be dealing directly with customers. Covers handling of customer problems and complaints in a satisfactory manner to both parties. 2 (2-0)

Applied Technology Related (ATR)

100 Machine Tool Survey Five credits

A practical course to familiarize the student with general knowledge of machine tools. The lecture will cover all machine tools used by the machinist. The laboratory will expose students to a variety of hands-on experiences. Excellent for maintenance people, supervisors, mechanical engineers and students of Engineering Technology. Laboratory fee. 5 (2-6)

101 Machine Shop I Five credits

Theory and practice in the operation and setup of machine tools: lathe, drill press, metal sawing, bench work and measuring instruments. Laboratory fee. 5 (2-6)

102 Machine Shop II Five credits

Continuation of ATR 101 with emphasis on milling. Some reference to shaping and planning and an introduction to Numerical Control. Prerequisite: ATR 101. Laboratory fee. 5 (2-6)

103 Machine Shop III Five credits

Continuation of ATR 102 with emphasis on grinding, sawing, hydraulic power transmission, metallurgy and cutting fluids and an introduction to Electric Discharge Machines. Prerequisite: ATR 102. Laboratory fee. 5 (2-6)

104 Tool and Cutter Grinding Four credits

Operations and setup involved in tool and cutter grinding of the following tools: drills, reamers, single point tools, all types of milling cutters including ball and mills, and concave radius cutters. Can be adapted to the needs of the student from a particular shop. Hours will be arranged with instructor's approval. Laboratory fee. 4 (2-4)

105 Project Laboratory (Machine Shop) Four credits

An advanced course, recommended only for students wishing to do in-depth work in the machine shop area, after finishing basic prerequisites. The student, guided by his instructor, selects a project compatible with his field of work. Laboratory fee. 4 (0-6)

112 Template Making and Model Checking Three credits

Functions of models, templates, use of the sine bar, height gauge and aids. Applications of models are described and interpretations and sectioning of drawings are used. Prerequisite: Drafting Technology 100 or 110 or approval of instructor. Laboratory fee. 3 (2-2)

113 Die Construction I Three credits

Emphasis on layout and processing. Types and uses of aids used in die construction. The selection of steels, limitations on accuracy and finish of parts used in die construction explored. Covers various types of die construction used in industry, and presses related to die construction. Prerequisite: DT 100 or DT 110 or approval of instructor. 3 (2-2)

114 Die Construction II**Three credits**

Continuation of ATR 113. Covers theory of heat treat, repair and maintenance, welding, types of steels and types of aids used in die construction. Auxiliary equipment to dies such as lifters, loaders, kickers, stackers, hoppers, dial feeds covered. Explores how dies should be built to make maintenance possible and provide long die life. Prerequisite: ATR 113 or approval of instructor. 3 (2-2)

115 Machine Tool Careers I**Twelve credits**

The first of a three-term series for students who require in-depth experience. A minimum of seventeen hours per week includes setup and operation of most machines and precision equipment used in industry today. A preparation for machinist careers, industrial vocational teaching, and related careers such as numerical control programming and pre-apprenticeship training for the metal trades. Laboratory fee. 11 (2-18)

116 Machine Tool Careers II**Twelve credits**

Continuation of ATR 115. Prerequisite: ATR 115 Machine Tool Careers I. Laboratory fee. 11 (2-18)

117 Machine Tool Careers III**Twelve credits**

Continuation of ATR 116. Prerequisite: ATR 116 Machine Tool Careers II. Laboratory fee. 11 (2-18)

118 Principles of E.D.M.**Three credits**

Involves the theory, fundamentals and practice of Electric Discharge Machines. The student will be taught the programming of the control console, machining of electrodes, practical applications and estimating time of operation. Laboratory fee. 3 (2-2)

120 Plastics I (Introduction)**Four credits**

Includes the classification of plastics, plastic structure and how plastics are made: the thermoplastic family: acrylic, fluorocarbon, polyamide, P.V.C., A.B.S., styrene, polypropylene, etc.; and the thermoset family: urea and melamine, casein, epoxy, phenolic, polyester, silicone, urethane, etc. 4 (4-0)

121 Plastics II (Processing)**Four credits**

Includes molding processes such as compression, transfer, injection, extrusions, etc.; casting processes and thermoforming processes. Also foaming, heat sealing, and fabrication, etc., will be discussed. Prerequisite: ATR 120. Laboratory fee. 3 (2-2)

122 Plastics III (Fabrication and Design)**Four credits**

Familiarizes the student with plastic fabrication such as cutting, joining, fastening, heat sealing, etc. Also the processing of plastic by injection molding, extrusion molding, blow molding, vacuum forming, compression molding, etc. Prerequisite: ATR 121. Laboratory fee. 3 (2-2)

127 Machinery Handbook I**Four credits**

Designed to familiarize the student with the effective utilization of information contained in this handbook. 4 (4-0)

130 Blueprint Reading for Die Sinkers**Four credits**

An applied course in Blueprint Reading designed especially for the Die Sinking trades. Familiarizes students with the different types of dies, their purposes, and the terminology used in the forging industry. Time will be spent on transferring the information on part prints to forging and trimmer dies. 4 (4-0)

137 Industrial Presses I**Four credits**

Exposes the student to different types of presses, terminology and purposes in industry. Lecture will include computation of tonnage, mechanical action, maintenance systems and safety. Excellent for mechanical trades apprentices, press repair and maintenance people, stamping plant foremen, press operators, die set-up employees, mechanical engineers and students of Engineering Technology. Material fee. 4 (4-0)

138 Industrial Presses II**Four credits**

Continuation of ATR 137 with emphasis on maintenance. Field trips to Bliss Press Company and local press repair plants. Press tonnage capacities and various applications to dies utilized will provide a broader knowledge for individuals from many different trades and occupations. Prerequisite: ATR 137. Material fee. 4 (4-0)

139 Rigging**Three credits**

The uses and strengths of ropes, chains, block and tackles, and the construction and erection of gin poles are covered, with a study of rope knots used in rigging. Also covers safe working strength of slings, hooks, sheaves, ropes and chains, and the use of personal safety equipment. Laboratory fee. 3 (2-2)

142 Applied Metallurgy**Three credits**

Physical and mechanical properties of metals, identification, selection, atomic structure, crystal structure, phases in metal systems, phase diagrams and metallography. Laboratory fee. 3 (2-2)

143 Industrial Heat Treat**Three credits**

Hardening, normalizing, annealing, case hardening, carburizing, cyaniding, nitriding, flame hardening, induction hardening, marquenching, austempering, martempering, and production of metals. Prerequisite: ATR 142 Metallurgy. Laboratory fee. 3 (2-2)

144 Hydraulics and Pneumatics I**Three credits**

Pressure, viscosity, flow rate, fluid power, hydraulic and pneumatic fluids, pumps, motor, cylinders, valves, accumulators, controls, reservoirs, stainers, filters, and basic circuits. Laboratory fee. 3 (2-2)

- 145 Hydraulics and Pneumatics II** **Three credits**
Continuation of ATR 144. Emphasis is on applications of pneumatic and hydraulic circuitry to industrial machinery. Prerequisite: ATR 144 Hydraulics and Pneumatics I. Laboratory fee. 3 (2-2)
- 149 Metric System** **Two credits**
A familiarization with the metric system as it applies to industry and commerce. The student learns to convert the decimal system to metric as it is now being used in the major countries of the world. 2 (2-0)
- 150 Basic Mathematics** **Four credits**
Review of basic arithmetic operations: whole numbers, common fractions and decimals, percentage, ratio and proportion. Introduction to basic algebraic operations and formulae in plane geometry. 4 (4-0)
- 151 Applied Algebra** **Four credits**
Applications of algebraic equations to shop work. 4 (4-0)
- 152 Applied Plane Geometry** **Four credits**
Application of geometric functions to the solution of practical shop problems. Introduction to trigonometry. Prerequisite: ATR 151. 4 (4-0)
- 153 Applied Plane Trigonometry** **Four credits**
Emphasis on analysis of industrial problems utilizing trigonometric solutions by logarithms. Prerequisite: ATR 152. 4 (4-0)
- 154 Advanced Applied Trigonometry** **Four credits**
Continuation of ATR 153. Provides broad experience in solution of problems taken directly from industry. Prerequisite: ATR 153. 4 (4-0)
- 155 Compound Angles I** **Four credits**
Combination of solid geometry and advanced (solid) trigonometry enabling student to solve setup problems involving angles and tilted work. Prerequisite: ATR 153 or ATR 154. 4 (4-0)
- 156 Compound Angles II** **Four credits**
Continuation of ATR 155. Emphasis on application of actual tooling setups for complex machining operations. Prerequisite: ATR 155. 4 (4-0)
- 160 Precision Inspection I** **Three credits**
Techniques of tool and gauge inspection: micrometers, verniers, gauge blocks, fixed dial and thread gauges, test indicators, gear and comparator measurement, hardness testing. 3 (2-2)
- 161 Precision Inspection I** **Three credits**
Precision layout work related to gauges and inspection problems. Prerequisite: ATR 160. 3 (2-2)

165 Employer-Employee Relations**Two credits**

Emphasizes the interdependence of capital, employees and managers. Ethical guidelines and practices relating to the responsibilities of all individuals in an industrial organization are discussed. The basic principles for review of hiring and termination, wages and working conditions, promotions, conflicts of interest, pricing practices and relations with customers are studied. 2 (2-0)

166 Front-Line Foreman I**Three credits**

Developing skills in human relations and communications in industry. An analysis of company policies and goals, leadership techniques, organizational structures, planning and controlling of human resources. Job evaluation, job analysis methods and techniques for evaluating employee performance. 3 (3-0)

167 Front-Line Foreman II**Three credits**

The need for direction and training of employees is covered in this section. The requirements of effective labor relations, labor legislation and training of employees are studied. Other topics include: safety, disciplinary action, grievances, special problem employees, automation, planning work schedules and time-study fundamentals. Prerequisite: ATR 166. 3 (3-0)

168 Front-Line Foreman III**Three credits**

Acquaints the present or future supervisor with the principles and methods of cost controls, improved work techniques, plant housekeeping, equipment and facilities maintenance, product quality control, plant protection, self-development, management of time, plus business economics and statistics for supervisors. Prerequisite: ATR 166. 3 (3-0)

170 Industrial Labor-Management Relations**Three credits**

The labor-management relationship as practiced in union and non-union industrial situations. Labor organization and labor history will be studied. Responsibilities of both labor and management will be reviewed. Students will better understand grievance procedures, collective bargaining, negotiating labor contracts and arbitration procedures. 3 (3-0)

180 Industrial Organizational Communications**Three credits**

Explores a variety of communication systems existing in industry today. Basic definitions and models prepare the student for effective day-to-day communication. Informal, interpersonal problems, barriers and pitfalls will be discussed. 3 (3-0)

206 Numerical Control I—Fundamentals of Numerical Control**Four credits**

General 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. Prerequisite: ATR 151. Laboratory fee. 4 (3-1)

207 Numerical Control II—Manual Programming for Numerical Control **Four credits**

Continuation of ATR 106 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. Prerequisite: ATR 206 Numerical Control I or equivalent. Laboratory fee. 4 (3-1)

208 Numerical Control III—Introduction to Computer Assisted Programming **Four credits**

Study of types of parts which can be programmed to advantage using a computer and actual experience in programming. Includes 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. Prerequisite: ATR 207 Numerical Control II or equivalent. Laboratory fee. 4 (3-1)

211 Project Laboratory (Numerical Control) **Three credits**

An advanced course, recommended only for students wishing to do in-depth work in the machine shop area after finishing basic prerequisites. The student, guided by his instructor, select a project compatible with his field of work. Laboratory fee. Prerequisite: ATR 206, 207, & 208. 3 (0-4)

218 Machine Maintenance I **Four credits**

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. 4 (2-4)

219 Machine Maintenance II **Four credits**

Continuation of ATR 218, rebuilding and replacing worn parts, alignment of slides and ways. Use of proper tools and service manuals. Prerequisite: ATR 218. 4 (2-4)

220 Machine Maintenance III **Four credits**

Completion of rebuilding a tool room machine. Machine and scrape a 6" x 6" surfacc plate. Prerequisite: ATR 218, ATR 219 or departmental approval. Laboratory fee. 4 (2-4)

Seminars

090-099 Pre-Apprenticeship Seminar **Up to nine credits**

Designed to assist individuals who need or desire additional background to aid them in being considered for apprenticeship training.

100-109 Apprentice Seminar **Up to nine credits**

Arranged for individuals enrolled in apprenticeship programs. For individual trades or groups of trades to provide additional knowledge and/or skills to meet current needs.

- 110-119 Automotive Seminar** Up to nine credits
Intended for any area related to the automotive field.
- 120-129 Building Trades Seminar** Up to nine credits
These seminars are planned to assist any building trades group or groups to upgrade their skills or to review new and emerging techniques.
- 130-139 Heating and Air Conditioning Seminar** Up to nine credits
Covers cooling, heating, humidifying, filtering, servicing and/or ventilating, etc., for individuals already in the field or interested in any of these areas.
- 140-149 Industrial Seminar** Up to nine credits
Intended for any area in industry which could be of benefit to the individuals or industry concerned.
- 150-159 Industrial Management Seminar** Up to nine credits
Planned for those presently in management or planning to enter management functions.
- 160-169 Welding Seminar** Up to nine credits
Includes maintenance welding, production welding, resistance welding, and/or tool and die welding, etc.
- 190-199 Technology General** Up to nine credits
Includes seminars not listed under other headings.

Automotive Trades (AUT)

Auto Mechanics

- 100 Auto Service I** Four credits
Teaches the understanding of 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. Laboratory fee. 4 (2-4)
- 110 Auto Electrical Theory** Four credits
A theory course covering batteries, starters, generators, regulators, ignition systems, and chassis wiring. Laboratory fee. 4 (2-4)
- 111 Tune-Up I** Four credits
A lecture-laboratory course covering fuel systems, equipment operations, and tune-up procedure. Laboratory fee. Prerequisite: AUT 110 or instructor approval. 4 (2-4)
- 112 Tune-Up II** Four credits
A lecture-laboratory course with emphasis on actually tuning engines. Laboratory fee. Prerequisite: AUT 110, AUT 111, 4 (2-4)

- 120 Auto Drive Trains** **Four credits**
Teaches the student to service clutches, manual shift transmission, universal joints, differentials, rear axles. Laboratory fee. 4 (2-4)
- 121 Automatic Transmission I** **Four credits**
This is a basic course for automatic transmission repair. Laboratory fee. Prerequisite: AUT 120 or instructor approval. 4 (2-4)
- 122 Automatic Transmission II** **Four credits**
This is advanced automatic transmission repair. Laboratory fee. Prerequisite: AUT 120, AUT 121. 4 (2-4)
- 123 Automatic Transmission III** **Four credits**
This is advanced automatic transmission repair. Laboratory fee. Prerequisite: AUT 120, AUT 121. 4 (2-4)
- 130 Engines** **Four credits**
A background in principles, design, operation, and service procedures of modern gasoline engines. Prepares student to begin practical experience in engine maintenance and service. Laboratory fee. 4 (2-4)
- 133 Small Engines I** **Three credits**
A basic course covering the servicing and repair of two-cycle and four-cycle small gas engines. Each student will be required to supply his own small engine for laboratory work. Laboratory fee. 3 (2-2)
- 134 Small Engines II** **Three credits**
A continuation of small Engines I with more emphasis placed on laboratory work. Each student will be required to supply his own small engine. Laboratory fee. 3 (2-2)
- 136 Marine Engine Repair** **Three credits**
A course covering the basics of outboard engine servicing including carburetion, ignition, and trouble shooting of malfunctions. Laboratory fee. 3 (2-2)
- 137 Motorcycle Repair I** **Three credits**
Covers the theory of operation of a motorcycle and basic service procedures, including tune up, wheel service, brake service, and drive mechanism. Laboratory fee. 3 (2-2)
- 138 Snowmobile Repair** **Three credits**
A basic course covering the proper maintenance and service procedures for a snowmobile. Also included in the course are repairs to the engine and suspension. Laboratory fee. 3 (2-2)
- 140 Auto Brakes** **Four credits**
The student learns to service both regular and disc brakes. This includes adjustment, shoe replacement, drum and disc turning, shoe grinding, and hydraulic system service. Laboratory fee. 4 (2-4)

150 Auto Suspension**Four credits**

This course instructs the student in wheel alignment, wheel balancing, and front-end part replacement procedures. Laboratory fee. 4 (2-4)

160 Auto Air Conditioning**Four credits**

Instruction is given in the operation of auto air conditioning systems and repair procedures. Laboratory fee. 4 (2-4)

165 General Auto Mechanics**Three credits**

This course is designed for car owners. The student will gain a better understanding of his/her automobile and be able to make some repairs. Areas covered include preventive maintenance, tune-up, brakes, engines, electrical systems, drive lines, front end and steering. Laboratory fee. 3 (2-2)

181 Metal Finishing I**Four credits**

A body repair course designed to teach the 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. Prerequisite: WLD 100. May also be taken concurrently with WLD 100. Laboratory fee. 4 (2-4)

182 Panel Repair and Replacement**Four credits**

Instruction will be given in the repair of larger dented panels, with the emphasis on replacing panels. Prerequisite: AUT 181. Laboratory fee. 4 (2-4)

183 Major Collision**Four credits**

A course emphasizing the restoration of a collision damaged automobile to its original condition, including estimating the total job, glasswork and painting. Prerequisite: AUT 12. Laboratory fee. 4 (2-4)

184 Frame Straightening**Four credits**

An introductory course in the basics of frame straightening, covering aligning the frame or unitized body to original specifications. Portable frame equipment will be used to familiarize the student with frame straightening. Laboratory fee. 4 (2-4)

185 Painting I**Four credits**

An auto painting course designed to teach basic refinishing procedures. A student will be able to refinish at least one panel in acrylic enamel or acrylic lacquer at the end of the course. Laboratory fee. 4 (2-4)

186 Painting II**Four credits**

An advanced auto painting course designed to teach techniques in spot repair, color matching, and trouble shooting. A student will gain experience in painting by utilizing the methods described above. Prerequisite: AUT 185. Laboratory fee. 4 (2-4)

187 Painting III **Four credits**

An advanced auto painting course designed to teach the techniques required in refinishing a complete auto in enamel, acrylic enamel, and acrylic lacquer. Includes estimating the cost of materials and the overhead costs of operating a paint shop. Prerequisite: AUT 186. Laboratory fee. 4 (2-4)

188 Auto Body Repair and Painting **Four credits**

A combined course of auto body repair and painting. The students will practice techniques learned in Metal Finishing I and Painting I. Prerequisite: AUT 181 and AUT 185. Laboratory fee. 4 (0-8)

Auto Parts

196 Parts Counter Man I **Four credits**

Covers the nomenclature of automotive parts and repairs made on an automobile. 4 (4-0)

197 Parts Counter Man II **Four credits**

This course covers parts catalogs and their use. Prerequisite: AUT 196. 4 (4-0)

198 Parts Counter Man III **Four credits**

This course covers product knowledge. Prerequisite: AUT 197. 4 (4-0)

200 Basic Diesel Maintenance **Four credits**

Covers the theory of operation of both two- and four- cycle diesels. Maintenance operation will be discussed in detail.

Lecture will contain detailed information on two- and four-cycle engine theory, model identification, systems maintenance including fuel system, lubrication system, cooling system, naturally aspirated, supercharged and turbocharged intake systems and their repair. Laboratory fee. 4 (2-4)

201 Advanced Diesel Maintenance **Four credits**

Topics covered will be 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 will be covered during the course along with systems diagnosis and trouble shooting. The four-hour lab will put to practical use that material covered in the two-hour lecture. Prerequisite: AUT 200 or instructor approval. Laboratory fee. 4 (2-4)

202 Diesel Engine Rebuilding **Eight credits**

Covers engine rebuilding, including proper disassembly procedures, inspection and repair of diesel engine components. Emphasis will be placed on proper engine analysis prior to overhaul and proper run-in upon completion of overhaul. Prerequisite: AUT 201. Laboratory fee. 8 (4-8)

203 Diesel Fuel Systems **Four credits**

A complete course on diesel fuel systems covering fuel classification, fuel system functions, pumps and injectors, proper diagnosis, trouble shooting and rebuilding of the complete fuel system. Prerequisite: AUT 201. Laboratory fee. 4 (2-4)



237 Motorcycle Repair II**Three credits**

A continuation of Motorcycle Repair I with emphasis placed on engine overhaul, transmission service and repair. Prerequisite: AUT 137. Laboratory fee. 3 (2-2)

240 Mobile Hydraulics**Three credits**

Covers the servicing of hydraulic systems as related to construction equipment, pumps, cylinder repair, and hydraulic controls. Laboratory fee. 3 (2-2)

270 Auto Shop Management**Four credits**

This is a laboratory course that gives the student an opportunity to practice running an auto shop. Prerequisite: Instructor approval. 4 (0-8)

271 Engine Laboratory***Six credits**

A laboratory course to develop trade entry skill. Laboratory fee. Prerequisite: AUT 100, AUT 130 (with "B" or better) or instructor approval. 6 (0-12)

272 Tune-Up and Electrical Laboratory***Six credits**

A laboratory course to develop trade entry skill. Laboratory fee. Prerequisite: AUT 100 (AUT 110 and AUT 111 with "B" or better in each) or instructor approval. May be taken concurrently with AUT 111. 6 (0-12)

273 Brake Laboratory***Six credits**

A laboratory course to develop trade entry skill. Laboratory fee. Prerequisite: AUT 110, AUT 140 (with "B" or better) or instructor approval. 6 (0-12)

274 Suspension Laboratory***Six credits**

A laboratory course to develop trade entry skill. Laboratory fee. Prerequisite: AUT 100, AUT 150 (with "B" or better) or instructor approval. 6 (0-12)

276 Automatic Transmission Laboratory***Six credits**

A laboratory course to develop trade entry skill. Laboratory fee. Prerequisite: AUT 100, AUT 110, AUT 121 (with "B" or better) or instructor approval. 6 (0-12)

280 Auto Related Service Laboratory***Six credits**

A laboratory course to allow the student to practice skills learned in previous courses. Laboratory fee. Prerequisite: One other automotive course (except General Auto Mechanics) 6 (0-12)

**Approval may be given to taken any one of these lab courses twice for a maximum of twelve credits each.*

291 Automotive Internship**Six credits**

This course allows the student to practice skills learned in previous courses in a real work situation. The training station, working conditions, and student must be approved by the automotive 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. Prerequisite: Coordinator approval. 6 (1-15)

Building Trades (BTA) (Open to Apprentices Only)**100 Apprentice Bricklaying****Four credits**

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. 4 (1½-1¾)

105 Apprentice Asbestos Workers**Four credits**

Open to Apprentice Asbestos Workers indentured to the Asbestos Workers Joint Apprenticeship Training Committee. Covers blue prints, applied science, related mathematics, estimating and manipulative practices. 4 (2-2)

110 Apprentice-Carpentry**Four credits**

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. 4 (1¾-1¾)

120 Apprentice-Electrical (Inside)**Four credits**

Open to electrical apprentices indentured to the Lansing Electrical Joint Apprenticeship and Training Committee. Covers bluepring reading and drawing, electrical theory, laboratory work, electrical code and mathematics 4 (1¾-1¾)

125 Apprentice Electrical-Residential**Four credits**

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. 4 (2-2)

140 Apprentice Painting and Decorating**Four credits**

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. 4 (2-2)

150 Apprentice Plumbing or Pipefitting**Four credits**

For apprentice plumbers and pipefitters indentured to the Lansing Joint Plumbing and Pipefitting Apprenticeship and Training Committee. Includes mathematics, manipulative practices, theory, blueprint reading and drawing, job analysis, physics and other science, and supplementary courses from the regular college offerings approved by the J.A.C. 4 (1¾-1¾)

170 Apprentice Sheet Metal**Four credits**

Open to apprentices indentured to the Lansing Sheet Metal Joint Apprenticeship Committee. Covers manipulative practices, layout, mathematics and drafting. 4 (2-2)

Building Trades (BTJ) (Open to Journeymen and Apprentices Only)**128 Journeyman Electricians Welding I** **Four credits**

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. Laboratory fee. 4 (2-4)

129 Journeyman Electricians Welding II **Four credits**

Open to electrical journeymen and apprentices. More advanced coverage of fundamentals of Building Trades 128. Prerequisite: Building Trades 128 or permission of instructor. Laboratory fee. 4 (2-4)

160 Journeyman Pipefitters Welding I **Four credits**

Students who enter this class should be Journeyman 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. Laboratory fee. 4 (2-4)

161 Journeyman Pipefitters Welding II **Four credits**

Continuation of BTJ 160. Prerequisite: BTJ 160. Laboratory fee. 4 (2-4)

162 Journeyman Pipefitters Welding III **Four credits**

Continuation of BTJ 161. Prerequisite: BTJ 161. Laboratory fee. 4 (2-4)

Building Trades (BTR) (Open to Anyone)**101 Masonry Home Projects** **Three credits**

Instruction in building home masonry projects such as barbecue pits, patching and repairing masonry walls. This course is not designed to prepare a student for a job as a bricklayer. Individuals wishing to prepare for a career in bricklaying should apply to enter the Bricklaying Apprenticeship Program. Laboratory fee. 3 (2-2)

105 General Home Maintenance I **Three credits**

An introductory course in general home maintenance. Topics included are: furnace maintenance humidifiers, painting, hot water heaters, and basic plumbing and electrical repairs. Laboratory fee. 3 (2-1)

106 General Home Maintenance II **Three credits**

Enables home owners, vacation home owners and general maintenance personnel to perform normal maintenance on residences or apartments. The subject matter will include lecture and basic demonstrations of plumbing, carpentry, electricity, painting, paper hanging, heating and masonry. Laboratory fee. 3 (2-1)

114 Residential Framing**Three credits**

Various types of frame construction will be discussed including methods of framing floor openings for stairs, joist sizing and layout. Wall construction will be covered from layout to assembly with details given on determining stud length, layout of door and window openings, bracing and sheathing. Laboratory fee. 3 (2-1)

115 Framing Square**Three credits**

The selection, care, and use of the framing square is covered. Students will lay out common, valley, hip and jack rafters, and determine the lengths of braces. How to use the framing square with a bevel to determine a polygon and the use of the Essex board measure table is also presented. Laboratory fee. 3 (2-1)

117 Practical A.C. Job Theory**Three credits**

For the experienced wireman who needs to review such topics as the neutral balance, load calculations (single phase and three phase), Ohm's law, and basic transformer theory. Laboratory fee. 3 (2-2)

118 A.C. Theory Review**Three credits**

Topics covered will be alternating-current mathematics, vector relationships, resistance, capacitance, inductance, and LCR circuits. Prerequisite: BTR 117. Laboratory fee. 3 (2-2)

119 Advanced A.C. Theory**Three credits**

A continuation of BTR 118 with extensive work on wye and delta transformers; also covering inductive reactance, capacitive reactance, impedance and power factor correction. Prerequisite: BTR 118. Laboratory fee. 3 (2-2)

120 Motor Theory Review**Three credits**

For the experienced wireman to review D.C. machines, single phase A.C. machines, repulsion-induction motors and three phase machines. Also covered under three phase will be the synchronizing of A.C. alternators, renumbering of Y and wound rotor motors. Laboratory fee. 3 (2-2)

121 Control of Industrial Motors**Three credits**

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. Laboratory fee. 3 (2-2)

122 Solid State Logic**Three credits**

A basic logics course for the experienced wire man covering logic elements and their use. Students will learn to apply the logic elements to industrial situations. Laboratory fee. 3 (2-2)

125 Residential Foundations**Two credits**

Information will be given on concrete blocks, poured concrete, and treated wood-timbers; their relative advantages and disadvantages with respect to one another. Also discussed will be the layout of footings, excavation, setting of forms and the erection of residential foundations. 2 (2-0)

135 Structural Blueprint Reading**Four credits**

The student is trained to visualize and interpret illustrations and sections from blueprints, and to translate them into practical situations. The student is shown the purpose of and the relationship between specifications and blueprints as applied to various trades. 4 (4-0)

138 Residential Estimating**Four credits**

Covers the execution of a complete material take-off and material pricing of a residential structure. Includes the entire structure with the exception of mechanical and electrical. Prerequisites: BTR 114 and BTR 135. 4 (4-0)

140 Cabinet Layout and Interior Trim**Three credits**

A course designed for the individual who wishes to build his own or remodel a home. Topics covered will be an introduction to interior trim and basic tool use. Prerequisite: BTR 114. Laboratory fee. 3 (2-2)

142 Build Your Own Home**Three credits**

A course created for those 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. The course will feature guest speakers who are experts in their various fields. 3 (3-0)

145 Builders Review**Three credits**

Topics relating to the State Builders License will be covered to assist individuals in preparing for the Residential Builders Exam. Materials fee. 3 (3-0)

147 Paper Hanging I**Three credits**

Designed 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. Laboratory fee. 3 (2-2)

148 Paper Hanging II**Three credits**

Continuation of BTR 147, Paper Hanging I. Laboratory fee. 3 (2-2)

155 Blueprint Reading for Plumbers I**Four credits**

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. 4 (4-0)

156 Blueprint Reading for Plumbers II**Four credits**

Continuation of Building Trades 155 with emphasis on more complex prints. Actual construction prints are used whenever possible. Prerequisite: BTR 155 or permission of the instructor. 4 (4-0)

175 Sheet Metal I**Three credits**

Includes mathematics and pattern drafting related to sheet metal. Covers straight line, parallel line, radial line and triangulation pattern development. Current techniques of fabrication emphasized. Laboratory fee. 3 (2-2)

176 Sheet Metal II

Three credits

Continuation of Sheet Metal I with more advanced problems. Prerequisite: BTR 175 or permission of instructor. Laboratory fee. 3 (2-2)

177 Sheet Metal III

Three credits

Continuation of Sheet Metal II with specialty work. Prerequisite: BTR 176. Laboratory fee. 3 (2-2)

178 Sheet Metal Fabrication

Three credits

Utilizes the layout techniques learned in Sheet Metal I to fabricate simple sheet metal fittings such as elbows, square to round, and familiarizes student with sheet metal tools. Prerequisite: BTR 175. Laboratory fee. 3 (2-2)

180 Sheet Metal Welding I

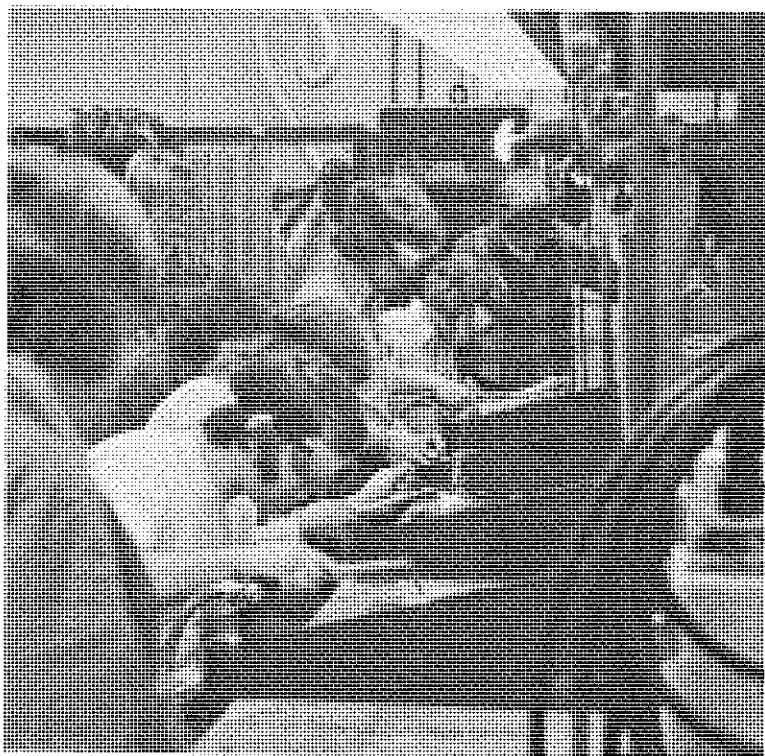
Four credits

Arc welding as applied to sheet metal. Introduction to heliarc. Laboratory fee. 4 (2-4)

181 Sheet Metal Welding II

Four credits

Continuation of Building Trades 180 with additional emphasis on heliarc. Prerequisite: BTR 180 or approval of instructor. Laboratory fee. 4 (2-4)



223 National Electrical Code**Four credits**

Students will review the entire code book in respect to locating and interpreting the National Electrical Code. Designed for individuals with little or no knowledge of the electrical code. 4 (4-0)

224 National Electrical Code II**Four credits**

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. 4 (4-0)

225 National Electrical Code III**Four credits**

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.

Heating, Air Conditioning and Refrigeration (HAC)**100 Applied Electricity I****Four credits**

Electricity will be covered with the idea of creating and understanding the applied application rather than the theoretical. Symbols, wiring diagrams, circuits, meters and motors will be discussed and worked on to start the new serviceman and review the experienced serviceman. Laboratory fee. 4 (3-1)

101 Heating and Cooling Fundamentals**Four credits**

Air Conditioning I acquaints students with the fundamental math, physics and blueprint reading necessary to work effectively with heating and air conditioning equipment. Covered in detail is the interpretation of the terminology on the name plates, wiring diagrams and manuals used with climate control equipment. 4 (4-0)

110 Refrigeration Servicing I**Four credits**

Most common types of domestic refrigerators are covered thoroughly, with particular attention to principles of construction and operation of complete refrigeration systems. Includes discussions on theory and principles underlying repairing and practical shop work, including such jobs as tube bending, flaring and soldering, as well as the charging and testing of refrigeration equipment. This course is similar to HAC 192. Prerequisite HAC 101. Laboratory fee. 4 (2-4)

140 Corrosion Control**Two credits**

Acquaints the students with various types of corrosion found in energy conversion systems and the methods required to overcome each type of corrosion. The course also includes a study of water, its composition, and the methods required to prevent scale in heating or cooling systems. Prerequisite: HAC 101 or 110 or instructor's approval. Laboratory fee. 2 (1-1)

190 Appliance Servicing I**Four credits**

The theory and application of basic electricity and electronics will be covered. The student will learn to read schematic drawings, properly use hand tools and electronic equipment (such as meters). He will also diagnose malfunctions of electrical circuits on simple one-action appliances such as water heaters and garbage disposals. Laboratory fee. 4 (2-4)

- 191 Appliance Servicing II** **Four credits**
 The student begins work on ranges, dishwashers, washing machines, clothes dryers and humidifiers, utilizing the knowledge gained in Appliance Servicing I. The use of service manuals and other published information for servicing is stressed. Prerequisite: HAC 190 or equivalent. Laboratory fee. 4 (2-4)
- 192 Appliance Servicing III** **Four credits**
 Designed to familiarize the student with the theory and application of refrigeration. Covers diagnosing and repairing of malfunctioning refrigerators, freezers, room air conditioners, dehumidifiers and water coolers. This course is similar to HAC 110. Prerequisite: HAC 191 or equivalent. Laboratory fee. 4 (2-4)
- 200 Applied Electricity II** **Four credits**
 Continuation of Applied Electricity I with major emphasis on heating and cooling, electrical controls and the troubleshooting of malfunctioning controls. Prerequisite: HAC 100. Laboratory fee. 4 (3-1)
- 210 Refrigeration Servicing II** **Four credits**
 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 trouble-shooting multiple refrigeration systems. Laboratory fee. Prerequisite: HAC 110. 4 (2-4)
- 220 Gas and Oil Burner Servicing I** **Four credits**
 Information about construction and operation of various types of automatic heating equipment for servicemen steamfitters, sheetmetal men, and other interested persons. Material covered includes construction and operation of high-pressure oil burners and installation of conversion burners. Prerequisite: HAC 101. Laboratory fee. 4 (2-4)
- 221 Gas and Oil Burner Servicing II** **Four credits**
 Continuation of HAC 120, including work on various types of oil burners other than high-pressure burners; gas burner installation and servicing; checking and adjusting burners for combustion efficiency; more complex wiring systems, and practice in locating and correcting service faults in a variety of heating systems. Prerequisite: HAC 10. Laboratory fee. 4 (2-4)
- 231 Air Conditioning II** **Five credits**
 Designed to deal with the fundamental theories and principles of climate control systems. By use of discussions and demonstrations, in both the lab and field, the course will correlate theory to actual practices used in the field. Prerequisite: HAC 101. Laboratory fee. 5 (4-2)
- 232 Air Conditioning III** **Four credits**
 The fundamentals of air conditioning servicing. Students test, repair and troubleshoot a variety of residential and commercial systems. The student becomes familiar with proper air distribution and control devices in both residential and commercial climate control systems. Prerequisite: HAC 231. Laboratory fee. 4 (2-4)

The following refrigeration service Engineering Society courses require that a student become a member of the society. These courses are sponsored by the society for individuals who have prior experience in the refrigeration field and are directed to servicemen:

HAC 250 RSES Refrigeration I	Six credits
Laboratory fee. 6 (4-4)	
HAC 251 RSES Refrigeration II	Six credits
Prerequisite: HAC 250. Laboratory fee. 6 (4-4)	
HAC 252 RSES Refrigeration III	Six credits
Prerequisite: HAC 251. Laboratory fee. 6 (4-4)	
HAC 260 RSES Electricity I	Six credits
Laboratory fee. 6 (4-4)	
HAC 261 RSES Electricity II	Six credits
Prerequisite: HAC 260. Laboratory fee. 6 (4-4)	
HAC 262 RSES Electricity III	Six credits
Prerequisite: HAC 261. Laboratory fee. 6 (4-4)	

LABOR STUDIES (LS)

101 History of American Labor

Three credits

Reviews the development and history of the American Labor movement in the late 1800's, early 1900's and the present; how the various events influenced and evolved into today's labor organizations and philosophies; the rise of industrial and international unionism; the political and governmental influences; and the continuing involvement of this section of our society. 3 (3-0)

102 Structure and Administration of Unions

Three credits

This course considers the organizational aspects and formal labor union structure. A review of local, regional, national and international structures is presented. Jurisdictional lines and administrative responsibilities at various levels are considered. Eligibility requirements, tenure of office, standing committees, and by laws are analyzed, compared and discussed. Finally, election procedures, constitutional conventions, and democratic procedures and membership functions are reviewed. 3 (3-0)

103 Union Leadership Skills**Three credits**

Development of basic skills for direction and leadership of others is presented. Essential elements of decision-making, problem solving, human relations, motivation, persuasion, psychology, planning and organizational skills are taught. Skills in attitudinal influencing factors, communication techniques, and selling ideas are discussed and practiced. Union Meeting leadership and parliamentary procedure techniques are also studied. 3 (3-0)

104 Collective Bargaining: Negotiating in the Private Sector**Three credits**

This course will focus on the history, philosophy and impact of collective bargaining and what it has accomplished for American Workers. It emphasizes what a contract covers, the legal basis for collective bargaining, fair representation, price and tax source factors, economic pressures, and grievance procedures. The importance of thorough preparation in order to achieve bargaining goals will be stressed. 3 (3-0)

105 Collective Bargaining: Negotiating in the Public Sector**Three credits**

The conditions that give impetus to public sector unionization will be examined, as well as factors differing from traditional union issues. The legal framework affecting public unions and associations will be explored, especially recent trends in court decisions. Types of unions and associations, their applicability in varying situations and their different negotiating goals will be discussed. 3 (3-0)

Special Projects**601 Special Projects****One credit**

Provides, in special cases, the opportunity for a student to enroll in a course with sufficient reason at any time. The student is expected to enroll in such a manner that he can complete the course successfully, and must have the approval of the departmental chairperson.

602 Special Projects**Two credits**

See SPA 601 for description.

603 Special Projects**Three credits**

See SPA 601 for description.

604 Special Projects**Four credits**

See SPA 601 for description.

605 Special Projects**Five credits**

See SPA 601 for description.

606 Special Projects**Six credits**

See SPA 601 for description.

Welding (WLD)

All welding students must furnish their own safety glasses, gloves and pliers.

095 Creative Welding I**Two credits**

Beginning classes in creating metal sculpture. Basic skills are taught in the safe and proper use of acetylene and arc welding equipment. Flower arrangements, animal figures, and abstract forms of art are suggested. The student is also encouraged to design and execute original creations. No previous welding skills or art background are necessary. Laboratory fee. 2 (1-2)

096 Creative Welding II**Two credits**

A continuation of Creative Welding I in which the student may develop greater skills with the welding equipment, and in the creation of metal sculpture. If the student wishes to use some of the more exotic, more expensive metals, they must be provided by the individual. Prerequisite: WLD 095. Laboratory fee. 2 (1-2)

097 Creative Welding III**Two credits**

An advanced course in Creative Welding offering the student an opportunity to create even more sophisticated metal art and sculpture, and become highly proficient in using welding equipment. Exotic metals must be provided by the individual. Prerequisite: WLD 096. Laboratory fee. 2 (1-2)

100 Combination Welding**Four credits**

An introductory course in the basic principles, safe operation and application of the oxy-acetylene welding, cutting and electric arc and MIC (metal inert gas) processes. Each process consists of beading, butt, lap and corner joints in the flat and horizontal positions. Laboratory fee. 4 (2-4)

101 Arc Welding I**Four credits**

A practical course designed to develop skills and confidence in 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 position. Prerequisite: WLD 100. Laboratory fee. 4 (2-4)

102 Gas Welding and Brazing**Four credits**

A practical course designed to develop 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. Prerequisite: WLD 100. Laboratory fee. 4 (2-4)

110 Welding/Construction Trade**Four credits**

Basically designed for individuals in the building and construction trades. Introduces the student to the types of welding used in his/her trade. Develops skills and confidence in producing quality welds in all positions along with the proper procedures for oxygen and acetylene cutting and welding. Laboratory fee. 4 (2-4)

201 Arc Welding II**Four credits**

An advanced course designed to develop skills and confidence in the vertical and overhead positions. Multiple pass fillet and groove welds are demonstrated in preparation for performance tests. The use and interpretation of welding symbols related to arc welding applications are presented. Prerequisite: WLD 101. Laboratory fee. 4 (2-4)

202 Specialty Welding**Four credits**

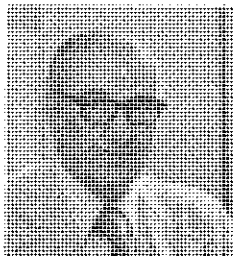
A study of the principles and fundamentals of Tungsten Inert Gas (TIG or Heliarc), Plasma Arc and Submerged Arc. The student will weld in different positions on a variety of metals. Students may be asked to refresh their manipulative skills with the oxy-acetylene process in preparation for TIG Welding. Upon completion of Welding 100, 101, 102, 201, and 202, the student may want to seek a proficiency certificate in welding.

205 Tool and Die Welding**Four credits**

The student will learn methods involved in the welding of various alloyed metals. Includes the welding of 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. Prerequisites: WLD 100, WLD 101, WLD 201, WLD 202 and ATR 142 or Instructor's approval. Laboratory fee. 4 (2-4)

295 Welded Sculpture**Four credits**

Investigates 3-dimensional constructions in metal through the use of basic welding techniques. The concepts of space, form, proportion, balance, composition, motion, etc., will be explored by the student through the execution of his own designs and under the supervision of the instructor. Laboratory fee. 4 (2-4)

*Department of Health Careers**Chairperson; Michael F. Lenkowski***Programs of Study**

The Department of Health Careers currently offers two-year programs leading to the Associate Degree in Science with major emphasis in:

1. Nursing (R.N.)
2. Dental Hygiene (R.D.H.)
3. Radiologic Technology (R.T.)
4. Respiratory Therapy Technology (A.R.I.T.)
5. Cytotechnology C.T. (A.S.C.P.)

and one-year programs leading to the Certificate of Achievement in:

1. Practical Nursing (L.P.N.)
2. Dental Assistant (C.D.A.)
3. Respiratory Therapy Technician (C.R.T.T.)
4. Operating Room Technician (C.O.R.T.)
5. Emergency Medical Services Technician (C.E.M.T.)

Because these programs are designed to assist the student in qualifying for State Licensing or National Certification Examination, 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 these requirements for the College as well as for the individual program.

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:

1. American Medical Association, Council on Medical Education and affiliates:
 - American Society of Clinical Pathologists
 - American Association for Respiratory Therapy
 - American Registry of Radiologic Technologists
2. American Dental Association, Council on Education
3. National League for Nursing, Department of Associate Degree Nursing Programs
4. American Association of Operating Room Nurses and American Association of Operating Room Technicians
5. Michigan Board of Nursing
6. Michigan Board of Dentistry

Audio-Visual Nursing 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. All 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.

Associate Degree Program in Nursing

Program Director, Margery Lubbers

The Associate Degree Program in Nursing at Lansing Community College is a basic nursing program, complete for the purpose of preparing students to write the State Board Testpool Examination for licensing as registered nurses. It is not equivalent to the first two years of a baccalaureate program in nursing. A graduate of this program may work toward a baccalaureate in nursing but transfer credit and advanced standing are determined by the college or university to which the student makes application.

Courses in natural and social sciences and in English provide an educational background of scientific principles and communication skills. Anatomy-physiology, microbiology, chemistry and psychology are scheduled in the first three quarters; English, social science and speech are scheduled during the fourth through seventh terms. Theory and nursing laboratory sessions are conducted at the College.

Clinical learning experiences are conducted by College faculty in four hospitals and two extended care facilities in the community. Other community health agencies and programs provide opportunities for observation of related health care activities.

Student experiences progress from simple to complex patient care. Emphasis is placed on understanding of principles and the development of skills and new learning in the clinical setting. Many aspects involved in the care of the "whole patient" are integrated in clinical nursing courses throughout the nursing sequence. Pharmacology, nutrition, mental health, nurse-patient relationships, and others are integrated in many innovative ways throughout the curriculum.

Upon completion of the program, the graduate will have had theory and related clinical experiences in medical-surgical, maternal-child, and psychiatric nursing. The final term is designed to provide theory and related opportunities to apply beginning principles of leadership which relate to the patient care for a group of patients based on assessed priority of needs.

The student is required to meet College criteria for the Associate Degree in Science, and the criteria for students in the nursing major to qualify for graduation. The Associate Degree Program in Nursing is approved by the Michigan Board of Nursing and accredited by the National League for Nursing.

COURSE DESCRIPTIONS

Associate Degree Nursing (NUR)

101 Patient Care Principles 1st Term Eight credits

The beginning course in the sequence of clinical nursing courses. Basic principles of assessment of patient needs and patient care are emphasized, including nursing-patient relationships and communication skills. Techniques and nursing activities pertinent to physical care of the patient are also emphasized.

Concepts and skills in assessment of patient needs are emphasized. Audio-visual study units are used to demonstrate nursing activities and concepts of basic patient care. This knowledge is reinforced through practice and is evaluated in the nursing practice laboratory on campus. The sequence leads to a clinical learning experience in assigned hospitals or extended care facilities in the community.

Beginning with this course, concepts of mental health are integrated throughout the nursing sequence.

102 Nursing Foundations**2nd Term****Ten credits**

The second course in the nursing sequence. More complex aspects of patient care are considered with increased emphasis upon underlying principles. Scientific principles underlying aseptic techniques, fluid and electrolyte balance are also considered.

Patient assessment with emphasis upon priority of needs provides the basis for developing and implementing a plan for patient care.

Basic principles of nutrition, pharmacology and mental health are included throughout the term. Prerequisite: NUR 101 and grade point requirement.

103 Maternal-Child Nursing**5th or 6th Term****Twelve credits**

A clinical nursing course which provides the student with opportunities to develop basic understanding, and to apply basic principles in planning and implementing care for mothers, newborn infants, and the growing child. Selected experiences in the hospital laboratory include labor-delivery, nursery, post-partum, and pediatric areas. Resources in community health agencies provide opportunities for observation of related health services. Prerequisite: Nursing Foundations. 2 (5-15)

201 Physical Illness of the Adult and Child I**3rd or 4th Term****Thirteen credits**

A clinical nursing course which provides opportunities for the student to apply nursing principles in the care of patients with common physical illnesses. Further emphasis is placed on the relationship of physical and emotional needs of the patient, family and community, and pertinent nursing intervention. Selected patient experiences are provided in three hospital laboratory sessions each week during the term. Community health agencies are utilized for observation of pre-hospitalization and post-hospitalization health services which are available to the patient. Prerequisite: Nursing Foundations II. 13 (6-15)

202 Physical Illness of the Adult and Child II**5th or 6th Term****Thirteen credits**

A continuation of NUR 201 with emphasis on more complex aspects of patient care in the presence of common physical illnesses of adults and children. Emphasis is on priority of patient needs, and appropriate intervention in complex nursing situations. The student has opportunity to develop nursing care plans for a number of patients, and implement care in selected clinical areas. Prerequisite: NUR 201. 13 (6-15)

203 Advanced Nursing Skills and Leadership Principles**7th Term****Twelve credits**

The final course in the nursing sequence emphasizing principles of leadership as they relate to the patient care team.

Opportunities are provided for the student to observe and participate in various leadership roles in the clinical laboratory under the supervision of College faculty. Observations in selected specialty and concentrated care units are utilized to assist the student in understanding the full range of patient care resources.

Lecturers include principles of leadership, professional, legal, and ethical responsibilities of the nurse. Prerequisite: NUR 201-202 and grade point of not less than 2.0 (C average) in the nursing major.

204 Psychiatric Nursing**Ten credits**

Lectures in psychiatric nursing with emphasis on application of principles. Resources in Community Mental Health Agencies provide opportunities for observation and experience with patient with mental health problems. Emphasis is placed on nursing assessment of emotional status and other aspects of the nursing process as applied to the emotionally ill individual. 10 (4-12)

Practical Nursing Program

Lansing Community College offers a one-year (four quarters or terms) program in Practical Nursing leading to the Certificate of Achievement. Graduates are eligible to write the Licensing Examination required by the Michigan Board of Nursing.

The curriculum includes concurrent theory and clinical learning experiences in cooperating community hospitals, extended care facilities, and other health agencies.

Applicants to the program are required to meet admission requirements of the College and those specifically established for the Practical Nursing Program. Applicants are urged to apply one year before desired admission.

COURSE DESCRIPTIONS**Practical Nursing (PN)****100 Psychology (PN)****1st Term****Two credits**

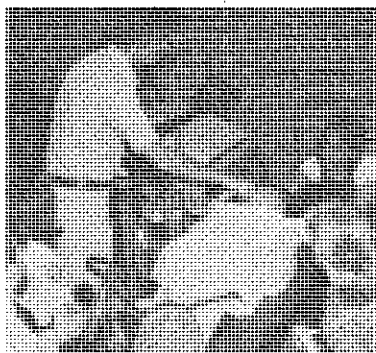
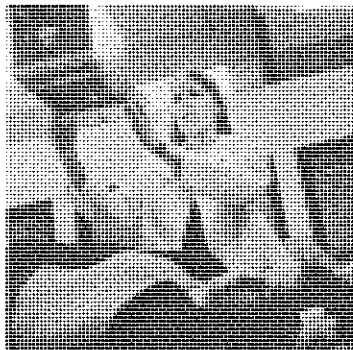
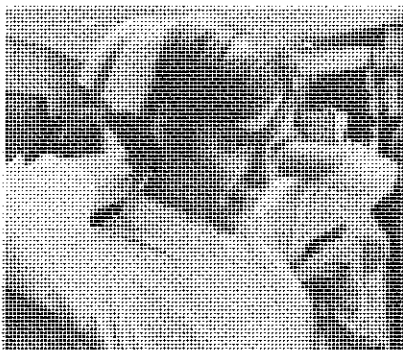
A sequence of courses designed to introduce the student to the principles of emotional development. Endeavors to prepare the student to understand human behavior (including her own) and to deal effectively with the patient's behavior. 2 (2-0)

101 Patient Care Principles**1st Term****Eight credits**

The beginning course in the sequence of clinical nursing courses. Basic principles of assessment of patient needs and patient care are emphasized, including nursing-patient relationships and communication skills. Techniques and nursing activities pertinent to physical care of the patient are also emphasized.

Audio-visual study units are used to demonstrate nursing activities and concepts of basic patient care. This knowledge is reinforced through practice and is evaluated in the nursing practice laboratory on campus. The sequence leads to a clinical learning experience in assigned hospitals or extended care facilities in the community.

Beginning with this course, concepts of mental health are integrated throughout the nursing sequence.



COURSE DESCRIPTIONS

Dental Hygienist (DH, DHA)

Admission to the program is a prerequisite for each course.

- DHA 110 Oral Health Practices** **Fall Term** **Three credits**
 A laboratory and practical course which will introduce the student to the predominant dental diseases and the need for good oral health, and aid the student in developing personal oral health regimen.
- DHA 111 Oral Anatomy I** **Fall Term** **Four credits**
 Lecture, laboratory, and AVT sessions will explain the visible anatomic structures of the oral cavity including a detailed description of the morphology of the human dentition. Emphasis is placed upon the identification of extracted specimens of human teeth, tactile discrimination of anatomic landmarks, surfaces, calculus and caries. The histology of the enamel, dentin, and pulp, and the embryology of the tooth will be presented.
- DHA 112 Introduction to Dental Procedures** **Fall Term** **Three credits**
 Through lecture and practical experience the student will be introduced to dental procedures and the use and maintenance of dental instruments and equipment.
- DH 110 Dental Office Management/Emergency Care** **Fall Term** **One credit**
 Office procedures relating to management, appointments, recall system, business correspondence and effective use of telephone and dental terminology will be presented. Management of common medical emergencies will be practiced in the second portion of the course.
- DHA 120 Introduction to Clinical Dental Hygiene** **Winter Term** **Six credits**
 A course of study in which the dental hygiene student will learn appointment procedures and the techniques for 1) obtaining medical histories, 2) planning treatment and 3) performing a complete oral prophylaxis.
- DH 121 Oral Anatomy II** **Winter Term** **Three credits**
 Lecture, laboratory and AVT sessions will explain the anatomy and basic histology of the head and neck associated with the oral cavity and surrounding areas. Normal physiology of the oral cavity is presented.
- HC 102 Nutrition** **Winter Term** **Two credits**
 A series of lectures covering the identification, function, metabolism and sources of specific food nutrients required by man for normal growth and development. Application of principles to the individual's needs is emphasized.
- DH 130 Clinical Dental Hygiene I** **Spring Term** **Seven credits**
 This initial clinical course offers the student an opportunity to perfect skills in methods of patient education, oral physiotherapy, recognition and recording of oral conditions, and performing a complete prophylaxis.

DHA 131 Dental Radiography **Spring Term** **Three credits**

Development of the theory and practice of radiology to prepare the auxiliary for routine dental office responsibilities. The student will expose, process, evaluate for quality, and mount radiographs. The lecture section will cover the production and emission of dental x-radiation, indications for exposure, techniques of exposure, and the processing and evaluation of dental radiographs.

DHA 132 Oral Pathology and Pharmacology **Spring Term** **Three credits**

A study of the diseases affecting the oral region including developmental disturbances, diseases of the teeth and supporting structures, and neoplasms. A study of the theoretical and practical implications of the use of drugs in dental practice. Action and effects due to the administration of drugs, adverse reaction to drugs, and the management of common medical emergencies will be discussed.

DH 210 Clinical Dental Hygiene II **Fall Term** **Nine credits**

A continuation of DH 130 offering additional practice in the dental hygienist's clinical skills. Lecture and seminar sessions include theory of patient education and aspects of preventive dentistry for the individual. Laboratory sessions introduce additional clinical skills.

DH 211 Periodontics **Fall Term** **Three credits**

A study of the anatomy, physiology, and histology of the periodontal tissues as it relates to the identification, etiology, prevention, and treatment of periodontal disease and occlusal disorders. Knowledge, skills, and attitudes that will enhance the dental hygienist's clinical competence in treating periodontal patients are emphasized.

DH 220 Clinical Dental Hygiene III **Winter Term** **Nine credits**

Clinical practice is continued from DH 210 for the dental hygiene student. Lecture and seminar sessions will help the student to prepare health education and service programs for groups, school and special populations. Various models of dental service programs will be discussed, including the dental hygienist's role.

DHA 221 Dental Materials **Winter Term** **Four credits**

Lecture and laboratory sessions will address the selection, manipulation and evaluation of materials used in dentistry. Attention is given to procedures performed and materials used by the dental hygienist and dental assistant.

DH 230 Clinical Dental Hygiene IV **Spring Term** **Six credits**

An opportunity to continue clinical skills, gain experience in providing dental hygiene services to community groups, and learn expanded duty techniques.

DH 231 Dental Specialties **Spring Term** **Four credits**

Students are introduced to dental office procedures through selected visitations to public and private clinics. Lectures by practicing dentists will provide orientation to the eight dental specialties.

Dental Assistant Program

The one-year curriculum for dental assisting combines business and science courses. This curriculum will prepare the student to assist the dentist in four-handed dental procedures. After completing the four terms of course and laboratory work at Lansing Community College, the student may apply for a Certified Dental assistant rating. The student will receive certification after successful completion of the examination conducted by the Certifying Board of the American Dental Assistant Association.

Eligibility for the Dental Assisting Program requires:

1. High school courses:
 Required: English—3 units
 Mathematics (algebra preferred)—1 unit
 Biology—1 unit
 Chemistry—1 unit
 Typing (40 w.p.m. or better)
2. A minimum composite score of twenty-one (21) on the American College Test (ACT).
3. Evidence of good medical health and/or physical status.
4. A visit to the Dental Assisting Program. This visit will include a counseling appointment with a Dental Assisting instructor.
5. Eighty hours of observation in a dental office is required before final acceptance into the program.

The Dental Assisting Program begins in the fall term of each year. The dental assisting courses in the program must be taken in four consecutive terms of study.

COURSE DESCRIPTIONS

Dental Assistant (DA, DHA)

Admission to the program is a prerequisite for each course.

DA 110 Dental Office Management **Fall Term** **Three credits**

Office procedures relating to management, appointments, recall systems, business correspondence, effective use of the telephone, dental terminology, financial record-keeping, prepaid dental care plans and dental payment plans will be emphasized.

DHA 110 Oral Health Practices **Fall Term** **Three credits**

A laboratory and practical course which will introduce the student to the predominant dental diseases and the need for good oral health, and aid the student in developing an appropriate personal oral health regimen.

DHA 111 Oral Anatomy I **Fall Term** **Four credits**

Lecture, laboratory, and AVT sessions will explain the visible anatomic structures of the oral cavity, including a detailed description of the morphology of the human dentition. Emphasis is placed upon the identification of extracted specimens of human teeth, tactile discrimination of anatomic landmarks, surfaces, calculus and caries. The histology of the enamel, dentin, and pulp, and the embryology of the tooth will be presented.

DHA 112 Introduction to Dental Procedures **Fall Term** **Three credits**

Through lecture and practical experience the student will be introduced to dental procedures and the use and maintenance of dental instruments and equipment.

DA 120 Dental Assisting I **Winter Term** **Nine credits**

Discussion of four-handed procedures, preparations and techniques will be continued with practical experience scheduled in dental offices.

DHA 121 Oral Anatomy II **Winter Terms,** **Three credits**

Lecture, laboratory and AVT sessions will explain the anatomy and basic histology of the head and neck associated with the oral cavity and surrounding areas. Normal physiology of the oral cavity is presented.

HC 102 Nutrition **Winter Term** **Two credits**

A series of lectures covering the identification, function, metabolism and sources of specific food nutrients required by man for normal growth and development. Application of principles to the individual's needs is emphasized.

DHA 221 Dental Materials **Winter Term** **Four credits**

Lecture and laboratory sessions will address the selection, manipulation and evaluation of materials used in dentistry. Attention is given to procedures performed and materials used by the dental hygienist and dental assistant.

DA 130 Dental Assisting II **Spring Term** **Eight credits**

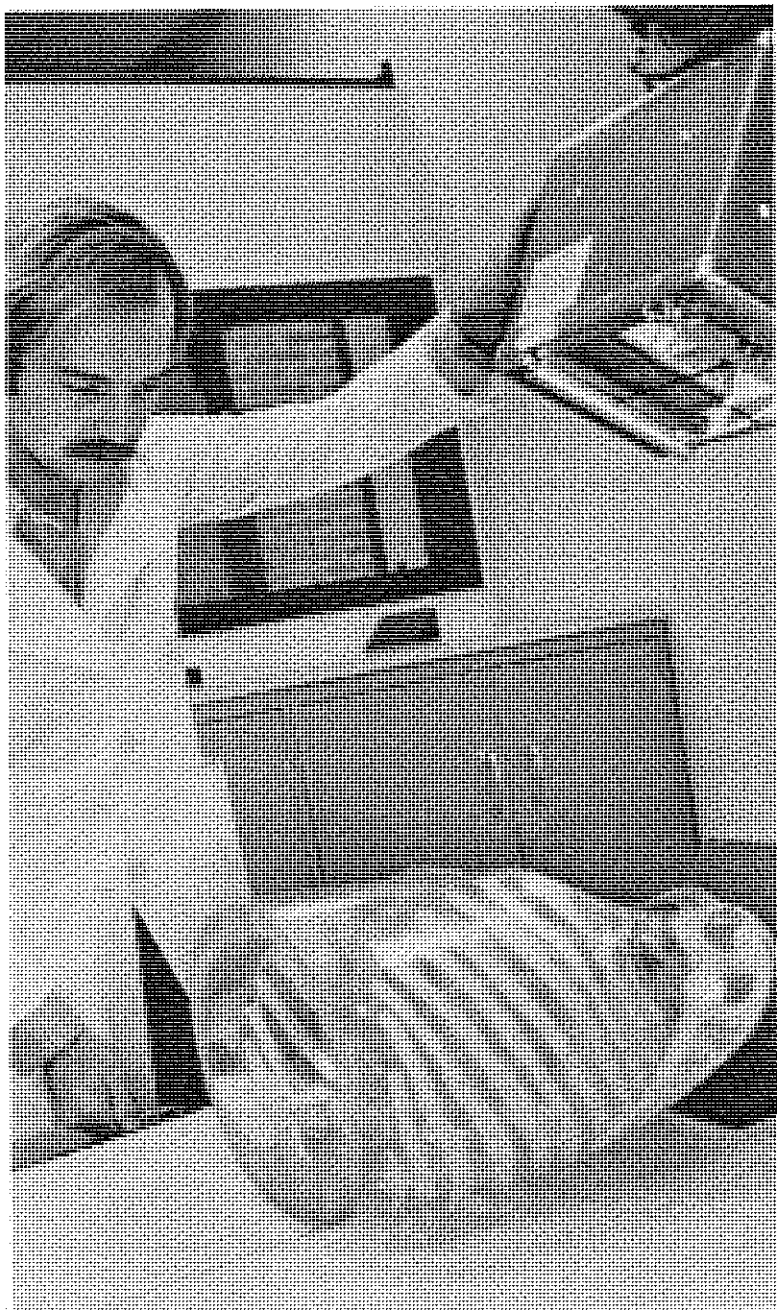
Continuation of chairside assisting with emphasis on four- and six-handed techniques. The duties and responsibilities of the dental assistant in specialty areas and the utilization of special tray set-ups and procedures are stressed. Field experience in private dental offices will be continued.

DHA 131 Dental Radiography **Spring Term** **Three credits**

Development of the theory and practice of radiology to prepare the auxiliary for routine dental office responsibilities. The student will expose, process, evaluate for quality, and mount radiographs. The lecture section will cover the production and emission of dental x-radiation, indications for exposure, techniques of exposure, and the processing and evaluation of dental radiographs.

DHA 132 Oral Pathology and Pharmacology **Spring Term** **Three credits**

A study of the diseases affecting the oral region including developmental disturbances, diseases of the teeth and supporting structures, and neoplasms. A study of the theoretical and practical implications of the use of drugs in dental practice. Action and effects due to the administration of drugs, adverse reaction to drugs, and the management of common medical emergencies will be discussed.



DA 140 Dental Assisting III**Summer Term****Eight credits**

Includes field experiences, supervised clinical practice and seminar sessions. Seminars will include discussion of field experience, techniques and skills, applying for employment, and review and update of materials and procedures.

Associate Degree Program in Radiologic Technology

Program Director, James Folkening

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 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.

Formalized classroom and laboratory instruction is given at the College in the areas of Liberal Arts and Science and 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 hospitals: Ingham Medical Hospital, Lansing General Osteopathic Hospital, Edward W. Sparrow Hospital and St. Lawrence Hospital.

Interested students are urged to contact the admissions Counselor at the College for specific requirements for program admission. The following courses must be taken for program admission preparation: ANT 211, ANT 212, MTH 102 and NS 121.

COURSE DESCRIPTIONS**Radiologic Technology (RXT)****100 Orientation to Radiologic Services****First Term****Two credits**

The course surveys the role of the Radiologic Technologist in the hospital setting beginning with the early foundations and discovery of X-ray until the present. Ethics, medical terminology, and principles of radiation protection both for personnel and patient are stressed. Prerequisite: Admission to the program. 2 (2-0)

101 Radiology Administration**First Term****Two credits**

To acquaint the student with the organization, function, supervision and financial arrangements relative to departments of radiology. Familiarizes the student with basic X-ray equipment for performing preventive maintenance, and detecting simple functioning difficulties. Prerequisite: RXT 213. 2 (2-0)

111 Techniques in Radiographic Positioning I**First Term****Five credits**

Review of the structure and organs of the body with topographic anatomy and detailed information on the various positions for both pediatric and adult procedures, supplemented with practical instruction and application in a radiographic room. Topics included are the nomenclature of positioning, bones of the extremities, pelvic girdle, thorax, and the thoracic and basic abdominal viscera. Prerequisite: Admission to the program. 5 (3-4)

112 Techniques in Radiographic Positioning II Second Term Eight credits

Radiographic 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. Topics included are the spine, skull, general characteristics of contrast media, the organs of the gastrointestinal tract, biliary tract, urinary tract, and additional procedures in obstetrics. A clinical component is also included. Prerequisite: RXT 111, HC 104. 8 (3-3-20)

113 Advanced Radiographic Positioning Third Term Eight credits

A course designed to acquaint the student with the more complex technical procedures in radiology. Lecture and clinical laboratory exercises include: topographic physiology, studies of sophisticated major and auxiliary equipment, opaque media, and the general indications for each examination. Detailed topics include the specialized neurologic, orthopedic, dental and vascular procedures, and body section radiography. A clinical component is also included. Prerequisite: RXT 112. 7 (2-2-24)

121 Principles of Radiographic Exposure I Second Term Four credits

Basic fundamentals of radiographic exposure which are concerned with production, analysis, and recording of the radiographic image. A basic study of devices, factors, and properties which are applicable to radiographic quality. Included is a study of basic chemistry, film apparatus, and processing techniques for both manual and automatic processing. Laboratory activities complement these topics. Prerequisite: Admission to program. 4 (3-2)

122 Principles of Radiographic Exposure II Third Term Four credits

A detailed discussion of factors involved in film contrast; detail and quality application of accessory devices; capabilities and limitations of radiographic equipment; technical conversion techniques; exposure technique charts; and the mechanical aspects of fluoroscopy. Laboratory activities complement these topics. Prerequisite: RXT 121. 4 (3-2)

131 Radiologic Physics I Fourth Term Two credits

Basic principles of physics and their relationships to radiology; fundamentals of ionizing and radium physics; and the basic principles underlying the construction and operation of X-ray equipment and auxiliary devices. Additional stress is placed on the theory for practical radiation monitoring and protection. Prerequisite: NS 121. 2 (2-0)

132 Radiologic Physics II Fifth Term Two credits

Units of radiation measurement, measurement of radiation exposure and instrumentation, radiation quality factors, such as half-layer values, and tube voltage. Specifics of X-ray generators and circuitry, filtration, X-ray beam restrictors, intensifying screens, and heavier stress on patient exposure and protection. Prerequisite: RXT 131.

133	Specialized Fields in Radiology	Sixth Term	Two credits
Fundamentals of radiation therapy, including various types of equipment and devices, with their application to disease. Introduction to the study of radiobiology and its effects of radiation in 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. Prerequisite: RXT 132.2 (2-0)			
211	Clinical Practice I	Fourth Term	Seven credits
212	Clinical Practice II	Fifth Term	Seven credits
213	Comprehensive Experience I	Sixth Term	Six credits
214	Comprehensive Experience II	Seventh Term	Eight credits
215	Comprehensive Experience III	Eighth Term	Nine credits

The five courses listed above consist of clinical application in radiography theory in all phases of radiologic technology. Formal and informal discussion groups are held weekly at each clinical facility. Each course is programmed with specific performance activities. A minimum of 2,200 clock hours of laboratory and clinical practice is required prior to graduation. Credit is arranged for the above courses according to the number of clock hours spent in the clinic per week for each individual term, with a ratio of approximately 1 credit hour per 6 clock hours. Prerequisite: RXT 113 and grade point of not less than 2.00 in major.

Associate Degree Program in Respiratory Therapy

Respiratory Therapy Technician

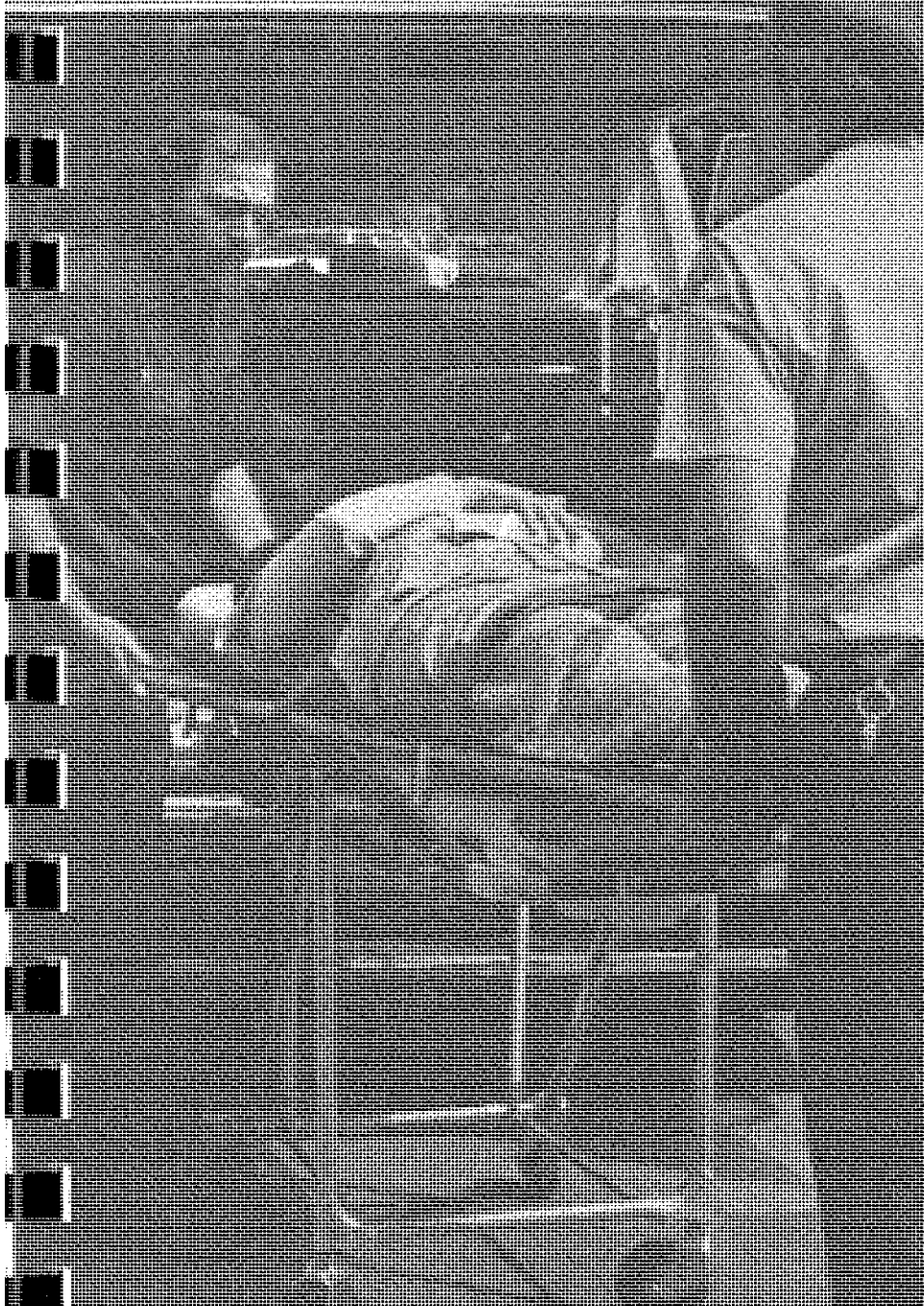
Program Director, Thomas Stout

The Lansing Community College Department of Health Careers offers a two-year Associate Degree program designed to train therapist-level personnel, and a one-year Certificate program designed to train technician-level personnel. Both programs involve courses in the liberal arts and sciences, general health career courses, and specialized courses in respiratory therapy.

Respiratory therapists and technicians are key members of the patient-care team in diagnosis, treatment and rehabilitation of patients with abnormalities associated with respiration. The vast majority of respiratory personnel are employed by hospitals, and work alongside physicians, nurses, and other allied health personnel to provide specialized respiratory care. Under medical direction, respiratory therapists and technicians are responsible for administration of medical gases including oxygen; humidity and aerosol therapy; positive pressure breathing treatments; specific diagnostic procedures; cardiopulmonary resuscitation; continuous artificial ventilation; chest physiotherapy; airway management procedures; and other related patient care.

Because respiratory therapy involves direct patient care, therapists and technicians must be motivated by a sincere concern for others. Integrity, conscientiousness, resourcefulness, and objectivity are also essential characteristics.

AMBULANCE



1976-78 Catalog Lansing Community College

- 107 Clinical Practicum (Associate Degree)** Summer Term Eight credits
Clinical practice in intensive care units, afternoon and midnight shifts and general respiratory care. Prerequisite: IT 104.
- 201 Advanced Respiratory Physiology and Testing** Fall Term Four credits
Continuation of the physiology portion of IT 102. Measurement of respiratory and cardiovascular physiologic parameters is integrated with related physiology. Prerequisite: IT 103, admission to second year.
- 202 Clinical Respiratory Therapy III** Fall Term Nine credits
Practice in critical care units. Application of continuous ventilation to specific patient care situations. Campus laboratory practice with specific continuous ventilation equipment and diagnostic equipment. Prerequisite: IT 107, admission to second year.
- 203 Advanced Respiratory Pathology and Treatment** Winter Term Four credits
Continuation of IT 103. Detailed aspects of pathologic conditions which affect respiratory and cardiovascular function and treatment. Prerequisite: RIT 201.
- 204 Clinical Respiratory Therapy IV** Winter Term Nine credits
Intensive experience in specialty areas including neonatal unit, a blood gas laboratory and pulmonary function laboratory. Prerequisite: RIT 202.
- 205 Respiratory Therapy Management Skills** Spring Term Four credits
Concepts, responsibilities and procedures of management as related to respiratory therapy. Emphasis in on development and implementation of appropriate objectives in preparation for such potential jobs as supervisors, department heads and educators. Prerequisite: RIT 203.
- 206 Clinical Respiratory Therapy V** Spring Term Nine credits
Continuation of RIT 204 with assignment to specialty areas not completed during that course. Prerequisite: RIT 204.

Associate Degree Program in Cytotechnology

Medical Director, William Zussman, M.D.

Program Director, Margaret Haynes, C.T. (A.S.C.P.), C.T. (I.A.C.)

A basic Health Career program conducted during a three-year period. Curriculum requirements are based upon accreditation criteria of the American Medical Association, Council on Medical Education and the American Society of Clinical Pathologists.

The first year is the preparation year during which the applicant must complete 46 of 90 credits in prescribed science and liberal arts courses.

Applicants are selected for the second and third sequence on a competitive basis (A.C.T. scores, G.P.A., personal interview).

In order to meet the minimum 1500 hour theory and clinical laboratory practice requirement, the second and third year will include six regular quarter-terms, two eight week summer terms, and two mini-terms (two weeks each).

Graduates are eligible for the certifying examination given by the A.S.C.P. Board of Registry upon completion of the program.

Those completing the program will be qualified for screening slides and identifying unusual or atypical cellular formations for the pathologist.

The eyes of the cytotechnologist detect disease patterns in the cytoplasm and nucleus of cells that are stained with special dyes. There is minimal patient contact and the work requires patience, accuracy and the ability to work independently.

Major clinical courses in cytotechniques are conducted concurrently throughout the second and third year, utilizing the clinical resources in the Department of Laboratories, E.W. Sparrow Hospital. Laboratory experiences progress from simple to complex as the student is promoted from one term to the next.

All courses are conducted by personnel who meet the qualification requirements of Lansing Community College, the Department of Laboratories, E.W. Sparrow Hospital, and Guidelines of the A.M.A. Council on Education and American Society of Clinical Pathologists.

Interested students are urged to contact the Admissions Counselor for Health Careers at the College to obtain specific requirements for program admission.

COURSE DESCRIPTIONS

Associate Degree Cytotechnology (CYT)

100 Introduction to Cytotechnology **Fall Term** **Three credits**

The first course in a progressive sequence of clinical laboratory courses. Includes an introductory survey to the field of cytotechnology including historical backgrounds, laboratory orientation, clerical methods and basic lectures on cellular structure.

101 Fundamentals of Cytotechnology **Winter Term** **Three credits**

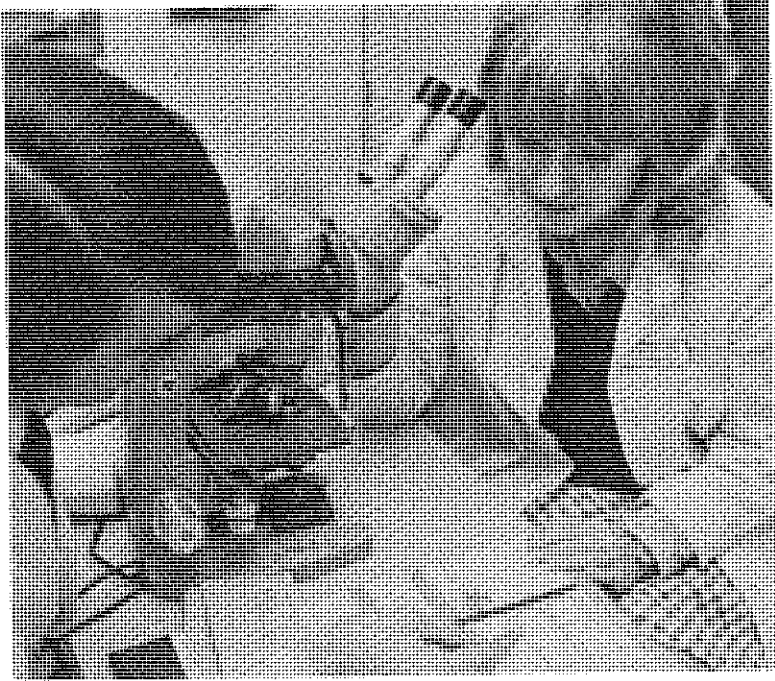
Introduces the student to specimen preparation, staining and the basic methods of microscopy. The student will also be introduced to cell types and cytologic presentation.

102 Clinical Cytotechnology I **Spring Term** **Five credits**

A comprehensive study of the female genital tract. Specific concepts considered will include the normal cytology of the reproductive structures, the menstrual cycle, menopause, pregnancy and atrophy. Students will have the opportunity to learn and identify benign disease states of the female genital tract.

103 Clinical Cytotechnology II **Summer Term** **Five credits**

An in-depth study of cancer in the female genital tract. Emphasis will be on precancerous lesions and cancer of the cervix. Laboratory sessions will increase the students' diagnostic skills in identifying dysplasias, carcinoma in-situ and invasive squamous cancer. Other malignancies of the female reproductive tract will be covered including adenocarcinoma and mixed tumors.



- 104 Clinical Cytotechnology III** **Fall Term** **Twelve credits**
Deals with the cytology of the respiratory tract. The student will be exposed to the benign as well as the malignant changes in the lung. Lecturers will also cover conditions and situations simulating malignancy. A portion of this course will also consider oral lesions and metastatic tumors.
- 105 Clinical Cytotechnology IV** **Winter Term** **Thirteen credits**
Covers the cytologic presentation of effusions and the urinary tract. The student will be exposed to evidences of benign as well as malignant changes found in body fluids and urine. Material will also cover conditions in which mesothelial cells simulate malignancies.
- 106 Clinical Cytotechnology V** **Spring Term** **Thirteen credits**
Comprehensive study will be made of gastro-intestinal tract cytology in this course. Other areas of study to be covered include: breast cytology, aspiration cytology, buccal smears and skin scrapings.
- 107 Clinical Cytotechnology** **Summer Term** **Fourteen credits**
Provides screening experience necessary to refine the skills learned in the didactic part of the program. The student will be preparing and screening a normal workload of cases and participating in daily sign-out with a pathologist.
Journal Club activity will be encouraged with special emphasis upon a research paper prepared on a specific area of interest in cytology.

Operating Room Technician Program

The surgical technician is employed in the hospital as part of the surgical team, performing such duties as preparing and positioning patients for specific surgical procedures, operating surgical equipment, or directly assisting the surgeon by providing instruments. The O.R. Technician must be able to anticipate the surgeon's needs while assisting.

The course requires attendance for three terms along with a summer term work experience with a cooperating hospital. Upon completion of the program the student will have earned a Certificate of Achievement and will then be eligible for certification by the American Association of Operating Room Technicians.

COURSE DESCRIPTIONS

Operating Room Technician (ORT)

100 Clinical Practice **Mini-term** **Two credits**

A two-week clinical session meeting at area hospitals during the fall-winter break. Intensive clinical observation and participation sessions. Classes are held four times each week during the morning and afternoon at an assigned area hospital.

101 Introduction--Operating Room Technology **Fall Term** **Six credits**

An introduction to the role and function of the operating room technicians as a member of the "surgical team" and the operating room staff.

Historical aspects of surgery, asepsis and anaesthesia are considered. Physical organization of the operating room service is reviewed in detail with scheduled observations in the various units and services.

Consideration of medical terminology, ethical-moral-legal responsibilities, weights-measures, care and safety of the patient are included. Pertinent clinical observations are scheduled in the departments. Prerequisite: Admission to program.

102 General Surgical Procedures **Winter Term** **Four credits**

The first course in a two-term sequence will introduce the O.R. Technician student to the most common general surgical procedures. In addition to instructor lecture, the course will utilize lecture and discussion by visiting surgeons. The student will learn the consideration necessary for bringing the patient to surgery, types and methods of anesthesia, routine positioning for procedures discussed, routine surgical incisions and tissue closures.

The student will gain a basic understanding of disease-related symptoms, primary diagnostic procedures, preoperative preparations and postoperative results and complications. Taken concurrently with ORT 103. Prerequisite: ORT 101.

103 Applied Operating Room Techniques I **Winter Term** **Seven credits**

Clinical session at an assigned area hospital meeting for a full day twice each week. Includes participation in and assisting with selected surgical procedures. Concurrent with ORT 102. Prerequisite: ORT 101.

104 Surgical Specialty Procedures **Spring Term** **Six credits**

The second course in the two-term sequence to introduce the O.R. Technician student to the more advanced and special areas of surgery: Obstetrics and Gynecology, Thoracic, Genito-Urinary, Ear, Nose and Throat Surgery, Plastic Surgery, Eye Surgery, Orthopedic Surgery, Neurosurgery and Traumatic Injury Surgery. Concurrent with ORT 105. Prerequisite: ORT 102, 103

105 Applied OR Techniques II **Spring Term** **Seven credits**

Selected surgical procedures including participation and assisting. Each student will have an opportunity to participate in a number of procedures to be determined by the faculty. Concurrent with ORT 104. Prerequisite: ORT 102, 103.

106 Summer Practicum **Summer Term** **Three credits**

A summer term practicum will be arranged with cooperating hospitals to assure that minimum practice requirements are met.

Emergency Medical Services Technician Programs

Program Director, Rexine A. Finn

The Department of Health Careers offers a three-term Certificate program of classroom and clinical instruction in Emergency Medical Services. Classes and clinical experiences are conducted by registered nurses, paramedics (advanced EMT'S), and community physicians in cooperation with local emergency rooms, the Lansing Fire Department, and the Grand Ledge and Mercy Ambulance Services. Students are required to attend full time to complete all requirements for graduation. Classes and clinical labs are held throughout the day and evening, five days a week during the regular College calendar.

Upon successful completion of the program, the student is eligible to take the National Registry Examination offered by The National Registry of Emergency Medical Technicians.

The Emergency Medical Technician program meets the requirements of the U. S. Department of Transportation, National Highway Safety Bureau, and the Tri-County Emergency Medical Services Council.

An Advanced EMT (Paramedic) course is also offered through the Department of Health Careers, consisting of both classroom and hospital clinical experiences. This course is designed to prepare a basic Emergency Medical Technician to function at the level of Advanced Emergency Medical Technician (Paramedic) as defined by Public Law 275.

COURSE DESCRIPTIONS**Emergency Medical Services Technician (EST)****100 Introduction to Emergency Services** **Fall Term** **Three credits**

An introduction and overview of existing medical emergency services and supporting agencies. The role of Emergency Services Technicians is reviewed in relation to the physician, emergency room personnel, law enforcement agencies and the community. Lectures and discussion are illustrated during scheduled field observations in emergency rooms, intensive and coronary care units, and ambulance services.

Prerequisites: Admission to program, or R.N., LPN, or current employment in emergency services, as an EMT.

101 Emergency Pharmacology **Fall Term** **Three credits**

Focuses on medications frequently encountered in emergency situations, street drugs, medications used in emergency situations, and sterile technique essential to assisting a paramedic, nurse or physician in administering emergency medications.

102 Emergency Care Principles/Techniques **Fall Term** **Five credits**

103 Emergency Care Principles/Techniques II **Winter Term** **Five credits**

Two-sequence courses prepare the student as a Basic Emergency Medical Technician to provide on-the-spot emergency care to accident victims, and to victims of medical and psychiatric emergencies. Focuses on the skills and knowledge necessary to provide efficient and safe care.

104 Emergency Communications and Telemetry **Winter Term** **Two credits**

Introductory course designed to orient the student to the types, methods, and use of emergency communication. Telemetry systems are defined, and their use is discussed.

105 Triage and Defensive Driving **Spring Term** **Two credits**

Provides the student with skills and knowledge to adequately triage at the scene and assure optimum patient care to all victims. It also provides knowledge necessary to safely manipulate an emergency vehicle and avoid hazardous situations.

106 Terminology and Report Writing **Spring Term** **Two credits**

Provides the student with basic medical terminology and proper methods of filling out ambulance report forms.

201 (AES) Advanced EMT (Paramedic)**Twenty-three credits**

Prepares a basic Emergency Medical Technician to function at the level of Advanced Emergency Medical Technician (Paramedic). Consists of both classroom and hospital clinical experiences. Lecture, audio-visual labs and skill labs are utilized as well as observation and/or practice in assessing and caring for patients with various conditions. Includes time in the Emergency Room, Intensive Care Unit, Coronary Care Unit, Surgery, Recovery Room, Burn Unit and the Stroke Unit.

Emergency Medical Technician (EMT)**101 Emergency Medical/Ambulance****Ten credits**

A course equivalent to EST 102 and EST 103 in content which is designed to prepare the student as a basic EMT. With the intent of meeting community needs, this course is held in off-campus locations convenient to the students. The total hours of instruction is 120 and can be scheduled in a variety of ways to accommodate the agency or students.

102 EMT Refresher**Three credits**

A practicum course which offers the EMT an opportunity to reinforce and refine skills presented in the basic EMT training. Lecture content is minimal reinforcement of material, with the majority of class time spent in practicing skills under the supervision of an instructor.

103 Extrication**Two credits**

Provides the student with skills in light and heavy extrication. Includes the use of backboards, power tools and extrication from various emergency situations.

200 Emergency Crash Care**Three credits**

Prepares students to respond first at the scene of an accident. Designed for law enforcement officers, the course also provides a refresher for the basic EMT.

Continuing Health Education

Program Director, Laura Warbach

The Health Careers Department offers courses and seminars in all health disciplines to update skills and knowledge obtained in basic programs, and, in addition, to enable graduates from basic programs to acquire new skills and knowledge in order to expand their role, or to assume new roles.

Community Services

Courses which meet a need of the community for beginning vocational skills, but are not a complete program, are also offered. The current offerings include Ward Secretary, Nurse Aide, Central Supply Technician, and Exceptional Family Aide.

COURSE DESCRIPTIONS

Continuing Health Education (CHC)

100 R.N. Refresher

Ten credits

For the inactive R.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. Has a clinical component.

101 Coronary Care

Six credits

For the active R.N. practitioner who is employed in the Coronary Care Unit, or who is contemplating such employment. Builds on basic knowledge and includes special procedures, special equipment, theoretical understandings, cardiogenic drugs and the Dog Lab. Has a clinical component.

102 Pharmacology

Six credits

Designed primarily for the Licensed Practical Nurse, but useful as a review for the inactive Registered Nurse. Covers the areas of dosage, administration of medications, equivalencies, pharmacological action, untoward effects and legal aspects. Does not have a clinical component.

106 Cardiac Nursing

Three credits

For Licensed Practical Nurses and Registered Nurses. Covers all aspects of cardiac pathology, special equipment and procedures, special nursing approaches and significance of laboratory tests. Does not have a clinical component.

108 Nursing Leadership

Three credits

For LPN's and RN's in leadership positions or who are contemplating such employment. Is useful for any level of management as it deals with principles and processes. Uses format of nursing care plan to demonstrate concepts of planning, implementation and evaluation.

112 Dental Auxiliary X-ray

Two credits

Geared to the practicing dental auxiliary who desires to acquire the skills and knowledge for taking oral x-rays, or to improve these skills. Both theory and laboratory practice.

114 Physical Assessment

Three credits

Designed to expand the skills of the active Registered Nurse in gathering information about the physical status of the patient and in evaluating that information and making nursing judgments. Useful when the physician is not immediately present, and a primary assessment of the patient's need for intervention by the physician is needed. Uses live models.

118 LPN Refresher

Ten credits

Combines theory with clinical practice for the Licensed Practical Nurse who has been inactive for 5 or more years. Focuses primarily on nursing care assessment and planning and new concepts and practices.

- 107 X-ray Positioning
- 108 Dental Hygiene Update
- 110 X-ray Update
- 116 Continuing Radiologic Physics
- 117 Respiratory Therapy Review
- 121 Continuing Radiologic Principles

The above are a series of courses in the various health disciplines which are especially designed for the active practitioner to review, to update skills and knowledge or to enable the practitioner to expand his role.

COURSE DESCRIPTIONS

Community Services (HC)

- 115 Ward Secretary Six credits
Prepares men and women for beginning positions as general clerk and receptionist in the hospital unit. Includes both theory and practice.
- 101 Nurse Aide Nine credits
Prepares men and women for entry level positions in hospitals and nursing homes as nurse aides or attendants. The student is prepared to give basic nursing care; to make observations, and to take and record vital signs. Taught by lecture, A.V.T. and has a clinical component.
- 201-202-203 Dietary Supervisor I, II and III Six credits each
A series of courses to prepare men and women to function primarily in a nursing home situation as Dietary Supervisors. Covers all aspects of the position: nutrition, food hygiene, storage and purchase; food preparation and management principles; theory and practice. A Certificate is given on successful completion of all three terms.
- 204 Exceptional Family Aid Five credits
Provides entry level skills for working with a person who is mentally or physically handicapped, or both. Includes skills and knowledge (physical, emotional and health related) necessary to provide care, encouragement and teaching, either for the handicapped person or for family members.
- 205 Central Supply Technician Five credits
Provides entry level skills for a person to work in a hospital Central Supply Room which prepares all sterile equipment used in the hospital. Includes both skills and knowledge and has a clinical component. Prepares the technician to be self directing with a minimum of supervision.

- 231 Pharmacology of Substance Abuse Three credits
- 232 Overdose Crisis Intervention Two credits
- 233 Medical Treatment of Substance Abuse Three credits

A series of courses in the Health Careers Department as part of a Certificate in Substance Abuse offered by the Social Science Department. Covers all substances which might be abused, including alcohol. May be taken separately and without intent of a Certificate. Are useful for professional and paraprofessional.

COURSE DESCRIPTIONS

Health Careers Core Courses (HC)

- 102 Nutrition Two credits

For students in basic allied health curriculums. Covers normal nutritional needs of varying age groups, foods and their composition and their function in the body.

- 104 Patient Care Principles Five Credits

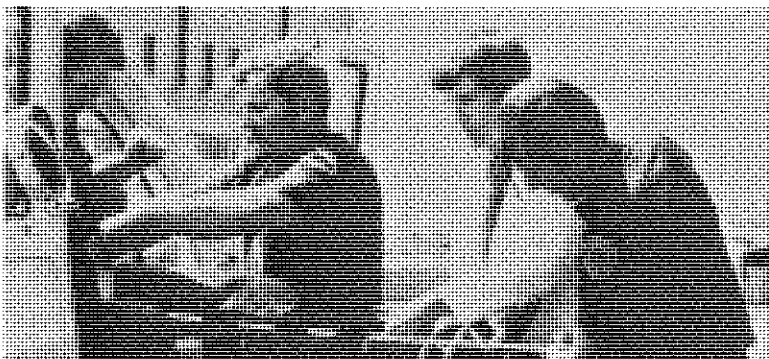
Basic principles of patient care are given with the emphasis placed on the Allied Health Personnel role in the health team. Areas of interest include basic patient practices with aid to emotional support. An audio-visual study unit series is adapted to demonstrate concepts of basic patient care principles.

- 106 Introduction to Pathology Three credits

A course primarily for students in basic Allied Health curriculums. Focus is on the basic physiopathologic processes which give rise to specific disease entities. Includes etiology, the process itself, possible resolution of the process and how the process affects body physiology.

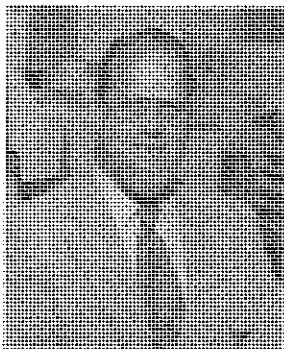
- 212 Emergency Care Two credits

For students in basic Allied Health curriculums. 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.



Department of Performing and Creative Arts

Chairperson: Dr. David Machtel



The Department offers individual courses, two-year Associate Degree Programs and one-year Certificate Programs. Course work completed in these one- and two-year programs may be applied toward degrees offered by four-year colleges and universities. Students wishing to transfer to a specific institution should check with the counselor of transfer programs to verify the transferability of courses to that particular university. Associate Degree Programs require successful completion of 90 credits, including one term of American Government.

The Associate Degree in Arts or Associate Degree with a career emphasis may be granted for other curriculums upon approval of the Department Chairperson. The requirements for Certificate Programs vary considerably. In each case, course requirements are tailored to meet specific objectives.

Emphasis is placed upon career training. Referred to as Performing Arts Career Courses, the Department offers a unique opportunity for extensive training in the arts, allowing the student to be totally involved in his/her own artistic discipline.

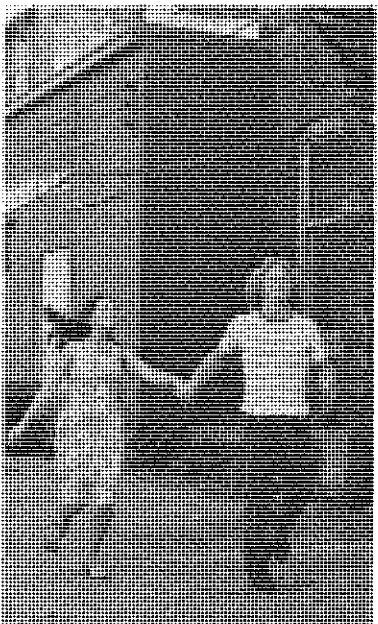
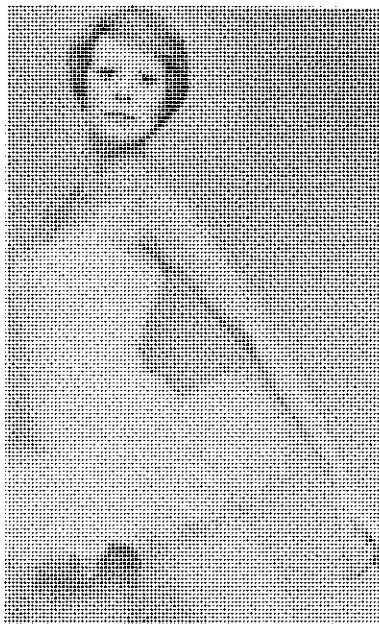
The main objective is to train students for professional careers by concentrating on the skills and attitudes appropriate for their chosen fields. As a result of this concentration the student can gain practical and theoretical knowledge, through a systematic approach to teaching with the emphasis on performance skills.

Offerings are designed to meet the needs of students with varying talents and goals, and to help each student realize his/her potential for artistic development as a performer, teacher or critic. The curriculum provides the student with technical skills, and creates an awareness of the fine arts world and its role in contemporary society.

ACTIVITIES

Membership in a variety of groups and organizations engaged in extra-curricular activities is available to students who qualify. This provides an opportunity for growth beyond the academic requirements of a specific curriculum.

Activities in which students currently participate include: art exhibits; dramatic production; choreography for musicals and operas; student recitals; organizations and ensembles in music, including the Community Concert Band, Jazz Ensemble, Symphonic Band, LanSymphonic Choral Society, Opera Workshop, LanSingers Concert Choir, Tudors, Lan"Swingers" Choir and Combo, LCC Community Orchestra, Gilbert and Sullivan Society, and Summer-on-the-Mall Choir.



ART PROGRAMS

A comprehensive program in art is offered. Students are able, by course selection, to choose programs which suit their needs in pursuing a Commercial Art career, transferring to a Fine Arts Program in a university, or studying art for personal interest. The Fine Arts emphasis consists of courses which prepare the art student through systematic instruction in the fundamental arts discipline. Courses offered cover both techniques and aesthetics.

Design courses, in sequence, offer a basic visual vocabulary for all students, regardless of their choice of emphasis. Students are encouraged to participate in these courses. They are required for transfer students.

The emphasis in Commercial Art consists of a plan of study in which the student has the opportunity to learn the skills and technical know-how to meet a wide range of requirements for a career in Commercial Art. Students selecting a Commercial Art emphasis can acquire diversified skills and accumulate successful products as part of their portfolio. The preparation of the portfolio is an ongoing project compiled by the student, and indicates to the prospective employer the quality and range of the student's capabilities. Drawing, Life Drawing, Illustration and Printing, Design, and Advertising Layout are the principle courses in the program.

Additional courses include: Lettering, Advertising, Illustration, Decorative Illustration, Product Illustration and Retouching, Photography, Keying and Reproduction Methods.

Students may also select an emphasis in art which focuses on recreational and personal interest activities. Courses selected may be used for enrichment and improvement, or may lead to a more formal goal which may involve teaching or working in recreational activities.

COURSE DESCRIPTIONS**ART (ART)****101 Design I Four credits**

A practice course which acts as an introduction to the vocabulary of the visual arts. Emphasis upon the elements of composition and their application, media and their use. Limited to media of black and white. 4 (2-4)

102 Design II Four credits

A continuation of Design I, but adding the problem of color. Prerequisite: ART 101. 4 (2-4)

103 Design III Four credits

A survey of the fundamental problems of form. By studying the principles of structure, the student develops his response to the nature of materials and their relationships to form. Offered spring term. Prerequisite: ART 101. 4 (2-4)

117 Teaching Crafts Two credits

A basic course for students interested in teaching crafts in a workshop environment. Prerequisite: None. 2 (1-2)

- 131 Drawing** **Four credits**
Primarily a studio practice course where the student is encouraged to acquire a work ethic to improve his skills. The student is introduced to varying tools and methods in the art of drawing. Prerequisite: ART 101. 4 (2-4)
- 134 Life Drawing** **Four credits**
Individualized instruction in the basic concepts, approaches and techniques involved in drawing the human figure, according to the student's experience and stage of development. Prerequisite: ART 101. 4 (2-4)
- 137 Advanced Drawing** **Four credits**
Advanced Drawing is an extension of Drawing and involves special problems agreed upon with the instructor. Prerequisite: ART 131. 4 (2-4)
- 138 Advanced Life Drawing** **Four credits**
A continuation of Life Drawing involving special problems agreed upon with the instructor. Prerequisite: ART 134. 4 (2-4)
- 139 Studio Drawing** **Two credits**
An introductory course utilizing various media which are used in learning to draw. Prerequisite: None. 2 (1-2)
- 158 Drawing Techniques** **Four credits**
A drawing course specifically geared to the introduction of the techniques, styles and materials of drawing as an art form. Prerequisite: ART 101, 102. 4 (2-4)
- 201 Painting** **Four credits**
An introductory course in painting, designed to help the student develop professional studio attitudes, habits and procedures. Special attention will be given to helping the student define and resolve his particular painting problems in his quest for making a visual statement. Prerequisite: ART 102. 4 (2-4)
- 202 Watercolor** **Four credits**
Landscape oriented watercolor course emphasizing the transparent medium. The student learns to correlate the phenomenon of nature with the phenomenon of the medium. Prerequisite: ART 102 (concurrent). 4 (2-4)
- 204 Advanced Painting** **Four credits**
Involves special problems agreed upon with the instructor. Prerequisite: ART 201. 4 (2-4)
- 205 Studio Painting** **Two credits**
An introductory course for students who want to paint for a hobby. Oils, acrylics or watercolors may be used. 2 (1-2)
- 211 Sculpture** **Four credits**
Basic work in three dimensions, including introduction to the various tools, techniques and methods of the sculptor. Projects will be done using traditional and contemporary materials. Prerequisite: ART 103. 4 (2-4)

Performing and Creative Arts

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- 214 Advanced Sculpture** **Four credits**
Involves special problems agreed upon with the instructor. Prerequisite: ART 213.
4 (2-4)
- 215 Studio Sculpture** **Two credits**
An introductory course for students who wish to explore sculpture as a hobby.
Clay, plaster and found objects may be used. 2 (1-2)
- 221 Printmaking** **Four credits**
A course combining lecture and laboratory experiences which will prepare a student in the aesthetics and techniques of silk screen printing, including basic photographic silk screen processes. 4 (2-4)
- 226 Art Form Development I** **Four credits**
Art Form Development I is a survey of painting, sculpture, architecture and decorative art covering the Prehistoric, Egyptian, Mesopotamian, Greek, Roman, Early Christian and Byzantine periods. Lectures, slides and films will be used in the presentation of this course. 4 (4-0)
- 227 Art Form Development II** **Four credits**
A continuation of Art 226 covering the Early Medieval, Romansque, Gothic, Renaissance and Mannerist periods. 4 (4-0)
- 228 Art Form Development III** **Four credits**
A continuation of Art 227 covering the Baroque, Rococo, Neo-Classic and subsequent periods up to contemporary art. 4 (4-0)
- 260 Basic Art for Elementary Teachers** **Six credits**
This course is designed especially for elementary teachers in school systems in which the home room teacher is responsible for the pupils' art experiences. Setting up art corners, teacher-learner elements, developing meaningful art experiences, learning to judge and select, use of tools, and producing art objects will be taught. Prerequisite: PSY 204. 6 (3-6)
- 272 Art and Technology** **Four credits**
A studio class involving the study and aesthetic use of selected modern technologies including video tape and electro-mechanics. Prerequisite: ART 101. 4 (2-4)
- 104 Ceramics I** **Four credits**
Ceramics is basically a means of forming, baking and coating special types of earthen clay to make containers, cookware and other utilitarian and aesthetic objects. Primary emphasis on elements of hand construction, decorating techniques, glazing, firing and philosophy of ceramics. 4 (2-4)
- 105 Ceramics II** **Four credits**
A continuation of Ceramics I with the elements of wheel throwing added. Prerequisite: ART 104. 4 (2-4)

- 106 Ceramics III** **Four credits**
 Exploration of individual ideas, philosophy of ceramics and pottery, firing and kiln room procedures. Arranged projects. Students will be expected to assist in kiln room procedures. Prerequisite: ART 105. 4 (2-4)
- 107 Advanced Ceramics** **Four credits**
 A continuation of Ceramics III involving special problems agreed upon with the instructor. Prerequisite: ART 106. 4 (2-4)
- 108 Independent Study** **Four credits**
 Designed for the student who has successfully completed the first year of ceramics and at least one term of advanced ceramics. Entrance will be based on approval by two (2) ceramics instructors. Prerequisite: ART 107 and departmental approval 4 (2-4) or 8 (4-8).
- 109 Raku (Software)** **Four credits**
 Introduction to the fundamental raku ceramic techniques. Raku pottery was developed in Japan as an integral part of the Zen tea ceremony, which emerged out of Zen philosophy. Prerequisite: ART 104. 4 (2-4)
- 111 Jewelry** **Four credits**
 Exploration and creative use of basic techniques in metal-working with emphasis on jewelry-scale objects. Includes silver soldering, enameling, casting, stone-setting, forming, chasing, etc. 4 (2-4)
 May be taken for three terms.
 First term—silver soldering, casting, stone-setting, forming and chasing.
 Second term—first term techniques expanded with emphasis on casting; includes construction of wax models.
 Third term—continuation of above techniques.
- 114 Advanced Jewelry** **Four credits**
 A continuation of Jewelry involving special problems agreed upon with the instructor. Prerequisite: 12 credits ART 111. 4 (2-4)
- 118 Jewelry Casting** **Four credits**
 Introduction to various metal casting techniques, including lost wax process, centrifugal and vacuum casting, bi-metallic, steam casting, sand casting and wax model construction.
- 121 Weaving** **Four credits**
 Exploration of weaving and textile coloring techniques including wrapping, batik, tie-dying etc. Creative use of fiber methods alone or in conjunction with other media. Loom and off-loom methods. Prerequisite: None. 4 (2-4)
- 124 Advanced Weaving** **Four credits**
 A continuation of ART 121 involving special problems agreed upon with the instructor. Prerequisite: ART 121. 4 (2-4)

167 Ceramic History Seminar**Two credits**

An introductory course with emphasis on the historical development of ceramics as related to 20th century ceramics. 2 (0-3)

168 Ceramic Design and Function**Four credits**

A practical course emphasizing the problems of coordinating design and function in ceramics. A lab course in which students will begin to solve, independently, the problems of design and function. Prerequisites: ART 104, 105, 101, 102. 4 (2-4)

169 Glaze Formulation I**Four credits**

Basic skills in glaze formulation including the introduction and understanding of glaze chemicals. Prerequisite: ART 105. 4 (2-4)

180 Ceramic Production Techniques**Twelve credits**

A demonstration and lecture course in the efficient use of studio techniques, including student participation and contributions to the course. Prerequisite: Final term of Ceramics Career Program. 12 (6-12)

210 Kiln Construction**Four credits**

Kiln construction techniques course covering various refractory materials, firing techniques and fuels. Prerequisite: ART 106. 4 (2-4)

212 Ceramic Sculpture I**Four credits**

Explores sculptural concepts using clay as the medium for investigation and experimentation. This course uses previously acquired ceramic skills in a sculptural context. Prerequisite: ART 104, 101. 4 (2-4)

214 Ceramic Sculpture II**Four credits**

Continuation of Ceramic Sculpture I. Prerequisite: ART 212, 105, 103. 4 (2-4)

900 Antiques/Collectibles**Two credits**

A basic course in recognizing, identifying and evaluating artifacts in terms of materials and period styles. 2 (1-1)

910 Batik**Two credits**

Introduction to basic processes in batik as an art form including the use of fabric dyes and their application to a fabric design. Prerequisite: None. 2 (1-1)

925 Copper Enameling**Two credits**

An introductory course in the basic principles of fusing colors to a copper surface, using high temperatures. Prerequisite: None. 2 (1-2)

930 Creative Stitchery**Two credits**

A course which introduces the student to a wide variety of handcrafts and the methods and techniques used with various materials. Crewel, needlepoint, crocheting, quilting and other needlecrafts will be taught. 2 (1-1)

970 Lapidary**Four credits**

The art of cutting and polishing stones and setting them in rings, necklaces and other decorative objects. May be taken up to 12 credits. 4 (2-4)

975 Leathercraft**Two credits**

Firsthand use of techniques and methods for achieving competence in the creation of such durable leather items as belts, bags, wallets, pouches, sandals, hats etc. Basic hand tools and their use and care will be presented. Leather and tools are not provided. 2 (1-1)

980 Macrame**Two credits**

The ancient art of tying knots to form useful and decorative objects. 2 (1-1)

990 Quilting**Two credits**

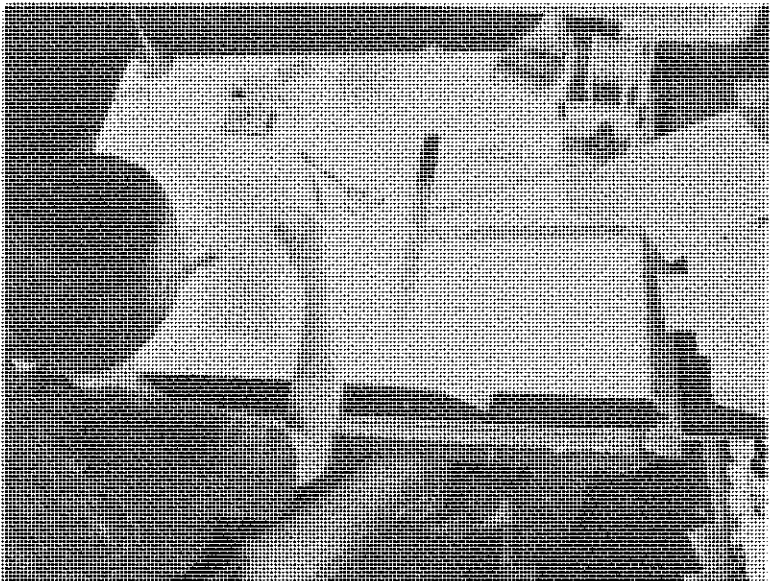
The course involves making quilts of traditional or contemporary design. 2 (1-1)

995 Stained Glass**Three credits**

An introduction to the basic design and construction techniques used in making leadlight windows, Tiffany style lampshades and other decorative objects. The use of lead came and copper foil will be demonstrated as well as a safe and easy method for cutting glass. Up to 12 credits may be taken. 4 (2-4) None.

151 Commercial Art I**Four credits**

A course in Commercial Art dealing with Advertising Layout and Design and Drawing. 4 (2-4)



- 152 Commercial Art II** **Eight credits**
An evening course in Commercial Art dealing more extensively with Advertising Layout and Design and Drawing, 8 (4-8)
- 153 Commercial Art III** **Twelve credits**
A full-time course for the commercial art student who is taking 8 credits outside of and in addition to the Commercial Art program. 12 (6-12)
- 154 Commercial Art IV** **Sixteen credits**
A full-time course for the commercial art student who is taking 4 credits outside of and in addition to the Commercial Art program. 16 (8-16)
- 155 Commercial Art V** **Twenty credits**
A full-time course for the commercial art student who is taking all his credits within the Commercial Art program. Prerequisite: Departmental approval. 20 (10-20)

The following courses will be taught within the context of Commercial Art I-V:

Advertising Layout and Design

The student explores the many areas of producing promotional material, and the techniques used to communicate and promote the value of ideas and products. Utilization of type, photography, packaging, stylization, printing, graphics, and other relevant facets is encouraged. The student will actively attempt to acquire a professional and marketable proficiency in presenting his or her ideas in a comprehensive manner.

Basic Drawing and Perspective

Problems in translating visual observations into graphic form utilizing line, form, texture, value, composition and perspective.

Life Drawing/Commercial Art

Instruction in the skeletal and muscular structure utilizing line, form, light, dark, textures, and movement as related to the human figure.

Design/Commercial Art

Participation in a series of exercises involving the abstract relationships of the energies of line, form, value, texture, and all variables of design. The student achieves an awareness of these energies, stimulating him to the observation of his environment, and providing him with a vocabulary of visual potentials contributing to effective methods of communication.

Lettering

Designed to provide the student with "type-styles" consciousness and the expertise related to type and hand lettering skills. Lettering problems are integrated with layout and design as an adjunct course.

Advertising Illustration

The student becomes involved in advertising illustration requiring drawing, techniques of varying media, and preparation of illustrations to be reproduced. The student is given problems similar to the typical requests the commercial artist receives in the field. Current techniques in the industry are closely watched and implemented in the student's assignments.

Decorative Illustration

The increased use of photography for accurate depiction of objects and situations puts increasing demand on the illustrator to explore areas the camera cannot enter. Students are encouraged to experiment in new approaches apart from the literal to answer these illustration problems. This activity is an integral part of the layout and design curriculum.

Product Illustration and Retouching

Product illustration and rendering techniques in retouching and airbrush use are major activities of the commercial artist. This area is especially encouraged after the student has acquired a reasonable level of skills in drawing and layout; a more advanced adjunct to Advertising Layout and Design.

Photography/Commercial Art

This course emphasized the use of photography as a tool for the commercial artist. Basic photographic instruction will be utilized as an adjunct to Advertising Layout and Design.

NOTE: For other photographic courses, refer to listings under Department of Instructional Media.

Keylining and Reproduction Methods

Methods of keylining and reproduction are emphasized. Lectures and, when convenient, field trips to local firms, give the student a better understanding of processes used in the industry.

The Environmental Arts deal with design as generated by human behavior within the context of the environment.

251 Interior Decorating and Design I **Four credits**

This course is a combination lecture-laboratory course designed to prepare students to relate basic design concepts to environmental accommodations. It includes the study of colors, textures, materials, lighting, sound and atmosphere.
4 (2-4)

252 Interior Decorating and Design II **Four credits**

A continuation of ART 251 that includes the study of design concepts which have a social and psychological influence on man in his environment. Prerequisite: ART 251. 4 (2-4)

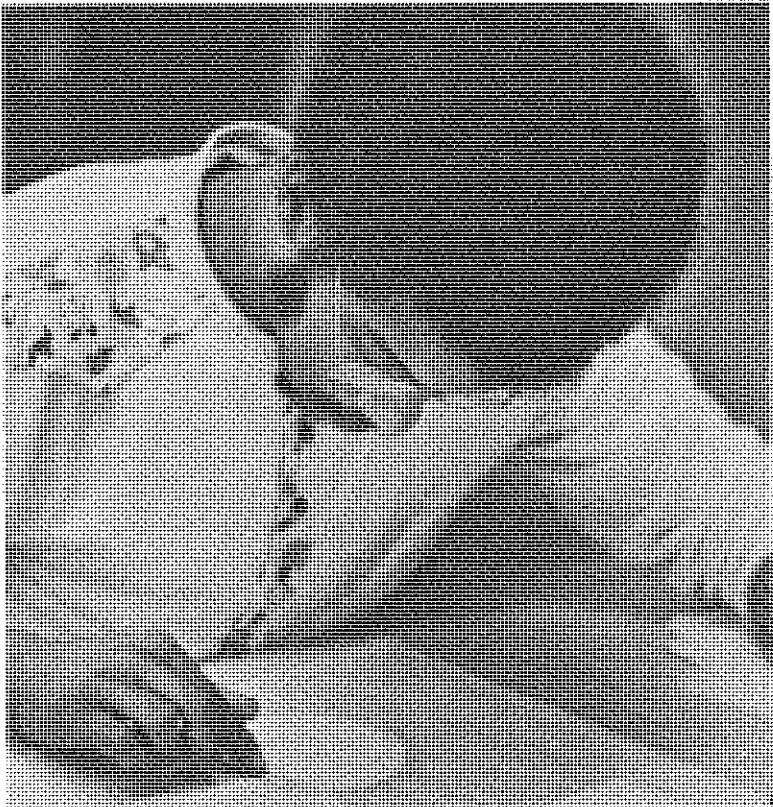
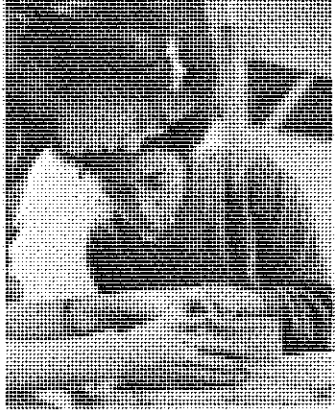
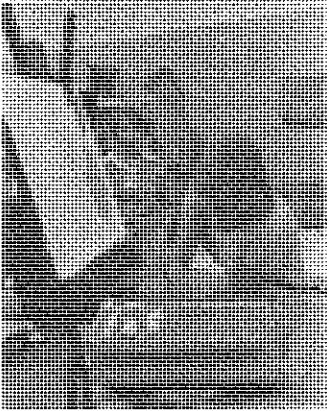
253 Interior Decorating and Design III **Four credits**

A continuation of ART 252. Period styles are investigated. Prerequisite: ART 252. 4 (2-4)

Performing and Creative Arts

320

- 254 Interior Decorating and Design IV** **Four credits**
Continuation of ART 253. Prerequisite: ART 253. 4 (2-4)
- 255 Interior Decorating and Design V** **Four credits**
Continuation of ART 254. Prerequisite: ART 254. 4 (2-4)
- 256 Interior Decorating and Design VI** **Four credits**
Continuation of ART 255. Prerequisite: ART 255. 4 (2-4)
- 261 History of Decorative Arts** **Four credits**
Historical survey course of major interior styles to familiarize the student with specific design trends over the centuries. Prerequisite: ART 253. 4 (2-4)
- 282 Interior Decorating Drawing I** **Three credits**
Develops the student's technical skill in the two-dimensional presentation of form. Stress is placed on the rendering of component parts of plans, elevations, and perspectives with emphasis on black and white studies of value and shadow. Color is introduced and various techniques of its application are explored. Prerequisite: ART 251. 3 (1-2)
- 283 Interior Decorating II** **Three credits**
Continuation of ART 282. Prerequisite: ART 282. 3 (1-2)
- 284 Interior Decorating Drawing III** **Three credits**
Continuation of ART 283. Prerequisite: ART 283. 3 (1-2)
- 285 Interior Decorating—Textiles** **Four credits**
Deals specifically with the choice and knowledge of textiles available in a decorating situation. Prerequisite: ART 251. 4 (2-4)
- 286 Interior Decorating—Furniture** **Four credits**
Deals specifically with the choice and knowledge of furniture available in a decorating situation. Prerequisite: ART 251. 4 (2-4)
- 321 Workroom Practices** **Four credits**
Practical experience for the Interior Decorating and Design student in solving visual problems on location. Prerequisite: ART 251. 4 (2-4)



DANCE (DNC)

Dance includes many kinds of expressive movement: jazz, ballet, tap and modern. Dance at Lansing Community College uses all four techniques in its classes, serving the needs of each student, whether interested in dance as a career opportunity or as a continuing education activity. With the growing number of theatre and dance groups, dance training can provide the basis for many years of stimulating creative activity for both the amateur and the professional. Dance not only provides an outlet for creative expression, but is excellent discipline for maintaining physical fitness.

The curriculum at Lansing Community College offers a sound foundation in the two mainstreams of dance discipline: ballet and modern. Every dance major is required to take work in both areas, and may then elect to specialize in one or the other. Music, acting, dance history and dance theory enhance the student's understanding, appreciation and interpretation of dance.

Students not majoring in dance may take classes in any area in which they have an interest.

Lansing Community College offers a two-year Associate Degree with transfer emphasis and a two-year Associate Degree with career emphasis in dance. A concentrated one-year Certificate is also offered.

DANCE

Performing Groups

120 Lansing Ballet

This performance class is conducted in cooperation with the Lansing Ballet Association. Dancers participate by audition and work on concert pieces for performance throughout the year. Prerequisite: Audition. 2 (1-2)

215 Repertory I	1 (0-2)	One credit
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216 Repertory II	2 (1-2)	Two credits
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217 Repertory III	3 (2-1)	Three credits
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A series of performance courses. Students participate by audition. Dancers may be working on concert pieces or performing in a musical comedy or opera produced jointly with the Music and Theatre faculty. Prerequisite: Audition.

125 Lansing Dance Theatre		Two credits
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All dancers interested in belonging to a performing group may participate in the Lansing Dance Theatre. The LDT is open to all styles of dance: jazz, modern and ballet. There will be classes for members by visiting teachers. The LDT will conduct rehearsals and prepare for public performance. 2 (1-1)



Dance Classes

101 Modern Dance Beginning I**Three credits**

A basic modern dance technique course consisting of exercises for stretching and strengthening muscles and for the development of balance, coordination and control of the body. There are improvisation exercises to expand the dancer's imagination and creativity in the use of the body as a tool of artistic expression. The student will be introduced to the vocabulary of dance movement with increasing degrees of difficulty. 3 (2-1)

102 Modern Dance Beginning II**Three credits**

Exercises for the training of the body are increased in complexity and duration. Subtle patterns of movement challenge the dancer's technical skills and encourage his or her ability to remember movement designs. Improvisation exercises present more complicated technical demands as well as opportunities to use the imagination. Prerequisite: DNC 101 or approval of instructor. 3 (2-1)

103 Modern Dance Beginning III**Three credits**

This class for advanced students will be adjusted to the maximum level of the participants in order to present challenging technical and imaginative problems. These include difficult turns, balance exercises, foot patterns, rhythmic patterns, and demanding extensions of the body. Improvisational techniques will also increase in difficulty. Prerequisite: DNC 102 or approval of the instructor. 3 (2-1)

104 Applied Dance**Three credits**
(3 hrs/wk)**105 Applied Dance****Two credits**
(2 hrs/wk)

Students are placed in a private studio in the Lansing area for special advanced work relevant to their ability and previous training. Fees and credits are arranged through the College. The student may repeat the courses at the appropriate level until prepared for more advanced work. Prerequisite: Approval of the Department.

106 Dance History**Three credits**

Designed to help students understand the origins of the dancer's art, and introduce the important figures and events that have created dance as we know it today. 3 (3-0) Spring term only.

107 Beginning Ballet I**Three credits**

Ballet classes consist of basic exercises for the development of strength, balance and coordination. Basic skills and terms found in the international vocabulary of ballet are learned and practiced in class. Since ballet is the foundation upon which all western dance is based, some training in this discipline is required for all dance majors. Ballet is encouraged for non-majors and as a basis for the appreciation of all dance activity. 3 (2-1)

108 Beginning Ballet II

Three credits

Basic barre and centre exercises are given with increasing difficulty. The students learn longer and more complicated patterns and develop performance skills. Prerequisite: DNC 107 or approval of the instructor. 3 (2-1)

109 Beginning Ballet III

Three credits

To the barre and centre exercises are added variations from the repertoire of classical ballet. Complicated turns and leaps are introduced as well as adagio and pointe work, according to the abilities of the students. Prerequisite: DNC 108 or approval of the instructor. 3 (2-1)

110 Dance Choreography—Beginning

Three credits

This course takes up the problems of creating dance for performance. It covers the questions of choosing accompaniment, planning entrances, exits, stage groupings, clarification and ideas, costuming, rehearsal techniques and selection of dancers. Students are introduced to various stimuli as sources for dance ideas, including poetry, painting, dramatic themes, abstract movement ideas. The student moves gradually from simple to more complex problems. Prerequisite: Some experience. 3 (2-1)

133 Tap I

Three credits

Designed for the student who has always wanted to tap dance, but has never had the opportunity. Basic tap steps and combinations are taught in simple routines set to music, familiarizing the student with footwork, techniques and terminology. The student also receives a brief introduction to tap choreography—general “how to” regarding content and styles. 3 (2-1)

134 Tap II

Three credits

An extension of DNC 133, introducing the tap student to various forms of advanced tap: Military Tap, Rhythm Tap, Buck and Wing dancing. More detailed choreographic problems are presented to the student regarding movement, time and space analysis. Prerequisite: DNC 133 or instructor approval. 3 (2-1)

135 Tap III

Three credits

A continuation of steps from DNC 134 on a more advanced level. Prerequisite: DNC 134. 3 (2-1)

136 Jazz Tap I

Three credits

An introductory course combining jazz rhythm with basic tap routines. 3 (2-1)

137 Jazz Tap II

Three credits

Continuation of DNC 136 with more complex combination. Prerequisite: DNC 136.

139 Musical Comedy Tap

Three credits

This tap class deals specifically with character and novelty tap as it applies to the traditional American Musical. Excellent training for the dancer, theatre or music major who is anxious to perform. Emphasis will be placed on solo and small group song and dance routines set to familiar musical comedy numbers in a performance-oriented workshop atmosphere. Prerequisite: DNC 133. 3 (2-1)

202 Advanced Modern Dance**Three credits**

Presents challenging technical and imaginative dance problems to the student of advanced skill: turns, balance, foot patterns, rhythmic patterns and extensions of the body. Prerequisite: DNC 201 or instructor approval. 3 (2-1)

207 Intermediate Ballet**Three credits**

May be taken for three terms (207-1, II, III). Student learns basic barre and centre exercises of increasing complexity. Longer and more complicated patterns are taught while student develops performance skills. Prerequisite: DNC 109 or instructor approval. 3 (2-1)

208 Advanced Ballet**Three credits**

Variations from the repertoire of classical ballet are added to the barre and centre exercises. Turns, leaps, adagio and pointe work are introduced according to the students' ability. Prerequisite: DNC 207 or instructor approval. 3 (2-1)



140 Jazz Dance Beginning

Three credits

Introduction to modern jazz technique with the integration of the physical, intellectual and aesthetic values of modern and jazz dance. 3 (2-1)

147 Ethnic Dance

Three credits

Techniques of national dances are taught, including African, Indian and Israeli dance. Each term, the course will focus on the specialty of the instructor. Prerequisite: Some dance training. 3 (2-1)

Performing Arts Career Courses—Dance

These course descriptions in dance are designed for the Performing Arts Career Course student whose skills and aptitudes are in dance. It is very important to understand that, in addition to these courses, all Career Program students receive a common background in dance, theatre and music. Complete curricular guides are available in the Department office.

161, 162, 163, 164, 165, 166 PACC—Dance I, II, III, IV, V and VI **Ten credits**

Each student will be placed in basic technique classes in Modern Dance and Ballet according to his previous experience. The Performing Arts Career Courses of 10 credit hours per term endeavor to bring the student to a competent level in modern, ballet, jazz, tap, folk and ethnic dance techniques.

In the first year the PACC—Dance student concentrates on basic Modern and Ballet classes. In the second year the PACC-Dance student begins to develop competence in jazz, folk and ethnic dances as well as continuing to improve in the basic skills of Modern and Ballet technique.

Each term beyond the beginning levels the PACC-Dance student will participate in Repertory classes to improve and develop performing techniques. Performing Arts Career Course students are expected to audition for dancing roles with PCA Department productions and musical comedy and operas as well as concert performances of the Lansing Ballet Company and the Lansing Dance Theatre.

The PACC-Dance student spends approximately ten hours per week in the technique classes basic to the development of skills, and approximately five hours each week in classes which concentrate on special styles and performance skills. 10 (5-10)

170 and 171 Intermediate and Advanced Jazz Dance

Three credits

Intermediate and advanced jazz technique involving the use of various forms and styles appropriate to more difficult jazz movements. Dance steps and dances will involve the whole body in broad swinging movements, emphasizing the complete body response to the rhythms of loud, syncopated music. Advanced choreography, staging of dance, as well as synthetic structure of dance will allow the dancer enormous freedom but will also make enormous demands on the dancer. Prerequisite: DNC 140, 170 or instructor approval. 3 (2-1)

201 Intermediate Modern Dance

Three credits

May be taken for three terms (201—I, II, III). Exercises for training the body are increased in complexity and duration over three terms. Series cover subtle movement patterns and technical skills. Improvisation presents complicated technical demands as well as opportunity for imagination. Prerequisite: DNC 103 or instructor approval. 3 (2-1)

- 211 Dance Choreography—Advanced** **Three credits**
 Designed for students interested in working on an individualized problem in dance composition. Teacher will critique the student's work and supervise creative efforts. One final project will be performed in public. Prerequisites: DNC 110 or permission of the instructor. 3 (2-1)
- 231 Dance Accompaniment (1-1)** **One credit**
- 232 Dance Accompaniment (1-2)** **Two credits**
- 233 Dance Accompaniment (2-2)** **Three credits**
 Music students work along with the dance instructor learning the skills of accompanying dance for class work and for performance. This is a series of courses for independent study. Prerequisite: Approval of the instructor.
- 240 Pre-Classic Dance Forms** **Two credits**
 Exploration of the music and movement techniques of antique dances including the mazurka, the gavotte, the basse dance, the brado, the minuet and the moresca. The course is highly recommended for students in theatre and choreography. Prerequisite: Some dance experience. 3 (1-2)
- 900 Ballroom Dancing** **Three credits**
 The course is designed to teach the basic steps in a wide range of social dances, including fox trot, waltz and Latin American styles such as rhumba, samba, cha cha and tango. Students may enroll singly or in couples. 3 (2-1)
- 905 Baton** **Two credits**
 Beginning baton twirls and marches progressing in difficulty with the integration of music and application into routines. 2 (1-2)
- 910 Dause Belledi** **Two credits**
 An introduction to the specialized techniques and movements of belly dancing including the selection of music and simple dance routines. 2 (1-1)
 2 (1-1)
- 920 Cheerleading** **Three credits**
 An introduction to the basic movements and techniques of cheerleading. Simple routines will be introduced and will increase in difficulty as the class advances. 3 (2-1)
- 925 Dance for Exercise** **One credit**
 A basic modern dance technique course offered for only one credit and involving a concentration on strengthening and stretching muscles and body control. 1 (0-2)

MUSIC (MUS)

The Music program at Lansing Community College offers undergraduate work leading to a two-year Associate Degree or a one-year Certificate. Course work completed in these programs may be applied to the Bachelor of Arts and Bachelor of Music degrees offered at four-year colleges and universities. Because requirements for degrees vary among colleges, the student should consult the Music Department or the college of his choice for specific curricula details.

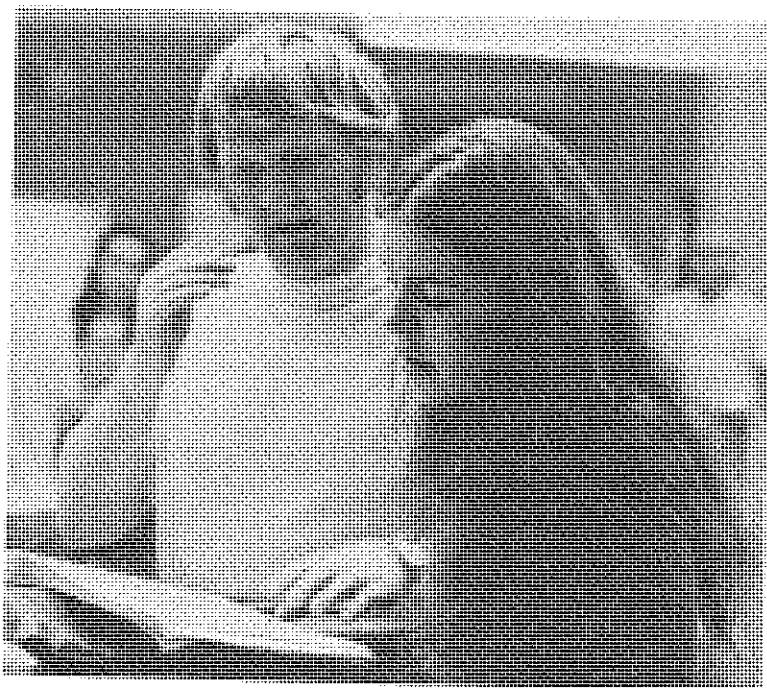
The College offers courses for students with various goals and talents, through varying degrees of emphasis, instruction and activities.

The first two years of typical undergraduate music programs offered at four-year colleges and universities may be completed at Lansing Community College.

One-Year Certificate in Music

This is a highly individualized curriculum which can be tailored to suit the needs and interests of particular students. The student and a faculty advisor should plan a curriculum consisting of at least 45 credits. These credits should include at least nine credits of Theory and Fundamentals, nine credits of applied music, six credits of music ensemble and six credits of some type of music literature. The curriculum may include up to nine credits of non-music courses.

Career oriented students may consider the two-year Associate Degree with career emphasis in Music or the one-year Certificate which is a concentrated involvement in the discipline of the student's choice.



Performing Organizations

Choral and instrumental ensembles, open to all eligible students in the College, are trained and conducted by members of the department staff. Interested students should apply for membership through the music department office, or by contacting the conductor of the ensemble in which they are interested. The student at Lansing Community College may choose from a wide variety of music organizations.

All Music Theory students are required to take at least one activity in the performing music classes; more than one is encouraged for cultural and professional growth and development.

The music program also affords opportunity for people in the greater Lansing area to participate in the various performing arts for recreation.

Vocal Groups (Performing)

103, 104-CA LanSymphonic Choral Society **One credit**
A Civic-College choral organization for large chorus or for chorus and orchestra. 1 (0-3)

105, 106-CS Opera Workshop **Two credits**
The Opera Workshop is designed to give its members and the community the experience of study and performance of musical dramatic works, from student opera through light opera to Broadway musicals. Operas will be studied in English as well as their original languages. Narrated performances of opera excerpts and scenes as well as complete operas are given each year. Prerequisite: Approval of the instructor. 2 (1-2)

107 LanSingers Concert Choir **One credit**
A choir of select voices which concentrates on the best in choral literature. The choir participates in public concerts, the State Community College Choral Festival and tours of area high schools each year. Prerequisite: Approval of the instructor. 1 (0-3)

110 Lansing Tudors **One credit**
A selected group of vocally talented students interested in singing music of the 14th through the 20th centuries, or other music for small ensembles. Prerequisite: Audition and invitation. 1 (0-2)

111 Gilbert and Sullivan **Two credits**
Designed for the student wishing to go into opera as a profession, this course is open by audition only. The class is exclusively performance-oriented, and the student should expect to spend between 6-9 hours per week in rehearsal for the 3-6 productions per year that the group presents. All students are expected to enroll for three consecutive terms. In addition to performances given in Lansing, the group performs in other cities in greater Michigan. Since the group is self-sufficient, all members are expected to serve on one committee (costumes, sets, etc.) in addition to performing. Members are also expected to purchase their own scores. 2 (1-2)

200 Introduction to Opera**Three credits**

Course is designed for the student with no previous exposure to opera. Various types of opera, operetta, and musical comedy will be studied, using films, records and other source materials to facilitate presentation. A suggested course would possibly include six works studied in depth such as: Mozart's *MAGIC FLUTE*, Rossini's *BARBER OF SEVILLE*, Verdi's *AIDA*, Puccini's *TOSCA*, Strauss' *FLEDERMAUS*, and Bernstein's *CANDIDE*. Grade will be determined by mid-term exams, final examinations, and class participation. Text (paperback) required. 3 (3-0)

299 LanSwingers

This is a carefully selected vocal and instrumental ensemble that participates almost exclusively in jazz and other popular musical styles. This group performs for College and civic functions of all types, presenting popular entertainment in jazz, swing and pop music. Prerequisite: Audition or instructor approval. 1 (0-3)



Instrumental Groups (Performing)**113 Symphonic Band** **One credit**

The Symphonic Band is open to all instrumentalists upon approval of its director. The repertoire will include the standard band literature. This band differs from the LCC Community Concert Band in that it is designed for College students on the campus rather than being community oriented. Prerequisite: Approval of the instructor. 1 (-03)

124 LCC Reading Orchestra **One credit**

This is a one-year sequence of courses for instrumental majors at LCC who either do not want to play in, or do not qualify to play in the LCC Community Orchestra. The course is also open to non-instrumental majors who are willing to participate in group playing. Prerequisite: Audition. 1 (0-3)

126 Chamber Ensemble **One credit**

This is a performance class for students with some ability on standard wind and string instruments. Students will rehearse and perform a variety of duet, trio and quartet literature which suits the available instruments and the background of the class members. Prerequisite: Approval of the instructor. 1 (0-2)

127,128-CS LCC Community Concert Band **One Credit**

This is a combination LCC-Lansing Community Band to provide the opportunity for interested students to participate in group instrumental performances. Two-hour rehearsals are held one night a week, with a concert given at the end of each term. Prerequisite: Approval of the instructor. 1 (0-2)

129 Lansing Community College Chamber Orchestra **One credit**

This is a one-year sequence of courses for talented instrumental majors, but open to all qualified players with an instrumental background. Prerequisite: Audition. 1 (0-2)

130 Jazz Ensemble **One credit**

The study and performance of big band, jazz, rock, blues and other contemporary music. Open to students with performance ability on the sax, trumpet, trombone, keyboard, guitar, bass and drums. Prerequisite: Approval of the instructor. 1 (0-3)

Applied Music—Private Study

A program of private study of vocal and instrumental music with LCC instructors or with locally qualified and approved instructors for applied music credit. The department will determine whether a student should register for one, two or three credits depending on the ability of the student.

Contact the Department for current fees.

All receive ten lessons per term. Fees are paid with regular tuition to the College admissions office.

Seniors in high school are eligible to study with approval of school counselor or principal.

Students may take as many as eight terms of applied music for college credit. Materials are progressively more difficult and comprehensive. Students registered for two or three credits must perform a jury at the end of alternating terms beginning with the first term of study.

Voice—Applied, Secondary, Elective/Minor

176	Three credits (0-5)
177	Two credits (0-4)
178	One credit (0-3)

Instrument—Applied, Secondary, Elective/Minor*

179	Three credits (0-5)
180	Two credits (0-4)
181	One credit (0-3)

*Strings, winds, brass, percussion

Piano—Applied, Secondary, Elective/Minor

182	Three credits (0-5)
183	Two credits (0-4)
184	One credit (0-3)

Organ—Applied, Secondary, Elective/Minor

185	Three credits (0-5)
186	Two credits (0-4)
187	One credit (0-3)

Harp—Applied, Secondary, Elective/Minor

188	Three credits (0-5)
189	Two credits (0-4)
190	One credit (0-3)

Fretted Instrument—Applied, Secondary, Elective/Minor

191	Three credits (0-5)
192	Two credits (0-4)
193	One credit (0-3)

Harpsichord—Applied, Secondary, Elective/Minor

194	Three credits (0-5)
195	Two credits (0-4)
196	One credit (0-3)

Guitar—Applied, Secondary, Elective/Minor

197	Three credits (0-5)
198	Two credits (0-4)
199	One credit (0-3)

131, 132, 133 Classical Guitar I, II, III**Two credits**

An ensemble class for beginning students of the classic, nylon string guitar. Students will learn note reading, right hand and left hand classical techniques. Materials will be drawn from the classical guitar artist's compositions, etudes and studies of Carcassi, Aguado, Carulli, Sor, Torrega, etc. Much time will be spent on basic techniques, reading music, memorizing and ear training, building dexterity and speed, developing tone color and musical phrasing and interpretation. Prerequisite: For MUS 131, Instructor approval. For MUS 132, MUS 131. For MUS 133, MUS 132. 2 (1-1)

134, 135, 136 Folk Guitar I, II, III**Two credits**

I—Introduction to basic major and minor and minor₇ chords. Simple strumming in chord arpeggiated strums. Basic guitar theory, harmony and scales. Introduction to common folk literature including currently popular songs. Prerequisite: Instructor approval. 2 (1-1)

II—Travis picking, alternate tunings, more complex harmonies. Performance orientation (in class), some reading music. Introduction to blues style and licks (more complex folk idioms). Prerequisite: MUS 134. 2 (1-1)

III—More advanced study of the above. Aural proficiency. Prerequisite: MUS 135. 2 (1-1).

137 Sight Singing**Two credits**

Basic course to enable students to look at notes and be able, on sight, to vocalize those notes. 2 (1-1)

138 Sight Reading**Two credits**

Basic course to enable student to look at notes and be able, on sight, to play those notes instrumentally. 2 (1-1)

139, 140 Rock Guitar I, II**Two credits**

A class which focuses primarily on blues and blues-based rock guitar styles. Included are studies of blues scales, common rhythmic patterns and chord progressions. Prerequisite: Instructor approval. 2 (1-1)

148, 149 Fundamentals of Music I, II**Three credits**

A course in basic theory and concepts for students with limited background. Notation, musical terminology and the principles of sight reading and rhythmic counting will be stressed. This course is designed for non-majors who want to gain insight into the practical side of music or as an elective for music majors whose background is not sufficient for MUS 151. Prerequisite: None for 148. MUS 148 for MUS 149. 3 (2-1)

151, 152, 153 Music Theory 1-A, 1-B, and 1-C**Three credits**

This is a one-year sequence of courses designed for music majors, but open to all students. After a thorough study of the fundamentals of music notation, scales, triads and chords, the course will include four-part harmonization, inversions, non-harmonic structures, cadences, altered chords and modulations. Students will write small works in chorale style. Sequence begins fall term. 3 (3-0)

154, 155, 156 Ear Training 1-A, 1-B, 1-C**One credit**

A series of courses in ear training, sight singing and dictation which parallels the basic theory sequence. Students must be enrolled in Music Theory or have the permission of the instructor. 1 (1-1)

157 Class Piano**Two credits**

Beginning, intermediate and advanced class instruction in an electronic piano lab. Students will progress at their own rate with some class lecture needed. These are not courses for the piano major. 2 (1-1)

158 Class Voice**Two credits**

A classroom approach to the study of singing. Group and individual work on classic literature and study of important vocal techniques such as breathing, tone production, diction, phrasing and style. Some pop music will be included. Prerequisite: None. 2 (1-1)

159 Class Instrument**One credit**

Teaches the methods of instrumental teaching and the basic skills for playing brass, string, woodwind or percussion instruments. Since different instruments are studied each term, students should contact the Music Department to determine the selection for a particular term. Open to music majors only, or with the consent of the instructor. Materials are varied each term. 1 (1-0)

160 Class Organ**Two credits**

Beginning and intermediate instruction in an electronic organ lab. Students will progress at their own rate with some class lecture needed. This is not a course for the organ major. 2 (1-1)

163, 164 Guitar Intermediate and Advanced**Two credits**

An ensemble class for students of the guitar, particularly for those seeking a comprehensive approach in all styles and/or interested in studio performing. Students will learn note reading and music theory, as they learn to play single note melody lead and chord accompaniment. Materials are drawn from the folk, blues, and classical tradition of the instrument. Both "finger-style" and "flat-pick" techniques are included. Any type of guitar may be used by the student in the class: nylon string or steel string acoustic, hollow body electric, solid body electric or four or six string bass guitar. Prerequisite: for MUS 163, Instructor approval. For MUS 164, MUS 163. 2 (1-1)

165 Piano Tuning**Two credits**

Private lessons in piano tuning and repair. One forty minute lesson per week. Student will buy basic equipment, available at first lesson. Several terms of study are necessary before students should accept private work. 2 (4-0)

171 Keyboard Skills**Two credits**

Course in basic piano skills. Taught under studio environment. Prerequisite: 3 terms of MUS 157. 2 (1-1)

173 Basic Music for Elementary Teachers**Four credits**

This class gives the student preparing for elementary teaching the basic skills and knowledge necessary to teach music in the classroom. More important, the student will learn the musical needs and capabilities of children and the possibilities of music in the classroom situation. Each student will improve his own musical skills, including singing, keyboard skills, song-leading, music reading and effective listening. No previous knowledge is assumed. Meets State Department of Education Certification requirements for elementary classroom teachers. 4 (4-0)

199 Commercial Music Performance**Two credits**

Students meet in small groups to practice a variety of commercial musical styles. The instructor guides the students through such problems as transposition, intros, endings, modulations, intonation and style. Problems of performance with microphones and electronic gear are covered. The make-up of the group will depend on interests and abilities of the students. Prerequisite: One year of theory or fundamentals of music and audition. May be repeated up to six terms. 2 (0-3)

212 Commercial Music Theory**Four credits**

This course is intended to provide aspiring performers with the basic information for playing fretted, keyboard, or other instruments in the jazz, pop, rock and other commercial styles. It will cover chord symbols, jazz rhythms, use of the modes, improvisation techniques, and techniques with special stress on writing and arranging. The students should be reasonably competent with a performing instrument that is adaptable to commercial performance. Prerequisite: MUS 150 or 153. 4 (4-0)

246 Italian Diction**Two credits**

Introduction to basic structure and language. Emphasizes problems of pronunciation. Offered in sequence for one year. Primarily for voice majors, but open to all students. 2 (1-1)

251, 252, 253 Music Theory 2-A, 2-B, 2-C**Three credits**

A one-year sequence which covers ninth and eleventh chords, chromatic harmony, borrowed chords and modulations to distant keys. The course will also emphasize late 19th and 20th century styles including serialization, use of modes, whole tone scales and polytonal music. The student will write small original pieces in each of these styles. Prerequisite: MUS 153. 3 (3-0)

254, 255, 256 Ear Training 2-A, 2-B, 2-C**One credit**

Ear training, sight singing and dictation which parallels the second year of music theory. Students must be enrolled in advanced theory or have the permission of the instructor to take this course. Prerequisite: MUS 156. 1 (1-1)

260 Introduction to Music Literature I**Three credits**

An overview of music literature from 1600 through 1800. The emphasis will be on the aesthetic experience through listening to records and live performance. This is not a course in music history, but will include historical background to this era's great music, with the works of Handel, J.S. Bach, Mozart, and Haydn emphasized. 3 (3-0)

- 261 Introduction to Music Literature II** **Three credits**
A representative sample of 19th century composers will be studied, including Beethoven, Schubert, Wagner and Brahms. The emphasis will be on listening, although major styles and trends will be discussed. 3 (3-0)
- 262 Introduction to Music Literature III** **Three credits**
A study of late 19th and 20th century music, primarily through recordings. Works by Schoenberg, Debussy, Copland and Ives are among those studied. These courses may be taken in any order, although sequentially is recommended. Each term covers a completely different period of music and material. 3 (3-0)
- 266, 267, 268 Basic Elements of Conducting I, II, III** **Two credits**
A practical course for those who possess musical background and have a need for development in music direction or are interested in a career in music. Students will actually conduct fellow class members in both choral and instrumental music in a laboratory situation. Besides basic conducting techniques, the course will stress score reading, interpretation, rehearsal techniques and general musicianship. Prerequisite: One full year of Music Theory or equivalent experience.
- 276 Listen/Music Laboratory** **One credit**
A course for music majors and other interested students. Directed listening to various peices of classical music from 1600 to the present. Recordings and live music will be used . Grading is based primarily on attendance. 1 (0-2)
- 280 Popular Piano** **Two credits**
Class instruction in an electronic piano lab with emphasis on chords as used in playing popular music. Students will progress at their own rate. 2 (1-1)
- 285 Afro-American Music** **Three credits**
A study of the black musical heritage of America, including blues, jazz, pop and serious music. Students will engage in a variety of reading, listening, and discussion experience. No previous background in musci is necessary. 3 (3-0)
- 900 Beginning Recorder** **One credit**
This is a class for those wishing to learn to play the soprano recorder. No previous musical background is required. Students furnish their own instruments. Those not owning recorders may obtain them at the first class meeting. 1 (0-2)
- 905 Harmonica** **One credit**
A basic introductory course demonstrating the sound techniques employed in the mastering of the harmonica 1 (0-1)
- 906 Introduction to Guitar** **Two credits**
An ensemble class for beginning students of the guitar, or those who have little playing experience. Students will learn note-reading, guitar tablature, band basic music theory as they learn to play single-note melody lead and chord accompaniment. Both "finger-style" and "flat-pick" techniques are introduced, as well as a general overview of the various performing styles—folk, rock, classical, etc. Any type of guitar may be used by the student—nylon or steel string, acoustic or electrical guitar. Prerequisite: Own guitar. 2 (1-1)

910 Michigan Folk Music**Four credits**

An overall introduction into the musical traditions native to Michigan. Students become familiar with the traditions through instruction, and through listening and attending performances by local folk music groups. 4 (4-0)

915 Old Time Fiddle**Three credits**

An introductory course whereby a student learns the basics of historic folk music as evidenced in fiddle playing. Students learn to perform their own work in the style of old time fiddle techniques. Prerequisite: Own instrument. 3 (2-2)

THEATRE (THR)

Theatre at Lansing Community College offers the student a variety of theatrical learning experiences. Performing groups include Studio Theatre, Childrens Theatre, Street Theatre, the Boarshead Players, and Play Production.

Classes are offered in all facets of theatre from acting/directing and a wide range of technical courses to opportunities in Studio Theatre and Childrens Theatre, a group which tours plays for young people. In addition, many of the courses are offered in collaboration with the Boarshead Players, thus providing learning and classroom experiences in the atmosphere of a professional theatre.

The Theatre Program offers a variety of degrees as do the other arts; one, the Theatre Technician Associate Degree for transfer, designed for the student who wishes to develop a knowledge of technical theatre and continue his education at a four-year institution. There are two career-oriented Associate Degree programs: the first, the Performing Arts Career Course, offers an Associate Degree in career training, with emphasis on acting and performing; the second, the Theatre Technician Associate Degree—Career, offers intense training for practical productions at LCC and local establishments.

Performing Arts Career Courses

For the serious, talented career student, the Performing Arts Career Courses—Theatre should be considered. Students receive intensive advanced study in their own area of specialization as well as a guide for total development of the student's skills and talents. Curricular guides have been developed to ensure that all PACC students receive a common background in Dance, Music, and Theatre.

141 PACC—Theatre I**Ten credits**

Development of the physical, vocal and improvisational skills necessary to sustain public performance. This includes directly relevant skills, such as improvisation, vocal production, articulation and stage fencing. The combined approach—acting, voice, fencing—emphasizes in lab hours the physical strength necessary for a characterization. The student will be able, upon completion, to concentrate fully upon the acting task at a fundamental level; to generate and sustain full vocal tone; to perform adequately the rudimentary positions of stage fencing. At the conclusion of this term the student should be aware of his physical limitations and of the sincerity of his commitment to his craft. Daily attendance and performance in class and related duties within a professional theatre structure will introduce him to the disciplines and customs of the field. Prerequisite: Departmental approval. 10 (5-10)



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142 PACC—Theatre II**Ten credits**

Continuation of THR 141. Improvisational techniques advance to more complicated role playing; vocal control will expand to include correct breathing for poetry and prose; standards of pronunciation will be introduced; fencing will expand to timed stage fights under controlled conditions. At the conclusion of the term the student will be able to concentrate on the solution of more complex stage problems; to speak in a controlled manner with standard American diction; to follow simple fencing choreography. He should be more secure in the performance of all stage techniques, and be deeply committed to the solution of any remaining personal problems, thoroughly disciplined and reliable, working well on his own in lab situations, and actively seeking out additional duties within professional company. Prerequisite: THR 141. 10 (5-10)

143 PACC—Theatre III**Ten credits**

The nature of in-class work changes in the third term to application of improvisational techniques to theatre texts. Vocal control having been achieved, the student is asked to apply those techniques to the vocal interpretation of prose and poetry, the beginning step in character analysis. Fencing moves into the choreography of stage fighting and includes other kinds of weapons: rapier and dagger, quarter staff, mace and chain, and hand-to-hand, as well as proper handling of stage firearms. At the conclusion of the first year the student will be prepared physically and vocally to move into intensive study and into advanced classes in movement, tumbling and pantomime. Prerequisite: THR 142. 10 (5-10)

144 PACC—Theatre IV**Ten credits**

In acting/directing, the year begins with material from the acting sequence of THR 143 with emphasis upon improvisational skills applied to dramatic texts. Vocal interpretation and character analysis are reviewed and expanded. New material is introduced with directing: intensive reading of dramatic texts and related material with emphasis on methods of analysis and research. For physical development the student will be involved in tumbling and pantomime. At the conclusion of the term the acting/directing student will have mastered the fundamentals of his craft, physically and vocally, and will be prepared for application of those fundamentals to increasingly difficult performance tasks. Prerequisite: THR 143. 10 (5-10)

145 PACC—Theatre V**Ten credits**

The acting/directing sequence now turns to scene study: the application of learned skills to a series of scenes rehearsed and performed in the class. The students are led through many various interpretations of each scene, utilizing their physical and vocal techniques to make each interpretation effective. Directing students bring into these class situations various readings, interpretations, research materials and other relevant matter and begin to work with the acting students, under careful control, enabling the beginning director to become aware of the physical, vocal and psychological make-up of the actors in the scene and how he can emphasize the strengths and minimize the weaknesses of the actors to achieve the goals of the script. The students are introduced to make-up, working on particular problems related to the scenes being studied and performed in class. In this term the students are organized into a performance group and present a play for public performance. Prerequisite: THR 144. 10 (5-10)

146 PACC—Theatre VI

Ten credits

In the final term, acting/directing students finish intensive scene study and perform a series of short plays under their control for faculty and staff evaluation. The only new material introduced will involve period acting, the various posture and movement patterns typical of major historical periods. Costumes and make-up will lead the student to certain behavior patterns; research and practice complete the course. The students will present a final play for public performance this term, under their complete supervision. Prerequisite: THIR 145. 10 (5-10)

**Theatre Associate Degree—Transfer
Curriculum Code 966**

This program is designed for the student who wishes to continue his education after completing the Associate Degree—Transfer program. He will be able to transfer into the four-year school or university at the junior level. This program combines a background of the Humanities, English, and the sciences, as well as courses in Theatre, Music and Dance to enable the student to enter the college of his choice at the junior level.

**Theatre Technician Associate Degree—Career
Curriculum Code 971**

This program is designed for the student interested in the technical aspects of theatre, who wishes to secure a career in the field of technical theatre upon completion of the two-year program at LCC. This program gives intense training in practical productions at LCC and local establishments. The student is also given a background of the history of theatre. Upon completion of this curriculum the student will qualify for employment at local establishments desiring trained technicians at various levels.

**Theatre Technician Associate Degree—Transfer
Curriculum Code 970**

This program is designed for the student interested in the technical aspects of theatre, who wishes to continue his education at a four-year college or institution. The curriculum combines Theatre and Technical Theatre courses with the basic academic courses in the Humanities, Sciences and English. Upon completion of the program the student can enter the four-year college or institution at the junior level.

130 Drama In Performance

Three credits

Analysis of plays that are being performed locally. Students will have script to the play for analysis of scenes and character study. 3 (2-1)

135 Performing Arts Practicum

Three credits

An introduction to the methods, techniques and resources necessary for securing professional employment in the Performing Arts. The student will compile a resume of performing experience and a photographic composite, and will become familiarized with "Show Business" periodicals and resources, contracts, salaries and unions, "making the rounds," and the audition procedure. Prerequisite: Approval of the instructor. 3 (2-1)

- 136 Production Crew Call** **Four credits**
Students are assigned crew positions in theatre productions enabling them to experience practical technical theatre. 4 (3-1)
- 137 Drafting/Theatre design** **Three credits**
Theatre techniques in drafting, uses of equipment and development of style and drafting skills. 3 (2-1)
- 140 Ethnic Theatre** **Three credits**
Designed for all students, this course will trace the contribution of Black Americans to the overall picture of American Theatre. The role of the theatre in Black society and the function of that theatre in a historical context will be the important thrusts of the course. 3 (1-3)
- 151 Stage Fencing** **Two credits**
A technique and performance course in the process of and choreography of stage fighting, in all of its manifestations, from hand-to-hand combat to the proper use of firearms. 2 (2-0)
- 152, 153 Stage Voice** **Two credits**
A technique and performance course in the development of the speaking voice for self-expression and communication in public performance. 2 (2-0)
- 154 Specialized Stage Movement** **Two credits**
A technique and performance course in the study of movement for stage 2 (2-0)
- 160 Pantomime** **Three credits**
Beginning with basic movement exercises, the student develops skills in the ancient art of pantomime. The course includes studies in hand and body movement and works into solo and group dramatic scenarios. Recommended for theatre and dance students. 3 (1-3)
- 161 Advanced Pantomime** **Three credits**
A continuation of THR 160. Student will increase the skills introduced in beginning pantomime class. Prerequisite: THR 160. 3 (1-3)
- 170 Comedia Workshop** **Three credits**
History and development of the concept of "mask" in theatre, with emphasis on Italian Comedy and contemporary applications. 3 (2-1)
- 180 Street Theatre** **Four credits**
The student is introduced to the basic techniques of performing in "free space"; and is introduced to the techniques of writing topic theatre. 4 (2-4)
- 181 Advanced Street Theatre** **Four credits**
A continuation of THR 180. Student will increase the skills introduced in beginning Street Theatre and will be introduced to presentation acting techniques. Prerequisite: THR 180. 4 (2-4)



200 Puppetry**Three credits**

Students are introduced to the techniques of making puppets, and the art of operating them and producing puppet shows. 3 (3-0)

220 Introduction to Theatre**Three credits**

The student is introduced to theatre principles pertaining to the audience, dramatic criticism, the play and the playwright, the director and direction, the actor and acting, the technicians and backstage, and to the experimental theatre of today. 3 (3-0)

221 Play Production**Three credits**

Play Production acquaints the student with the practical problems of producing a play for an audience. 3 (2-1)

223 Production Techniques**Four credits**

Advanced course in technical production, for the second year student in technical theatre. Prerequisite: THR 240, 241, 242. 4 (0-8)

225 Stage Management**Two credits**

This course will cover the many aspects of stage management; development of actor relations and responsibilities; control of stage mechanics; book and cue development; program construction and layout; and show calling. These are all areas that will be covered by the stage management course. 2 (1-1)

230 Theatre Workshop (Boarshead Players)**Twelve credits**

Offered only at the Ledges Playhouse. This is an apprentice experience in the elementary principles of theatrical production using the professional facilities of the Playhouse as a laboratory. This course is offered summer term only. 12 (5-15)

231 Theatre Workshop (LCC)**Six credits**

This program offers the student practical experience in all aspects of summer productions at Lansing Community College. Prerequisite: Instructor approval.

240 Technical Theatre I**Three credits**

Lecture and laboratory in the scenic elements of play production, analysis of the beginning basic forms of visual design, application of basic elements of scenery construction. 3 (2-2)

241 Technical Theatre II**Three credits**

Lecture/laboratory in the lighting elements of play production. Analysis of the basic fundamentals involving stage lighting, theatre electrical systems, and cueing for productions with light plotting interpretations. 3 (3-0)

242 Technical Theatre III**Three credits**

Lecture/laboratory in the elements in scene painting for theatre. 3 (3-0)

243 Media Theatre**Four credits**

This course will introduce students to, and involve them directly in, the presentation of appropriate material in the visual/audio complex of mixed media—film, photography, recorded sound, projections, live actions, etc. 4 (2-4)
4 (2-4)

244 Advanced Media Theatre**Four credits**

A continuation of THR 243. Students will increase the skills introduced in Media Theatre. Prerequisite: THR 243. 4 (2-4)

245 Children's Theatre**Three credits**

Children's Theatre is designed to acquaint the student with the practical problems of producing a play for young people. 3 (3-0)

260 Directing**Three credits**

An approach to the realization of a dramatic text on stage from analysis of the text through rehearsal techniques to consideration of all ancillary problems. Students will work with plays in rehearsal in the theatre and will direct acting students in one-acts which are performed publicly at the end of the term to fulfill the requirement of the course. Prerequisite: THR 251, 221 or approval of the instructor. 3 (2-2)

265, 266 Costume Design/Construction I, II**Three credits**

Costume Design and Construction offers instruction in basic sewing skills for theatrical costuming. Students are introduced to the elements of costume design. While learning methods and techniques for costume construction the student will have an opportunity to build costumes to be used in actual productions. Prerequisite: For 265, none. For 266, THR 265. 3 (3-0)

269 Acting for the Actor-Singer**Three credits**

The course is designed for the student who wishes to develop both acting and singing for public performance. The fundamentals of acting and voice are taught in combination with preparing classroom scenes from both drama and musical comedy. The end of term project is a public performance of a scene or scenes from musical comedy. Prerequisite: Audition 3 (2-1)

270 Advanced Acting for the Actor-Singer**Three credits**

This course is an extension of THR 269, and introduces the student to the techniques of presenting dramatic and comic monologues, as well as continuing work on song presentation. Prerequisite: THR 269 or approval of instructor. 3 (2-1)

271 Theatre History I**Three credits**

Study of theatre of antiquity from earliest known rituals of "primitive" peoples through the end of the Middle Ages. Concentration is on the theatre of ancient Greece and Rome. Course covers the development of the physical theatre, the organization of theatrical activities, the relationship of theatrical performance to the social fabric it is part of, and the dramatic literature of each period. 3 (3-0)

272 Theatre History II**Three credits**

Continuation of Theatre History I. Course covers the beginning of the Renaissance through the end of the 19th century. Emphasis is on the Renaissance Theatre of Europe, the development of the speaking theatre through the 17th, 18th, and 19th centuries, and the introduction of theatre in North America. Prerequisite: THR 271. 3 (3-0)

273 Theatre History III**Three credits**

Continuation of Theatre History II. Course follows the development of theatre and dramatic literature from the advent of the school of Realism (about 1875) through the present. Emphasis is on the growth of a world-wide theatre culture, the development of theatre technology and organization, and on the diversities and experimental nature of production and dramatic literature. Prerequisite: THR 272. 3 (3-0)

275 Children's Theatre Production**Six credits**

Students are introduced to the aspects of theatre for children and will be involved in a production for children. Prerequisite: Instructor approval. 6 (2-8)

290, 291, 292 Creative Dramatics I, II, III**Three credits**

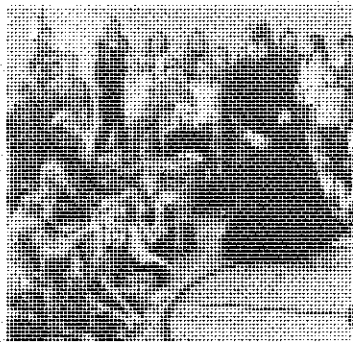
An opportunity to explore the almost limitless potential for using creative dramatics as a teaching method. Playmaking, scripting, improvisation, pantomime, and movement will be included as well as means of applying these techniques in the classroom 3 (2-2)

276, 277, 278 Studio Theatre**Six, four, or two credits**

This course allows students to receive college credits for participation in the departmental production program. Students may enroll for 2, 4, or 6 credits and may re-enroll as many times as they wish. While enrolled in the course, students work as actors or on crews under the supervision of staff, stage, and technical directors. 6 (3-6), 4 (2-4), 2 (1-2)

293 Creative Drama Workshop**Two credits**

Students will be involved in the creative studies used in children's production. The development of creative dramatics in education will be explored. 2 (1-2)



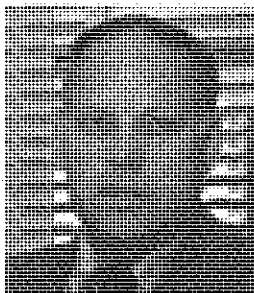
ADMINISTRATION

President's Council
Faculty and Staff Directory

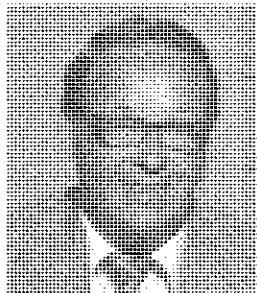
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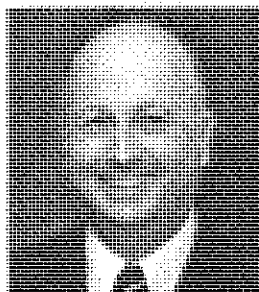
Frank Benedict
Vice President



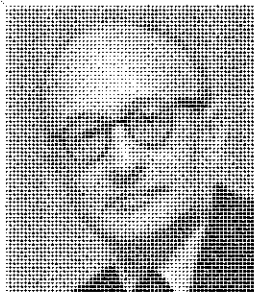
William Schaar
Dean
Student Personnel
Services



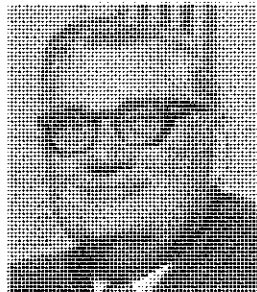
Bruce Newman
Business Manager



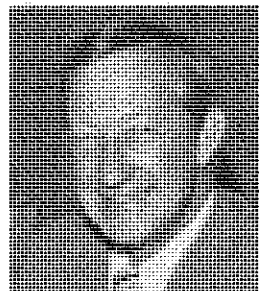
Norman Cloutier
Dean
Division of Business



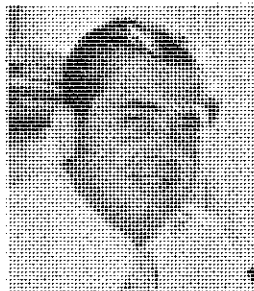
Sam Kintzer
Dean
Division of
Arts and Sciences



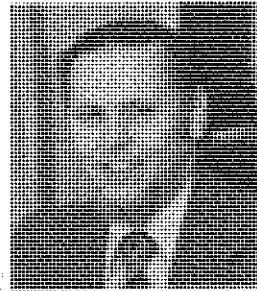
William Monroe
Dean
Division of
Applied Arts and Sciences



Wesley Van Malsen
Director
Informational Services



Ronald Dove
Director
Personnel



James Platte
Dean
Division of
Learning Resources

Faculty and Staff Directory

- ABDO, Saide** Safety Supervisor, Public Safety
A.G., Lansing Community College
- ALFARO, Rogelio R. Sr.** Instructor—Counselor
A.A., Delta College; B.A., Michigan State University; M.A., Michigan State University
- 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** Assistant Professor, Social Science
B.S., University of Santo Tomas; M.A., Michigan State University; Ph.D., Michigan State University.
- ANTICO, John** Associate Professor, Humanities
B.A., Waune State University; M.A. Wayne State University; Graduate Study, Michigan State University.
- ANTONIDES, Chris** Assistant Professor, Humanities
B.A., New York University; M.A., New York University; Graduate Study, Michigan State University.
- ARGANIAN, David** Associate Professor, Humanities
B.A., University of Wisconsin; M.A. University of Wisconsin; Doctoral Candidate, Michigan State University.
- BARKS, Kay E.** Instructor, Health Careers
B.S., Michigan State University; M.S., Michigan State University.
- BASEL, Jerald L.** Instructor, Health Careers
A.A., Washtenaw Community College; B.A., Ferris State College.
- BAUGHMAN, Boyd T.** Coordinator, C.E.T.A. Training Unit
Student Development Services
A.A., Muskegon Community College; B.A., Michigan State University; M.A., Michigan State University.
- BAZLEWICZ, Joseph** Professor, Applied Technology
B.S., Michigan State University; M.E., Michigan State University.
- BEAVERS, Claude R.** Associate Professor—Counselor
B.S., University of Wisconsin; M.A., University of New Mexico
- BECK, Norman A.** Associate Professor, Humanities
B.A., University of Rhode Island; M.A., University of Rhode Island; Graduate Study, Michigan State University.
- BELLINGHAM, Sue H.** Instructor—Counselor
B.A., St. Olaf College; M.A., University of Michigan, Graduate Study, Michigan State University.

- BENEDICT, Frank A.** Vice-President
B.M., Michigan State University; M.A., University of Michigan; Graduate Study, Michigan State University.
- 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; Doctoral Candidate, Michigan State University.
- BETTINSON, Charles H.** AIDP Coordinator, Division of Learning Resources
B.S., Central Michigan University; M.A., Central Michigan University; Doctoral Candidate, 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.
- BIELINSKI, W. Victor** Program Director, Adult and Continuing Education
B.A., Michigan State University; M.S., Michigan State University; Ph.D., Michigan State University.
- BLANCHARD, William G.** Instructor, Instructional Media
B.A., Michigan State University; M.A., University of Southern California.
- BLISS, Milton C.** Manager, Computer Operations Systems
- BOGGS, Kathleen** Associate Professor, Health Careers
B.S., Niagara Univeristy; M.S., University of Maryland
- BOGNER, John R.** Professor—Counselor
B.S., Western Michigan University; M.A., Michigan State University.
- BOUCK, Robert J.** Administrative Assistant to the Dean, Business
A.A. Lansing Community College; B.A., Michigan State University; 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 and Office Programs
B.A., Michigan State University; M.A., Michigan State University.
- BRAINERD, James D.** Instructor, Management & Marketing
B.A., Michigan State University; M.B.A., Central Michigan 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.** Associate Professor, Science
B.S., Brockport State; M.A.T., Michigan State University; Graduate Study, Michigan State University.
- 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.** Assistant Professor, Humanities
B.A., Central Michigan; M.A., Central Michigan University; Graduate Study, Michigan State University.
- BURT, Thomas W.** Assistant Professor, Applied Technology
B.A., Michigan State University; M.S., Ball State University.
- BUTTERMAN, Geraldene** Associate Professor, Science
A.B., Calvin College; M.A., University of Michigan.
- BYRNE, Michael M.** Associate Professor, Communication
B.A., University of Notre Dame; M.A., Michigan State University; Ph.D., Michigan State University.
- BYRUM, Ronald P.** Assistant Professor, Social Science
A.S., Jackson Community College; B.S., University of Michigan; M.S., Eastern Michigan University; Ph.D. Candidate, University of Alabama.
- CANSFIELD, John H.** Chairperson, Student Development Services
B.A., Michigan State University; M.A., Michigan State University; Ed.D., Western Michigan University.
- CHIWOCHA, Tapera A.** Assistant Professor, Humanities
B.A., Colgate University; M.A., Michigan State University; Doctoral Candidate, Michigan State University.
- CHURCH, Marvin P.** Professor, Engineering Technology
B.S.C.E., Tri-State College; M.S.E., (Civil) University of Michigan; Graduate Study, University of Michigan, Ohio State University and Wayne State University.
- CLEGG, Betty L.** Administrative Secretary to the President
- CLOUTIER, Norman L.** Dean, Division of Business
B.A., Syracuse University; M.S., U.S. Naval Post Graduate School.
- COBB, Cathie A.** Assistant Professor, Accounting and Office Programs
B.A., M.A., Eastern Michigan University.
- CRANSON, Rodney K.** Associate Professor, Science
B.A., Michigan State University; M.A.T., Michigan State University; Graduate Study, Michigan State University.

- CRAWFORD, Douglas N.** Associate Professor, Social Science
B.A., Central Michigan University; M.P.A., University of Michigan; Doctoral
Candidate, Michigan State University.
- DARR, William R.** Program Director, Building and Service Trades
B.S., Michigan State University; M.A., Michigan State University.
- DEAN, Harris D.** Professor, Management and Marketing
B.S., University of Michigan; Merchandising School, Ford Motor Company;
Graduate Study, University of Chicago; M.A., Michigan State University.
- DECK, Sally A.** Program Director, Dental Auxiliary
B.S., University of Michigan; M.S., University of Michigan.
- DeJONGE, Robert** Associate Professor, Engineering Technology
B.S., Western Michigan University.
- DEKONINCK, Donald A.** Instructor, Instructional Media
B.S., University of Detroit.
- DELONG, John L.** Staff Assistant, Performing & Creative Arts
B.S., Ohio State University.
- DENNISTON, Vivian P.** Instructor, Health Careers
Diploma, Orange Memorial Hospital; B.S.N., Wayne State University.
- DeROSE, Jane P.** Office Manager, Registrar and Student Records
- DiFALGO, Marion** Instructor, Social Science
B.A., New York University; M.S.W., Smith College School for Social Work;
Graduate Study, Michigan State University.
- DOUGLAS, Phillip J.** Professor, Mathematics
B.S., Michigan State University; M.A.T., Michigan State University; M.S., Michi-
gan State University.
- DOVE, Ronald E.** Director of Personnel
B.A., Michigan State University.
- DUCAT, John** Assistant Professor, Social Science
B.A., Michigan State University; M.A., Michigan State University.
- DUNHAM, Anne A.** Professor, Accounting and
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, 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.
- EARHART, Robert S.** Assistant Professor, Management & Marketing
B.A., University of Kansas City; M.A., Michigan State University.

- EDMUNDS, Peter A.** Associate 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 and Office Programs
B.S., Ferris State College; M.S., University of Tennessee; Ph.D. Michigan State
University.
- ELLIS, M. Jacqueline** Publications Manager, Informational Services
- ENGEL, Elfriede A.** Professor, Humanities
B.A., Michigan State University; M.A., University of Chicago; Ph.D., Michigan
State University.
- ENGSTROM, Paul W.** Staff Assistant, Physical Plant
B.A., Michigan State University; M.B.A., Michigan State University.
- EUBANK, Beverly A.** Instructor, Social Science
B.A., Hope College; M.A., Michigan State University; Ph.D. Candidate, Michigan
State University.
- FARRIS, John R.** Assistant Professor, Management and Marketing
A.A., Lansing Community College; B.S., Michigan State University.
- FINN, Rexine** Program Director, Emergency Medical Services, Health Careers
B.S., Michigan State University.
- FLORIDA, William J.** CEPD Coordinator, Applied Arts & Science
B.A., Eastern Michigan University
- FOLKENING, James** Program Director, Radiologic Technology, Health Careers
A.S., Indiana University; B.S., Indiana University.
- FORD, Kenneth H.** Teaching Technician, Applied Technology
- FOUNTAIN, Carolyn** Instructor, Health Careers
Certificate, Dental Hygiene, University of Michigan; B.S., University of Michi-
gan.
- FOX, John A.** Administrative Assistant, Division of Applied Arts and Science
B.A., Michigan State University.
- FRANK, Arthur V.** Associate Professor, Physical Education
B.S., Central Michigan University; Graduate Work, Michigan State University.
- FROH, Barbara E.** Instructor, Physical Education & Athletics
B.A., Siena Heights College; Graduate Studies, Michigan State University.
- GANNON, Philip J.** President
B.A., Albion College; M.A., Michigan State University; Doctoral Candidate,
Michigan State University.
- GARGETT, Richard K.** Professor, Engineering Technology
A.S., Lansing Community College; B.S., Michigan State University; Graduate
Study, Michigan State University.

- GARRISON, Mary Lou** Assistant Professor—Counselor
B.S., Western Michigan University; M.A., Western Michigan University; Ed.S., Western Michigan University.
- GARTHE, Ronald** Associate Professor, Applied Technology
B.S., Central Michigan University; M.A., Central Michigan University.
- GAVRILOFF, Douglas** Staff Assistant, Accounting & Office Programs
A.S., Flint Community College; B.A., University of Michigan; M.A., Michigan State University.
- GERARD, Kip** Instructor, Communication
B.A., Newark State College; M.A., Michigan State University.
- GILHOUSE, James L.** Assistant Professor, Applied Technology
B.S., Michigan State University.
- GOLDENBERG, Harold** Program Director, Industrial Trades
B.S., Western Michigan University; M.A., Michigan State University.
- GORTON, Ralph J.** Instructor, Science
A.S., Northwestern Michigan Community College; B.S., Michigan State University; M.S., Michigan State University.
- GREEN, Evelyn L.** Assistant Professor, Science
B.A., University of Illinois; M.A., University of Missouri.
- GREENFIELD, Mary F.** Associate Professor, Accounting and Office Programs
B.A., Michigan State University; M.S., University of Michigan; Ed.S., Michigan State University.
- GREER, Thomas M.** Instructor, Instructional Media
B.A., Michigan State University; Graduate Study, Michigan State University.
- GRIFFITH, H. Ronald** Instructor, Health Careers
A.A., Washtenaw Community College; B.S., University of Michigan
- GRIGSBY, Terry J.** Admissions Coordinator
B.A., Michigan State University; M.A., Michigan State University.
- GULKER, M.G.** Director, Budget and Business Services
B.S., Central Michigan University; M.A., Michigan State University.
- HALLER, Harold H.** Program Director, Social Science
B.A., Michigan State University; M.A., Michigan State University.
- HAMILTON, Kenneth C.** Assistant 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.** Assistant Professor, Engineering Technology
B.S., State College at Bridgewater; M.S., Purdue University.

- HARMAN, Juliene K.** Instructor, Health Careers
Diploma, Bronson Hospital School of Nursing; Undergraduate Study, Central Michigan University.
- HARTON, June I.** Purchasing Agent
Lansing Community College.
- HARTWIG, Joan E.** Associate Professor—Counselor
B.S., Michigan State University; M.A., Michigan State University.
- HAYNES, Margaret A.** Program Director/Cytotechnology
Health Careers
Certificate, Cytotechnology, School of Cytotechnology, Memorial Hospital Sloan-Kettering Institute.
- HAZELRIGG, Noel Fields** Assistant Professor, Performing & Creative Arts
B.F.A., Michigan State University; M.F.A., Cranbrook Academy of Art.
- HEARNS, John W.** Coordinator, Veterans Outreach
B.S., Alcorn A & M College.
- HEATER, William H.** Chairperson, Social Science Department
B.A., Denison University; M.Div., Union Theological Seminary; Ph.D., Michigan State University.
- HERDER, Dale M.** Administrative Assistant to the Dean,
Student Personnel Services
A.A., Muskegon Community College; B.A., Michigan State University; M.A., Michigan State University; Ph.D., Michigan State University.
- HILL, Carl** Instructor—Counselor, C.E.T.A. Training Unit
Student Development Services
B.A., Andrews University; M.A., Central Michigan University.
- HILL, Gilbert** Coordinator, Student Development Center
A.A., Lansing Community College; B.S., Michigan State University.
- HOKE, Helen R.** Associate Professor, Mathematics
B.S., Capital University; M.A., University of Michigan.
- HOLBROOK, Mary Joyce** Instructor, Science
B.S., Appalachian State University; M.A.T., Michigan State University; Graduate Work, Michigan State University.
- HOLDA, William P.** Staff Assistant, Management & Marketing
B.A., Olivet Nazarene College; M.B.A., Michigan State University.
- HOPKINS, Howard S.** Assistant Professor, Communication
B.A., Michigan State University; M.A., Michigan State University.
- HORTON, William M.** Assistant Professor, Science
B.S., University of Maryland; M.S., Michigan State University.

- HUMPHREY, Kenneth L.** Administrative Assistant to the Dean,
Arts & Sciences
B.A., Western Michigan University; M.A., Eastern Michigan University; Doctoral
Candidate, Michigan State University.
- HUNT, Beverly** Associate Professor, Accounting & Office Programs
B.S., Eastern Illinois State University; M.A., Michigan State University; Ph.D.
Michigan State University; JD Candidate, Thomas M. Cooley Law School
- 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.** Associate Professor, Engineering Technology
A.S., Alpena Jr. College; B.S., Michigan State University; M.A., Michigan State
University.
- JACKSON, Ray Margaret** Program Director, Human Services
Careers, Social Science
B.A., Kentucky State University; M.A., Michigan State University; Doctoral
Candidate, Michigan State University.
- JACOBS, Annette M.** Associate Professor, Communication
B.A., University of Wisconsin; M.A., Michigan State University; Graduate Study,
Michigan State University
- JENKINS, Bernard C.** Teaching Technician, Applied Technology
- JENKINS, Edward D.** Program Director, Transportation Training
- JOHNSON, Ralph B.** Associate Professor, Engineering Technology
B.S.C.E., Michigan State University; Registered Professional Engineer.
- 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.
- JONES, Maebelle L.** Associate Professor, Communication
B.A., Oklahoma State University; M.A., Oklahoma State University; Ph.D.,
Indiana University.
- KIM, Tai S.** Assistant Professor, Social Science
B.S., Seoul National University; M.A., Michigan State University; Ph.D. Michi-
gan State University.
- KINTZER, Sam** Dean, Division of Arts and Sciences
B.A., Brooklyn College; M.A., Teachers College, Columbia University; Graduate
Study, University of Cincinnati.
- KLINE, Cernyw K.** Associate Professor, Engineering Technology
B.S., Michigan State University; M.S., Michigan State University; Ph.D. Michigan
State University.

- KLOECHNER, Gerald J.** Director, Accounting & Finance
B.A., Michigan State University.
- KNIGHT, Donald L.** Instructor, Management & Marketing
B.S., American University; M.A., Michigan State University.
- KOSLOSKI, Jerry** Maintenance & Operations Supervisor, Physical Plant
Journeyman Steamfitter, Lansing Community College.
- LaFAVE, Daniel C.** Director of Admissions
B.S., Central Michigan University; M.S., Michigan State University; Doctoral
Candidate, Michigan State University.
- LAGUIRE, Orville A.** Assistant Professor, Instructional Media
B.A., Michigan State University.
- LAMBERT, Patricia L.** Instructor, Health Careers
B.S.N., College of St. Catherine; B.S., Fontbonne College.
- LARSON, David U.** Staff Assistant, Engineering Technology
A.S., Lansing Community College
- LARSON, Patty S.** Assistant Professor, Health Careers
B.S.N., University of Michigan; M.A., University of Michigan.
- LENKOWSKI, Michael F.** Chairperson, Health Careers, R.N.
B.S., University of Pennsylvania; Ed.M., Temple University; R.N., Pennsylvania
Hospital School of Nursing.
- LIBEY, Teresa** Assistant Professor, Health Careers
B.S., Michigan State University.
- LIMING, Sarah A.** Assistant Professor, Health Careers
R.N., St. Lawrence Hospital.
- LINGO, Walter B.** Director of Physical Education and Athletics
A.A., Lansing Community College; B.S., M.A., Ed.S., Michigan State Univer-
sity.
- LOOMIS, Tom C.** Professor, Science
B.S., New Mexico State University; D.D.A.G., Michigan State University.
- LOVE, Kenneth L.** Teaching Technician, Applied Technology
A.S., Ferris State College.
- LUBBERS, Margery** Program Director, Nursing Education
B.S., Michigan State University; M.A., Michigan State University.
- LUDWIG, Dawn** Assistant Professor, Communication
A.B., Indiana University; M.A., University of California.
- MAAR, Allan R.** Professor, Communication
B.S., State University of New York; M.A., Michigan State University; Graduate
Study, Michigan State University.

- MacCLURE, Thomas W.** Director of Grants and Institutional Research
B.S., Michigan State University; M.S., Geophysics, Michigan State University.
- MACHTEL, David F.** Chairperson, Department of Performing
and Creative Arts
B.M., University of Michigan; M.A., University of Michigan; Ed.D., Teachers
College, Columbia University.
- MACKEY, Lawrence R.** Food Service Director, Management & Marketing
A.A., Lansing Community College.
- MADISON, Sally K.** Assistant Professor, Communication
A.A., Muskegon Junior 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.
- MASSIE, Dennis L.** Assistant Professor, Communication
B.A., Michigan State University; M.A., Michigan State University; Graduate
Study, Michigan State University.
- MATTSON, Morton E.** Staff Assistant, Instructional Media
B.S., Central Michigan University; M.A.T., Michigan State University; Graduate
Study, Cornell University.
- MAURER, Gordon R.** Instructor, Applied Technology
- MCCARTHY, Robert G.** Instructor, Communication
B.S., Central Michigan University; M.A., Central Michigan University.
- McCLURE, James F.** Professor, Social Science
A.A., Flint Jr. College; B.A., Michigan State University; M.A., Michigan State
University.
- McCOLLOUGH, Dale W.** Assistant Professor, Humanities
B.A., Anderson College; M.A., Michigan State University.
- McENANEY, Stephen** Coordinator, Career Planning & Placement
A.A., Lansing Community College; B.A., Michigan State University.
- McKINSTRY, Douglas D.** Director, Physical Plant
B.S., University of Illinois; M.A., Michigan State University.
- MEIER, Dennis E.** Instructor, Social Science
B.A., Michigan State University; M.A., Michigan State University.
- MELCHER, Richard R.** Teaching Technician, Management & Marketing
A.A., Oakland Community College.
- MENG, Teresa Y.H.** Assistant Professor—Technical Services Librarian
B.A., Cheng Kung University; M.A., Appalachian State University

- METZGER, Cheryl T.** Assistant Professor, Dental Programs
Certificate Dental Hygiene, Ohio State University; B.S., Ohio State University;
M.S., University of Michigan.
- MEYERS, Lloyd R.** Manager—Business Services
- MILLER, Kathleen** Assistant Professor, Health Careers
B.S., Michigan State University.
- MILTON, Kirby M.** Instructor, Instructional Media
B.F.A., Michigan State University; Graduate Study, Michigan State University.
- MINOCK, Mary F.** Instructor, Reference Librarian
B.A., University of Detroit; MLS, University of Michigan.
- MIRKIL, Dorothy J.** Instructor, Health Careers
R.N., Hackley Hospital School of Nursing; B.S., Michigan State University.
- MONROE, William R.** Dean, Division of Applied Arts and Science
B.A., Baylor University; M.S., Texas A & M University; Doctoral Candidate,
Cornell University.
- MORSHECK, William F.** Systems Development Manager
B.S., Michigan State University.
- MOURADIAN, Nora N.** Assistant Professor, Communication
B.A., College Hripsimantz (Beirut); M.A., Michigan State University.
- MULL, Richard D.** Staff Assistant, Physical Education & Athletics
B.A., Michigan State University; Graduate Studies, Michigan State University.
- NEVAL, Janos W.** Assistant Professor, Physical Education
M.A., Magyar Testnevelési Foiskola; Doctoral Candidate, Michigan State Univer-
sity.
- NEWMAN, Bruce G.** Business Manager
Graduate, Lansing Business University; B.A., Detroit Business College.
- NICKERSON, Nancy E.** Instructor-Counselor, C.E.T.A. Training Unit
Student Development Services
B.A., Michigan State University; M.A., Michigan State University.
- NOLDON, Donia** Assistant Professor, Communication
B.A., University of Michigan; M.A., University of Michigan.
- NOVAK, David L.** Instructor, Social Science
B.A., Judson College; M.A., Western Michigan University.
- OGILVY, Robert E.** Assistant Professor, Engineering Technology
A.S., Macomb Community College
- OMUNDSON, Bruce K.** Assistant Professor, Humanities
B.A., Luther College; M.A., Washington University.
- PARTLOW, K. Blake** Associate Professor, Applied Technology
- PEARSON, Marvin R.** Assistant Professor, Performing & Creative Arts
1976-78 Catalog Lansing Community College

- PEGG, Charles F.** Professor, Management and Marketing
B.S., Michigan State University; M.A., Michigan State University.
- PERSON, Ellen M.** Chairperson, Library Services
B.S., Central Michigan University; M.A., Western Michigan University; Graduate Study, Western Michigan University.
- PERSON, James E.** Chairperson, Management and Marketing
Associate in Arts, Bay City Junior College; B.A., Central Michigan University; M.A., Central Michigan University; Ed.S., Michigan State University.
- PERSON, Oswald** Instructor-Media Librarian
B.S., D.C. Teachers College; M.L.S., University of Maryland.
- PETERSON, Eric V.** Registrar
B.S., Western Michigan University; M.A., University of Michigan
- PETERSON, Leonard** Associate Professor,
Accounting and Office Programs
A.B., 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.
- PEISTER, Douglas R.** Associate Professor, Accounting and Office Programs
B.A., Adrian College; M.B.A., Emory University; Graduate Study, Michigan State University.
- PIPES, Anna R.** Assistant Professor, Humanities
B.A., Kentucky State College; M.A., Atlanta University; Doctoral Candidate, Michigan State University.
- PLATTE, James P.** Dean, Division of Learning Resources
B.A., Aquinas College; M.A., Michigan State University; A.M.L.S., University of Michigan.
- POWERS, Clarence A.** Chairperson, Mathematics Department
B.S.E., Kansas State University; M.A.T., Michigan State University.
- PREDKO, James** Associate Professor, Engineering Technology
B.S., Michigan State University; M.A., Michigan State University.
- PRICE, Donna R.** Program Director, Health Careers
R.N., Evanston Hospital School of Nursing.
- QUINN, Caroline** Assistant Professor, Science
R.S., Wheaton College; Ph.D., University of Illinois.
- RADEMACHER, Matthew** Instructor, Reference Librarian, Library Services
B.A., Michigan State University; M.A.L.S., University of Michigan
- REYNOLDS, George E.** Assistant Professor, Physical Education & Athletics
B.S., Michigan State University; Graduate studies, Michigan State University.
- RICH, Phyllis J.** Administrative Secretary to the Vice-President

- RICHARDS, Clarence T.** Administrative Assistant to the Dean,
Applied Arts & Sciences
B.A., Andrews University; M.A., Michigan State University.
- RICHARDS, Wanda E.** Associate Professor, Performing & Creative Arts
B.M., Marygrove College.
- RISKEY, Raymond J.** Assistant Professor, Social Science
B.A., Michigan State University; M.A., Michigan State University.
- RODERICK, Wanda W.** Associate Professor, Accounting & Office Programs
B.S., Murray State University; M.S., Illinois State University; Ed.S., Michigan State University.
- ROOT, Roscoe B.** Professor, Science
B.S., Central Michigan University; M.S., University of Chicago.
- 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.
- SABIDO, J. Perez** Professor, Communication
B.A., Colegio Champagnat (Cuba); M.A., University of Havana.
- SAND, Ruth A.** Teaching Technician, Accounting & Office Programs
B.A., Michigan State University.
- 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.
- SCHNEIDER, Carol S.** Instructor, Accounting & Office Programs
A.A.S., Ferris State College; B.S., Ferris State College.
- SCHRAM, Hugh** Professor, Communication
B.A., Eastern Michigan University; M.A., University of Texas; Graduate Study, University of Texas.
- SCHWARTZ, Jack** Assistant Professor, Social Science
B.A., University of Missouri; M.A., Michigan State University.
- SCOTT, James F.** Assistant Professor, Admissions Counselor
B.S., Michigan State University; M.A., Michigan State University; Graduate Study, Michigan State University.
- SHAH, Vikram** Associate Professor, Accounting & Office Programs
S.E., Gujrat University; B.S., University of Michigan; M.B.S., Michigan State University.
- SHRINER, Neil G.** Director, Financial Aids and Placement
B.A., Anderson College; M.A.Ed., Ball State University.

- SHULL, David L.** Chairperson, Science
B.S., Michigan State University; M.S., Michigan State University; Ph.D., Michigan State University.
- SMITH, Nan L.** Office Manager, Business Office
- SPINCICH, Vicki** Assistant Professor, Health Careers
A.S., Ferris State College.
- STARK, James W.** Associate Professor, Mathematics
B.S.E., (Mathematics), University of Michigan; B.S.E., (Chemistry), University of Michigan; M.A., University of Michigan.
- STAUFFER, Warren G.** Professor, Management and Marketing
B.A., Michigan State University; M.A., Michigan State University
- STEARNS, Barry G.** Associate Professor, Counselor
B.A.E., University of Florida; M.Ed., University of Florida.
- STECK, Douglas E.** Assistant 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.
- STOUT, Thomas J.** Program Director, Respiratory Therapy
A.S., Kellogg Community College; B.S., Western Michigan University; M.A., Western Michigan University.
- STRAYER, Norman** Instructor, Applied Technology
Undergraduate study, Ferris State College
- STUART, Nancy M.** Teaching Technician, Instructional Media
Associate Degree, Lansing Community College; Undergraduate Study, Michigan State University.
- SULLIVAN, Ellen N.** Coordinator, Project CARE
B.A., Seton Hill College; M.S.W., University of Michigan.
- TAYLOR, Edward, Jr.** Assistant Professor, Social Science
B.S., Cornell University; M.A., 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.** Assistant 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 Work, Michigan State University.

- THOMAS, Carolyn P.** Assistant Professor, Social Science
B.S., University of Illinois; M.A., Michigan State University; Ph.D., Michigan State University.
- THOMAS, Morris O.** Associate Professor, Social Science
B.S., Northwestern Michigan College; M.A., Michigan State University.
- THOMPSON, Barbara** Instructor, Student Development Services
B.A., Tougaloo College; Graduate Study, Michigan State University.
- THOMPSON, Thomas O.** Assistant Professor, Performing and Creative Arts
B.S., Olivet Nazarene College; M.M., Michigan State University.
- TURNER, Mary Kay (Micki)** Assistant Professor—Group Specialist
Student Development Services
B.A., Central Michigan University; M.A., Michigan State University; M.A., Western Michigan University; M.S.W., Michigan State University.
- VANKEMPEN, Gary** Instructor, Science
B.A., Hope College; Doctoral Candidate, Michigan State University.
- VanMALSEN, Wesley W.** Director, Informational Services
B.A., University of Florida; Certificate, U.S. Navy Postgraduate School.
- VANNOTE, Robert D.** Teaching Technician, Applied Technology
- VARGAS, Horacio, Jr.** Coordinator, Curriculum Reinforcement
Division of Student Personnel Services
B.A., Michigan State University; Graduate Study, Michigan State University.
- VAZQUEZ, SEPULVEDA** Instructor, Reference Librarian,
Library Services
B.A., University of Puerto Rico; M.A., Michigan State University; A.M.L.S., University of Michigan.
- WALLACE, Francis T., Jr.** Associate Professor, Management and Marketing
A.A., Saint Petersburg Junior College; B.A., University of South Florida; M.A., University of South Florida; Ph.D., Michigan State University.
- WALPER, Horld J.** Chairperson, Applied Technology
B.S., Eastern Michigan University; M.A., University of Michigan; Graduate Study, University of Michigan and University of Toledo.
- WALSH, Marion H.** Assistant Professor, Accounting and Office Programs
B.A., University of Michigan; M.A., University of Michigan; Graduate Study, University of Michigan and Michigan State University.
- WARBACH, Laura H.** Program Director, Continuing Health Education
R.N., Cumberland Hospital School of Nursing; B.A., Michigan State University.
- WARREN, Joseph A., III** Assistant Professor, Humanities
B.A., Michigan State University; M.A., Michigan State University.
- WARREN, Melvin W.** Assistant Professor, Management & Marketing
B.A., Michigan State University; M.A., Michigan State University; Graduate Study, Michigan State University.

WATSON, Claude M. Professor, Science
B.S., Michigan State University; M.S., Michigan State University.

WEESNER, Bertrand W. Professor, Management and Marketing
B.S., Michigan State University; M.A., Michigan State University; Ph.D., Michigan State University.

WELLER, Stephen A. Associate Professor, Management and Marketing
B.S.E.E., Michigan State University; B.S.A.E., Michigan State University; Graduate Study, Michigan State University.

WILGUS, William H. Program Director, Aviation
Diploma, USAF A & P Mechanic; Diploma USAF Communications and Electronics; Undergraduate work, Kent State University.

WILLIAMS, Kenneth A. Instructor, Management and Marketing
B.S., New York Institute of Technology; MLIR, Michigan State University.

WILLIAMS, Mildred L. Professor, Accounting and Office Programs
A.A., Ferris State; B.A., Michigan State University; M.A., Michigan State University; Ed.D., Michigan State University.

WORST, Harry A. Associate Professor, Performing and Creative Arts
Kendall School of Design; American Academy of Art.

YARGER, Richard D. Associate Professor, Science
B.S., Central Michigan University; M.A., Western Michigan University; Graduate Study, Michigan State University.

ZIEGLER, Ruth Ann Coordinator, Learning & Career Center for Women
B.A., Michigan State University; M.A., Michigan State University.

ZIMNY, David J. Instructor, Social Science
B.A., University of Chicago; M.Phil, Yale 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.

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