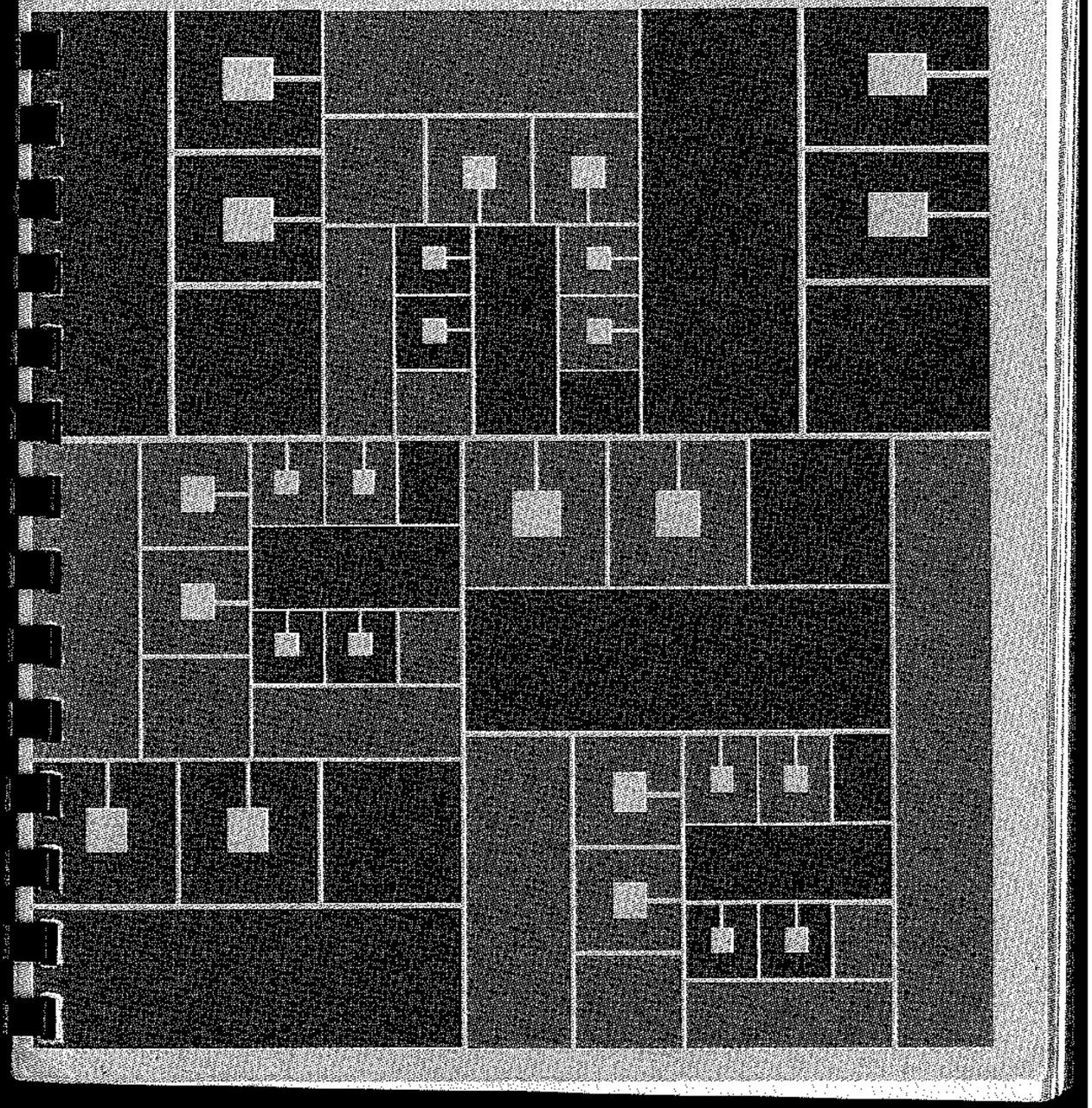
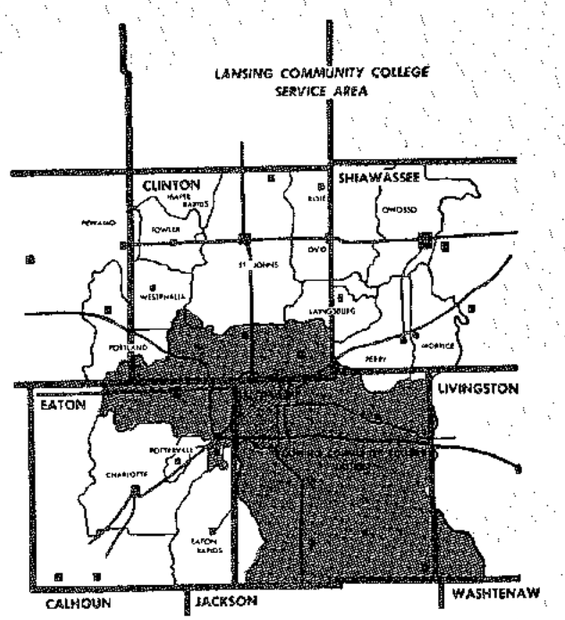
PROSPECTIVE STUDENT INFORMATION 1970-1972 LANSING COMMUNITY COLLEGE





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LANSING COMMUNITY COLLEGE

419 North Capitol Avenue
Lansing, Michigan
Telephone 489-3751

CATALOG NUMBER ELEVEN
PUBLISHED SEPTEMBER 1970

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

Dear Student:

At Lansing Community College you will find what seems to many to be a new approach to higher education. We are developing education by prescription, tailoring the offerings of the institution to each student. This is a humanizing process for higher education, based upon increased accountability for the College and the student.

One of the advantages of Lansing Community College is the diversity of learning experiences. Many of our students are part time, here for a single course or series, and becoming aware of the many curriculums offered often provides a new goal or interest, totally different from that perceived on enrollment. The value of your experience at Lansing Community College may lie in the opportunity to find your direction in education.

We view education as a continuing process that goes on for a lifetime. The catalog lists current offerings. Careful reading can provide an overview of the many and varied opportunities open to you at LCC. You, the student, are the determiner and the closer of the learning circle. You set your own time schedule, your own goals. You are not pressed into a traditional educational mold at LCC.

I am convinced that the future will hold more and more unstructured learning —unstructured in terms of the traditional methods of instruction. There will be more individual freedom and accountability, more avenues for development of competence in areas most satisfying to the individual.

This is the challenge you extend to us when you enter. If you fail, we fail. I am confident that both you and Lansing Community College will benefit from your involvement here.

Sincerely,

Philip J. Cannon

Philip J. Cannon
President

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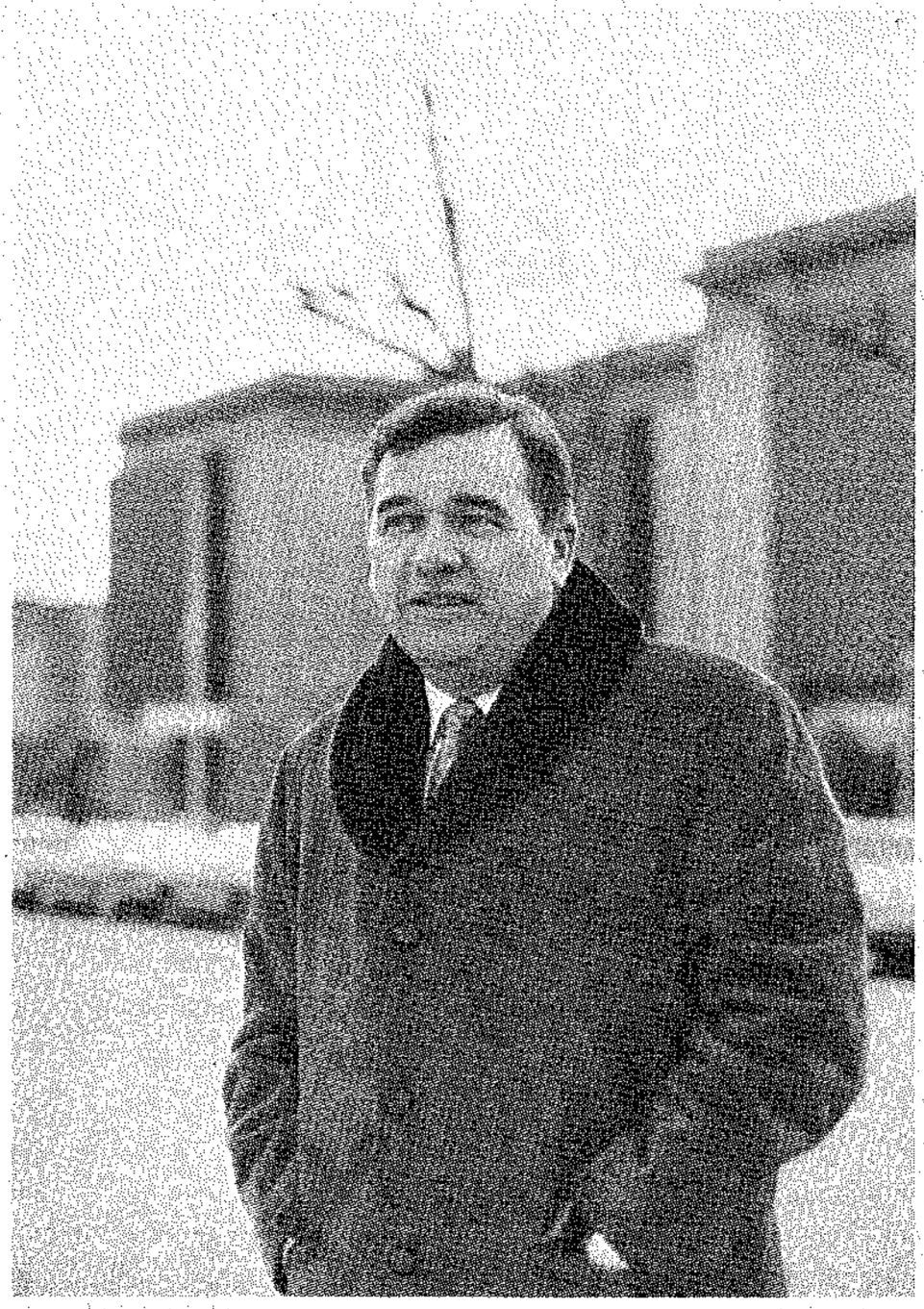

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LANSING COMMUNITY COLLEGE PURPOSES, FUNCTIONS, AND OBJECTIVES

The purposes, functions, and objectives of Lansing Community College are quite clearly influenced by the community it serves, its historical evolution, its student body, and the Community College movement throughout the nation.

To use its facilities efficiently and to meet the demands of business, industry, government, and the increasing number of students requesting an opportunity for higher education, the College offers its programs on a day and evening, six-day week, twelve-month basis. Because the College belongs to and is a part of the Greater Lansing Community, it is prepared, within the framework of its purpose, to design programs to meet new educational needs of the community.

The College provides two-year, occupationally oriented programs in health careers, business, and technology. It provides a variety of adult and community service programs as well as personnel and counseling services for the students of the community and it offers college parallel programs for students planning to transfer to four year institutions.

Lansing Community College offers educational opportunities for all high school graduates in its service area and its presence encourages the enrollment of individuals who might not otherwise attend college. With its strong individual-oriented approach the College attracts students reluctant to cope with the impersonal nature of larger state colleges and universities. In this way it helps to relieve the freshman and sophomore congestion at other state colleges and universities. It reduces significantly the student's expenses for his first two years of higher education and it gives the student an opportunity to find himself and determine his vocational or professional objective while living at home. It fulfills the needs of local business, industry, and government for manpower that is better educated and trained to meet increasing technological changes.

PURPOSES

The College staff, concerning itself with fundamental questions regarding student and college responsibilities, has determined that:

1. The student will be aided in realizing his intellectual potential through an individualized approach to his education. Small classes and personal faculty guidance will aid the student in achieving this objective.
2. The student must be encouraged to bear responsibility for his educational goals and to pursue academic excellence to the limits of his ability.

I have built me a monument more lasting than bronze.

Horace

3. The student and the institution, aware that the world is rapidly changing, culturally and technologically, must search diligently for the truth concerning the heritage of this republic and its roots in western civilization and other cultures as they pertain to the dignity and freedom of man. This search should enhance the student's awareness of his responsibility as a citizen of his community, state, nation, and the world.
4. The student, whatever his selected program of study, must gain further insight into his values as these values relate to him and his fellow man.

FUNCTIONS

The staff of the College further agrees that the purposes can best be met by accepting the following as major functions of the institution:

1. To offer personal, academic, and vocational counseling to our students.
2. To provide general education, both for those students transferring to four-year institutions and for those engaged in two-year programs.
3. To provide technical and semi-professional programs for students now employed or contemplating employment by government, industry, or business.
4. To provide programs parallel to those provided in the freshman and sophomore years in the arts and sciences pre-professional fields at four-year, degree-granting colleges and universities for those students who will transfer to such institutions.
5. To provide cultural programs for adults.
6. To respond to community needs by offering special courses developed in cooperation with business, industry, labor, and government and by making available to community groups the physical facilities of the College.

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OBJECTIVES

With these purposes and functions in mind, it is felt that a fulfilling and useful life can best be obtained through sound scholarship and training. Specifically, the faculty strives to:

1. Contribute to good citizenship by helping students to understand democratic processes.
2. Prepare the student to make a contribution to the economic life of his community.
3. Expose the student to our cultural, social, scientific, and spiritual heritage out of which he may construct a satisfying and consistent world view by which to guide his life.
4. Foster self-reliance on the part of the student by encouraging him to think critically in solving problems.
5. Encourage the student to participate in some form of satisfying creative activity and in appreciating the creativity of others.
6. Develop within the student increased understanding of the political and socio-economic problems confronting our nation and the world contributing to a sense of social responsibility.
7. Help the student to understand his relationship to his biological and physical environment so that he may better adjust to and improve that environment.
8. Develop within the student an appreciation and understanding of the contributions afforded by other ideas, races, and religions.
9. Develop within students skills in writing, speaking, reading, and listening which lead to improved self-expression and communication.

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Lansing Community College Calendar — 1970 - 1971

FALL TERM 1970

Faculty Days	September 14-18
Registration	September 21-22
Records Day	September 23
Classes Begin	September 24
Thanksgiving Holiday	November 26-27
Evaluation and Examination Days	December 7-11
Term Closes	December 11
Grades Due	December 14

WINTER TERM 1971

Faculty Day	January 4
Registration	January 5
Records Day	January 6
Classes Begin	January 7
Evaluation and Examination Days	March 18-24
Term Closes	March 24
Grades Due	March 25

SPRING TERM 1971

Faculty Day	March 29
Registration	March 30
Records Day	March 31
Classes Begin	April 1
Memorial Day Holiday	May 31
Evaluation and Examination Days	June 11-17
Commencement	June 13
Term Closes	June 17
Grades Due	June 18

SUMMER TERM 1971

Registration	June 21
Classes Begin	June 22
Independence Holiday	July 5
Term Closes	August 17
Grades Due	August 18

Division of Student Personnel Services

Dean William Schaar

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

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ADMISSIONS

Registrar and Admissions Officer: Raymond Anderson

Application for New Students

Applications may be obtained from the College Student Records Office or from local high schools. Prospective applicants are urged to contact the Student Records Office and submit their applications as early as possible to insure time for testing, counseling and registration. The applicant should:

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.
3. Mail or personally deliver the application and application fee to his high school to be completed and forward to Lansing Community College.
4. Complete placement tests required by the College when notified.

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 application to the Student Records Office.
4. Request high school to send a complete record of grades to the College if less than one year of college has been completed.
5. Request that official transcripts from all other colleges or universities in which student has been enrolled since he last attended high school be sent to the Student Records Office. An evaluation of credits from institutions will be made and a copy will be sent to the student.

Special Applications

The category of Special student is designed for students taking courses for cultural enrichment, students on apprenticeship programs, and for students not primarily interested in obtaining a degree or transferring to a four-year college. Credits acquired while a student is under Special student status are not transferrable. Transcripts are not necessary for admission. A non-refundable application fee of $5.00 is required.

Guest Applications

Guest students 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 student also must complete pages 1 and 2 of the application for admission. Transcripts are not necessary for admission. A non-refundable application fee of $5.00 is required. A guest application is valid for one term only.

Advanced Placement Program

This program is designed to provide an opportunity for qualified high school students to earn college credit commensurate with their high school study, college credit which will count toward a degree program. High school credit will or will not be granted according to the discretion of the participating high school. Advanced placement affords students educational enrichment in specific areas where they have displayed unusual interest and ability in high school.

For eligibility in the Advanced Placement Program:

1. Applicant must be working toward graduation requirements at an accredited high school.
2. Applicant must have obtained junior or senior high school standing prior to applying for the program.
3. Applicant must have written recommendation from his high school principal or his representative.
4. The final decision for acceptance rests with Lansing Community College.

A student will be allowed to take no more than two advanced placement courses at the College during any given term.

Application procedure for Advanced Placement:

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

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

Placement Testings

The Admissions Office will notify new students of the schedule for placement testing. The placement test is used in conjunction with high school grades to determine the beginning course in methematics, English and reading. This is not an admissions test.

Registration Procedures

Registration periods are indicated on the school calendar, and students will register for classes according to instructions which are published each term in the student newspaper and the Class Schedule. Special, guest and transfer students who have been accepted for admission should enroll for classes when notified by the Admissions Office.

Late Registration

A student registering late will be required to make up the work he has missed. After the first week in any quarter, he is not permitted to enroll for a full-time class schedule. A student registering late will be asked to submit all the required credentials prior to the day he enrolls.

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Student Personnel Services

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 account of student records. 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

If a student finds it necessary to withdraw from college, he should contact the Student Records Office without delay and fill out a form to make his withdrawal official. A statement of "official withdrawal" will be given him if, at the time of withdrawal, all his financial obligations to the college have been met and his conduct and scholarship are such as to entitle him to continue in the college.

Credits

The regular college year is divided into four terms of approximately eleven weeks. In general, a class meets one hour each week for each credit earned; somewhat 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, then, 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 by Examination

A regularly enrolled student may obtain credit for certain courses at the discretion of the department chairman 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 Student Records Office.

Transfer of Credits

Credit will be given for courses transferred from accredited institutions. The credit value of each of these courses will be determined by Lansing Community College. 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 one which is signed by the Registrar, has the school seal placed over his signature, and gives the date of graduation or official withdrawal of the student from the College. A student expecting to transfer to a four-year institution is advised to examine carefully the current catalog of the particular college he expects to enter and to follow as closely as possible its particular recommendations for programs of study.

Each student is furnished one free official transcript; for each additional transcript a fee of $1.00 is charged.

Student Credit Load and Limitations

A full-time student schedule is 12 term hours or more. Permission to carry class schedules exceeding the normal load will depend on the student's academic record.

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 indicate 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 work at the end of the term. A student receiving this grade should consult his instructor immediately regarding completion of the work. Grades of "I" must be removed before the closing date of the next term the student is in attendance, or the grade will automatically become an "F."

N — Grade given to indicate withdrawal from a course. 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.

P — Represents satisfactory performance.

X — Audit.

S — Satisfactory. Credit granted.

Z — No credit granted.

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 honor 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 average only 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.

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. A student may make application to the Registrar's Office for permission to take a special examination after the close of a term and, if such permission is granted, he will be charged a $5.00 fee.

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.

When a course requires absences of students from classes the instructor will file a list of the names of the students involved in the Dean's office, at least forty-eight hours in advance of their absence.

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 Registrar's Office 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. Be in attendance at the commencement exercise of his class unless a petition of absence is approved by the President.
7. Have the approval of the faculty and the Board of Trustees.
8. 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.)

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.

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.

Veterans

Lansing Community College is approved as a school for veterans of military service under provisions of Chapter 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.

Monetary allowances provided for by the 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 Student Records Office.

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.

The counseling and testing services available to evening students provide an effectual basis for better educational and vocational planning.

Lansing Community College evening program provides educational opportunities to many who are now finding the time to improve their academic or vocational background. For further information, contact the Registrar.

*Tuition and Fees**

Tuition, Resident Students	
Per credit hour	$ 7.00
Limit on hours charged	No Limit
Average Tuition per term (15 hours)	$105.00
Tuition, Non-Resident	
Per credit hour	$11.00
Limit on hours charged	No Limit
Average Tuition per term (15 hours)	$165.00
Tuition, Out of State Students	
Charged per credit hour	$31.00
Limit on hours charged	No Limit
Average Tuition per term (15 hours)	$465.00

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

Fees, all students	
Application fee (new students)	$10.00
Registration fee (guest, special)	$ 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

*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.

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

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.

Course and Department Codes

ANT	Anatomy
ART	Art
AST	Astronomy
AT	Architectural Technology
ATR	Applied Technology Related
ATS	Applied Technology Seminars
AUT	Automotive
BIO	Biology
BTA	Building Trades Apprentice
BTJ	Building Trades Journeyman
BTR	Building Trades
BUS	Business
CCR	Court and Conference Reporting
CEM	Chemistry
CT	Civil Technology
DH	Dental Hygiene
DP	Data Processing
DS	Dental Science
DT	Drafting Technology
EC	Economics
ED	Education
ENG	English
ET	Electronics Technology
FBS	Foundations Biological Science
FC	Foundations of Conservation
FPS	Foundations of Physical Science
FRN	French
FST	Fire Science Technology
GE	Geology
GEO	Geography
GTR	General Trades
HAC	Heating, Air Conditioning, and Refrigeration
HMF	Hotel, Motel, and Restaurant Management
HST	History
HUM	Humanities
LA	Language Arts
LE	Law Enforcement
LT	Library Technician
MET	Meteorology
MIC	Microbiology
MT	Mechanical Technology
MTH	Mathematics
MUS	Music
NUR	Nursing
NS	Natural Science
PE	Physical Education
PHL	Philosophy
PHY	Physics
PLS	Political Science
PN	Practical Nursing
PSY	Psychology
REL	Comparative Religion
RN	RN Refresher
SA	Sociology and Anthropology
SC	Earth Science
SO	Student Orientation and Group Encounter
SPA	Special Projects
SPH	Speech
SPN	Spanish
SS	Social Science
ST	Systems Technology
STR	Service Trades Related
TEC	Technical Intern
THR	Dramatics
TT	Transportation Training

Course Designations

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.

Example:

3 (3-1) The numerical sequence following course descriptions indicates course credit hours, lecture and laboratory hours per week, in that order.

Basic Courses

One of the major goals of the college is to provide each student with a common core of general education courses covering fundamental areas of knowledge. These courses, or their equivalents, are required of all baccalaureate degree students. Most are required in curricula leading to the associate degree.

A full-year sequence is offered in each of the following:

English Composition — English 121, 122, 123 — 12 credits

Humanities (History of Western Civilization) — Humanities 201, 202, 203— 12 credits

Natural Science — Natural Science 101, 102, 103 — 12 credits

Social Science — Social Science 101, 102, 103 — 12 credits

COUNSELING SERVICES

Chairman of Counseling: Dr. Beverly J. Hunt

Academic Advising

The Counseling Department coordinates the advisor-advisee system in the College. Faculty advisors are assigned to all full-time students. Advisors help students resolve questions arising in the development of their educational program, assist in the selection of specific courses, and are concerned with the student's academic progress.

Educational-Vocational Information

Student Personnel Services maintains a carefully selected file of educational and occupational source material which is readily available to all students. Directories, career descriptions, job briefs and educational listings are included in a comprehensive service designed to assist the student in making appropriate educational and occupational plans. Books, pamphlets, brochures and outlines are available in both Counseling Services areas and the main library.

Counseling Services

A staff of professionally trained counselors is available to assist students in furthering their educational, vocational and personal development. After a student is admitted to the College a pre-enrollment interview with a counselor enables him to discuss his educational goals and to plan a program of study for enrollment.

Dr. Hunt

Adjustment to college often requires additional advising and counseling. Counselors assist students with decisions of curriculum choice, vocational development, social and emotional problems of a personal nature which tend to interfere with academic progress. The Counseling Department maintains cooperative liaison with service agencies in the community and will, when appropriate, help students find needed services not available within the College.

Orientation

Effort is made by the College to help the student understand that he is an integral part of the College and to acquaint him with its philosophy, facilities and opportunities. A planned program of orientation to college is a part of the first term class schedule for new freshman students.

Testing Services

A testing program designed to assist students in their educational and vocational development is an integral function of counseling services. Achievement tests are administered as part of the admissions counseling process. Aptitude, vocational and personality interest tests, and intelligence tests are frequently used by counselors as part of the counseling service to students desiring such services. As a community service to adult, non-high school graduates, the Counseling Department also administers the General Educational Development Test (GED) for high school equivalency certificates at a nominal charge.

College Transfer Articulation

The Counseling Department maintains close contact with colleges and universities to which many of our students anticipate transfer. Curricular guides are prepared for students indicating transfer requirements in their chosen curriculums. Arrangements are made for visits to the College by representatives of universities for the purpose of discussing transfer requirements with our students. Follow-up of transfer students is also part of the college transfer program.

Special Counseling Services Center

A Special Counseling Services Center is maintained to serve the needs of students with atypical problems referred to the College by the Department of Vocational Rehabilitation and by a number of State and Federally sponsored agencies. Problems of mobility, limited occupational choices related to physical handicaps, and culturally oriented disadvantages are dealt with here. Prospective students not agency sponsored are also encouraged to use this service.

COURSES OFFERED BY THE COUNSELING DEPARTMENT

SO 100 Group Encounter (One credit)

This course is designed to provide students with an understanding of the dynamics which occur in small group interaction. Emphasis is placed upon the clarity, meaning, listening, and responding which is involved in interpersonal communication between group members. The groups are directed by professional counselors. The groups usually meet once a week for one hour and a half.

SO 101 Orientation (One credit)

Orientation is a course which introduces new students to the ways of Lansing Community College. A special effort is made to inform new students of the services available to them and to make known the various ways in which students may involve themselves more fully in college life. This course meets one hour a week.

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STUDENT FINANCIAL AID AND PLACEMENT

Administrative Officer: Neil Shriner

Neil Shriner

An increasing number of scholarships, grants and loans are available to students enrolled in the College.

Information and application forms for all types of aid may be obtained from the Financial Aid Office at Lansing Community College or from high school counselors.

It is not necessary to apply for a specific type of aid. One application will entitle the student to consideration for every award offered by Lansing Community College.

Applicants must be accepted for admission.

Alvin M. Bentley Foundation Junior College Scholarships

The Foundation established by Mr. Alvin M. Bentley makes available a $500.00 scholarship to one outstanding high school senior who is admissible to the College and who has financial need.

The State of Michigan Competitive Scholarships

This scholarship provides tuition and fees for entering freshmen who meet the following requirements:

1. Michigan resident for eighteen months preceding application.
2. Graduate of a Michigan public or non-public school with no college training.
3. Participation in the required competitive examination conducted by the Michigan Higher Education Authority.
4. Information and application procedures are available at your high school.

Student Government Scholarships

The Student Government provides two full tuition renewable scholarships to students of Lansing Community College. The scholarships are awarded on a basis of scholarship and need for funds. The scholarships are renewable so that a student may receive aid for a total of six terms.

The Board of Trustees grants one scholarship yearly to each high school in the Lansing Community College district for a student having financial need and a high academic record. This scholarship pays tuition and fees, and is renewable for a second year.

A. S. Corwin Scholarship in Transportation and Traffic Management

A scholarship made possible by friends of Mr. A. S. Corwin, Traffic Manager of Oldsmobile, who retired after 42 years of service. The award pays $50 for one academic year (three terms). It is awarded with consideration of financial need and the applicant's potential contribution to the field of transportation and traffic.

Ukrainian Home Scholarship

Awards made possible with funds given by members of the Ukrainian Home Association. Applicants must live within 25 miles of Lansing Community College and must show evidence of financial need. Preference to Ukrainian students.

Lansing Women's Club

A fund of $1,000 annually is used for Scholarships for girls with financial need and academic potential.

John M. Sebeson Memorial Scholarship

Established by friends and the family of John Sebeson, associate professor of chemistry at L.C.C. A $300.00 award is made annually to a chemistry major on the basis of academic record and financial need.

Greater Lansing Foundation

This foundation contributes 12 scholarships of $500.00 each for students in the Health Sciences programs at L.C.C. Awards are made on the basis of financial need and academic proficiency. Applicants must be residents of the college district.

Martin Luther King Memorial Grant

Funds donated by local citizens enable the college to help students pay tuition if they would not otherwise be able to attend. Limited to district residents. Money available in the fund varies according to donations received.

Educational Opportunity Grants

As a part of the High Education Bill of 1965, grants ranging from $200 to $1000 a year are awarded to students with exceptional financial need who would not, except for the grant, be financially able to attend college.

National Defense Student Loan

The National Defense Education Act provides for the creation of loan funds at American colleges and universities, from which needy students may borrow on reasonable terms to help complete their higher education.

Applicant should be:

1. A full-time student (12 credits or more).
2. In need of the amount of his loan to pursue his course of study.
3. Capable of maintaining good academic standing in his chosen course of study.

Because a large percentage of the loan is cancelled for borrowers who become teachers, special consideration is given to applicants who express a desire to teach in elementary or secondary schools.

Federal Guaranteed Loans

The State of Michigan administers a loan fund through local banks which allows students to borrow up to $1,000 a year. Borrowers must demonstrate the ability to complete college and show financial need. Information and applications may be requested from the Chairman of Financial Aids, Lansing Community College, or from a participating bank.

The Dwight and Eleanor Rich Loan Fund

This fund, established upon the retirement of Dr. Dwight H. Rich from the superintendency of the Lansing Public Schools in June, 1962, provides loans for students at reasonable terms to help students complete their higher education.

The student wishing to borrow from this fund must have completed six credits with a 2.0 and be in need of the amount of his loan to pursue his course of study.

Student Government Loan Fund

The Student Government of Lansing Community College provides short term loans in amounts up to $100 to enable students to meet immediate financial obligations. This loan must be repaid within six months. Applicants must have completed six credits with a 2.0.

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Law Enforcement Education Financial Aid

Lansing Community College is participating in the Law Enforcement Grant and Loan Program enacted by Congress in 1968 as explained below:

Grants

Students are eligible for grants if they are taking courses that are leading to a degree or certificate in an area relating to Law Enforcement.

Tuition and fees not exceeding $200 a term for full-time and part-time students who are full-time employees of publicly funded Law Enforcement Agencies. Students must agree to remain in the service of the employing agency for two years following completion of the course of study or repay the full amount of the grant with 7¼ simple interest per annum at a minimum monthly rate of $50 per month, repayable quarterly.

Loans

Maximum $1,800 to full-time students in courses leading to a degree or certificate in areas directly related to Law Enforcement. Repayment begins 6 months after the borrower terminates a full time course of study. Interest is 7¼ simple per annum on the unpaid balance, with minimum quarterly payments of $50 per month. Total amount of the loan plus interest is forgiven at the rate of 25% for each complete year of certified service as a full-time employee of a public law enforcement agency.

Andy Hall Memorial Loan Fund

Funds contributed by students in memory of a former Lansing Community College student are available for short-term loans of a maximum of $100. Applicants must have completed six credits with a 2.0.

College Work-Study Program

Lansing Community College participates in this Federal Government Program which provides jobs for students from low income families. Information and applications for these jobs may be obtained from the Financial Aid Office, Lansing Community College.

Additional Scholarships and Loans

Many other scholarships and loans are available through local clubs and organizations in the Lansing area. Because of the great number of changes in donors each year, it is not possible to keep an up-to-date catalog listing. When a student applies for one scholarship or loan he will be considered for all of the financial aid opportunities available at Lansing Community College.

Scholarships for Lansing Community College Graduates

Most Michigan colleges provide scholarship opportunities for Lansing Community College graduates. Information about these scholarships and other financial aids available at Michigan colleges upon transfer from Lansing Community College may be obtained from the Financial Aid Office.

State of Michigan Tuition Grants

These grants are available to students transferring from Lansing Community College to eligible private, non-profit colleges and universities in Michigan. Additional information available in Lansing Community College Financial Aid Office.

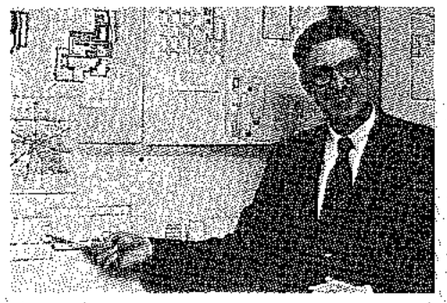
Although the Financial Aid Committee begins processing applications March 1, applications will be accepted and awards made after that date as long as funds are available.

PLACEMENT OFFICE

The job placement office has on file a listing of current job openings in the College and in the Lansing area. Recruiting representatives from various companies throughout the United States schedule interviews through this office. Interview schedules are posted across the College campus and in the campus newspaper.

HOUSING

Lansing Community College maintains no housing units for students, but it does cooperate through making available a list of suitable living quarters. The College assists students by maintaining this list of non-discriminatory housing opportunities in the community.



STUDENT ACTIVITIES

Administrative Officer: William Zuhl

Strong emphasis is placed on student activities as a total college activity involving students, faculty, administration and members of our service community.

Five main functions of Student Activities are Student Government, Student Publications, the Fine Arts Program, Intramural Sports and Intercollegiate Sports. Student Government serves the College in two main areas: (1) Serving as a liaison for exchange between faculty, administration and students and (2) promoting and sponsoring a wide range of co-curricular activities. The *Lookout* is the official publication of the College.

Fine Arts Cultural Program

Lansing Community College offers to its students a Fine Arts Program whereby students are encouraged to attend and participate in the productions of the various fine arts groups in the community. This program, cooperating with two of the community theaters, has encouraged many students and faculty members to perform in community theater production and to assist behind the scene. Considering the Greater Lansing Area as its campus, this Fine Arts Program offers to the students tickets to all of the major productions of the Lansing Civic Players, the Community Circle Players, the Lansing Symphony, and the Town Hall Speaker Series. The cost of these admissions is assumed by the Fine Arts Program, the students paying only a nominal fee. Accordingly, students and faculty members have attended such outstanding performances as "The Music Man," "A View From the Bridge," Counod's "Faust," and "The Sound of Music." They have also enjoyed internationally known stars, such as Hans Conreid, Bess Myerson, Dave Brubeck, and Henry Mancini. The program offers over twenty-five events in the course of the year.

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Student Personnel Services

Cooperating with the student government, the Fine Arts Program coordinates other creative and cultural activities—the student Creative Arts Contest, a College Bowl, a Fine Arts Film Series, and a Miss Lansing Community College Pageant. These programs are constantly being expanded and diversified as students show interest and enthusiasm.

Student Government and Organizations

The Preamble to the Constitution of the Student Government Constitution states: "We the students of Lansing Community College, in order to represent the thinking of the student body to the faculty, administration, and students on issues of importance to students, inform students of college policies, program 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 students and the College. Student Government is responsible for the activities and financial needs of student clubs and organizations recognized by student government and the administration of the College.

Intramural Athletics

The purpose of the intramural athletic program is to provide organized recreational activities for Lansing Community College students. Due to the scope of the program, twenty sports activities, participation by all members of the student body, faculty, and staff is encouraged. Further, the program is flexible enough to permit expansion of current and/or additional activities when sufficient interest exists.

Both male and female students are encouraged to participate in activities of the intramural program.

Information regarding the intramural athletic program is available in the Student Activities Office.

Life should not be a spectator sport—participate.

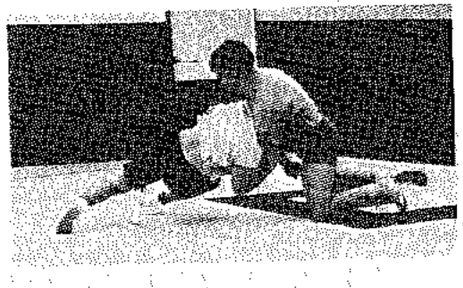
Intercollegiate Athletics

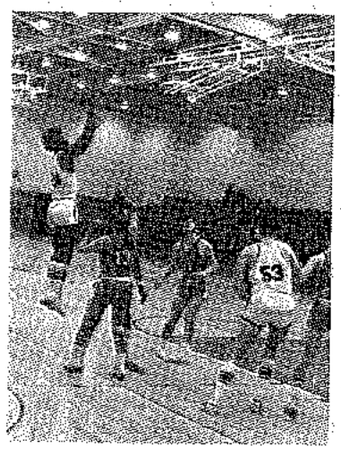
Lansing Community College is represented by teams in cross country, basketball, wrestling, golf, tennis, and track and field. Representative teams from throughout the state of Michigan are scheduled in these sports with the emphasis on public community colleges.

Lansing Community College is a member of the National Junior College Athletic Association and a provisional member of the Michigan Junior Community College Athletic Conference. The above affiliations provide us with excellent competition, as well as recognition on a state and national level.

Students who wish to compete in intercollegiate athletics may contact Mr. Lingo in the Student Activities office.

William Zuhl





PHYSICAL EDUCATION

The Physical Education 100 series of classes is designed to provide an understanding of human physiology and psychology as it relates to exercise and relaxation. Physical fitness for adult members of society is maintained through conditioning. The program offers students an opportunity to establish exercise habits that can be continued through life with a limited amount of equipment and facilities. The instruction in the several activities is offered as an elective feature of the program. Co-educational lectures and activity sessions, designated as P.E. 110, award two of the three credits usually required. The student may select any other activity another term for the remaining one credit.

The Physical Education 200 series of classes provides an opportunity for students to continue their study of Health, Physical Education and Recreation by means of library research, special lectures, movies and selected physical activities. These classes are open to students who have completed three credits in the 100 series. Students enrolled in the 200 series are required to participate in an elected activity (100 series) concurrently.

Students not desiring credit but interested in the Physical Education activities offered, should register as auditors.

MEN'S PHYSICAL EDUCATION

110 Physical Education **Two credits**

Introduction to nervous, muscular and circulatory systems, heart diseases and heart research as they relate to regular exercise, health and physical education. Other topics include nutrition and metabolism with emphasis on weight control. Regularly scheduled conditioning and activities are also a part of this course. 2 (1-2)

Men's Activity Sessions **One credit**

PE 150 Conditioning & Weight Training
PE 151 Conditioning & Basketball
PE 152 Conditioning & Beginning Swimming
PE 153 Conditioning & Swimming
PE 154 Conditioning & Soccer
PE 155 Hunting
PE 156 Social & Square Dancing
PE 157 Conditioning & Indoor Sports
PE 158 Conditioning & Outdoor Sports
PE 159 General Conditioning
PE 160 Conditioning & Touch Football
PE 161 Conditioning & Self Defense
PE 162 Conditioning & Beginning Tennis
PE 163 Conditioning & Advanced Tennis

201, 202, 203 Physical Education **One credit**

Open for students who have completed three credits of the 100 series of courses. Limited reading of selected topics. Physical fitness instruction and two individual conditioning activities weekly. 1 (1-2)

221, 222, 223 Physical Education **One credit**

Special projects involving experiments or reading in selected area. Hours and projects arranged. 1 (1-2)

WOMEN'S PHYSICAL EDUCATION

111 Physical Education **Two credits**

Introduction to nervous, muscular and circulatory systems, heart diseases and heart research as they relate to regular exercise, health and physical education. Other topics include nutrition and metabolism with emphasis on weight control. Regularly scheduled conditioning and activities are also a part of this course. 2 (1-2)

Women's Activity Sessions

PE 120 Conditioning & Gymnastics
PE 121 Conditioning & Ball Games
PE 122 Conditioning & Badminton
PE 123 Conditioning & Beginning Swimming
PE 124 Conditioning & Swimming
PE 125 Conditioning & Sports
PE 126 Conditioning & Volleyball
PE 127 Conditioning & Beginning Tennis
PE 128 Conditioning & Advanced Tennis
PE 129 Social & Square Dancing
PE 130 Conditioning & Indoor Sports
PE 131 Conditioning & Outdoor Sports
PE 132 Conditioning & Self Defense

201, 202, 203, and 204 **One credit**

Open for students who have completed three credits of the 100 series of courses. Limited reading on selected topics. Physical fitness instruction and two individual conditioning activities weekly. 1 (1-2)

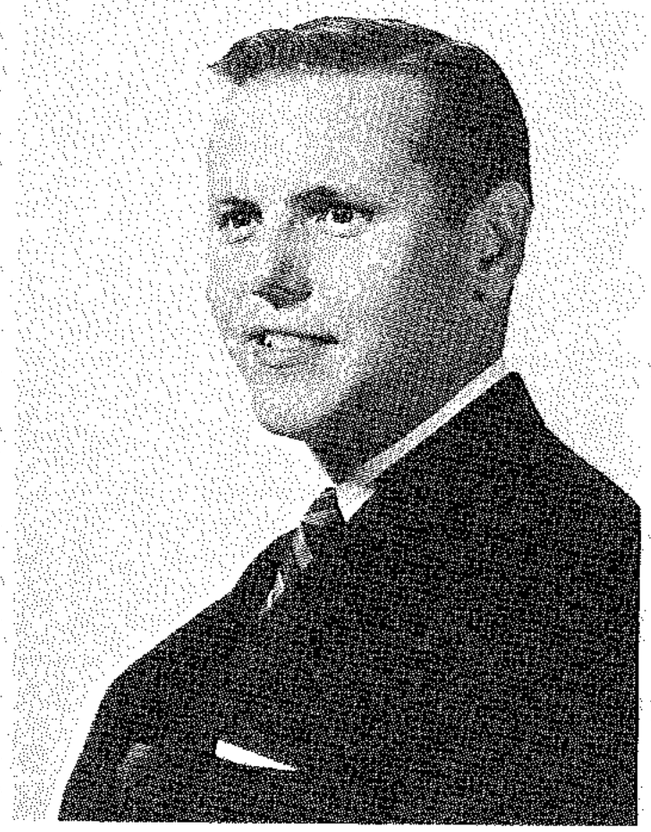
221, 222, 223, and 224 **One credit**

Special projects involving experiments or reading in selected area. Hours and projects arranged. 1 (1-2)

COEDUCATIONAL ACTIVITY SESSIONS **One credit**

PE 180 Conditioning & Skiing
PE 181 Bowling
PE 182 Conditioning & Beginning Tennis
PE 183 Conditioning & Advanced Tennis
PE 184 Conditioning & Self Defense
PE 185 Conditioning & Winter Sports
PE 186 General Conditioning
PE 187 Conditioning & Fencing
PE 189 Conditioning & Indoor Sports
PE 190 Conditioning & Outdoor Sports
PE 191 Trap & Skeet

Learning Resource Division



James Platte, Director

The Lansing Community College Learning Resource Center is composed of the libraries, the instructional media centers, and the planetarium. To support the total college program a library and an instructional media center are located in each unit college, providing materials and services relevant to the instructional programs of each unit college.

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The Library Services Department

Librarian: Ellen Person

The Liberal Arts and Sciences Library and the Dwight Rich Memorial Library (Business, Technology) offer a total of more than 44,000 books and 500 periodicals. These have been selected cooperatively by the faculty and the library staff to present diverse points of view and the latest information to support the curriculums. The libraries also provide a reserve reading system and a microfilm collection of the New York Times and twenty frequently used periodicals dating back to 1960. The books are arranged by the Dewey Decimal Classification on open shelves. Each library has a comprehensive catalog of the entire collection.

Facilities of the libraries include student conference rooms, typing rooms, and carrels designed for individual study.

The staff of the libraries encourage student research by providing reference services and by conducting laboratory sessions in the use of a library. Additional services and materials are provided through cooperation with the State of Michigan Library and the Michigan State University Library.

Library Technical Services orders, prepares, and indexes all books, periodicals, microforms, pamphlets, and other collection media requested by the libraries. The area, located in a wing of the Business-Technology Library, also receives and distributes all mail for both libraries, serves as a supply center, bindery order and mending center and card duplication center. Central records on the Learning Resource total collection are maintained in the Technical Service area.

The Instructional Media Department

Chairman: Dale Dunham

The instructional media centers exist primarily to provide assistance to the instructor, enhancing his classroom effectiveness with audiovisual media. Services of these centers include educational television, graphic production and photography, movie production (8mm, 16mm), and the maintenance of all audiovisual equipment and audiovisual tutorial laboratories within the College.

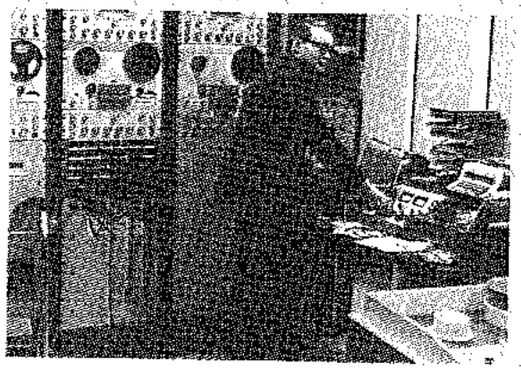
The instructional media centers also serve the immediate needs and interests of the student body by providing educational programming and culturally stimulating stereophonic programs. These programs originate from an audio distribution center to selected carrels within each library. The carrels equipped with audio listening equipment have several channels available for both monaural and stereophonic sound. Special collections in the instructional media centers include audio and video tapes, and musical and non-musical recordings.

The Planetarium

The planetarium is designed to serve classroom instruction. It is one facet of a space-science complex in the Arts and Sciences Building. In addition to the planetarium, the complex has an observation platform and an observatory with a 16' fiberglas dome. The planetarium serves the science department in particular, and all areas of the college in general. The planetarium staff exercises a dual role: (1) assisting faculty in the development of programs and (2) demonstrating, to the total college, the planetarium's capacity for interdisciplinary education.

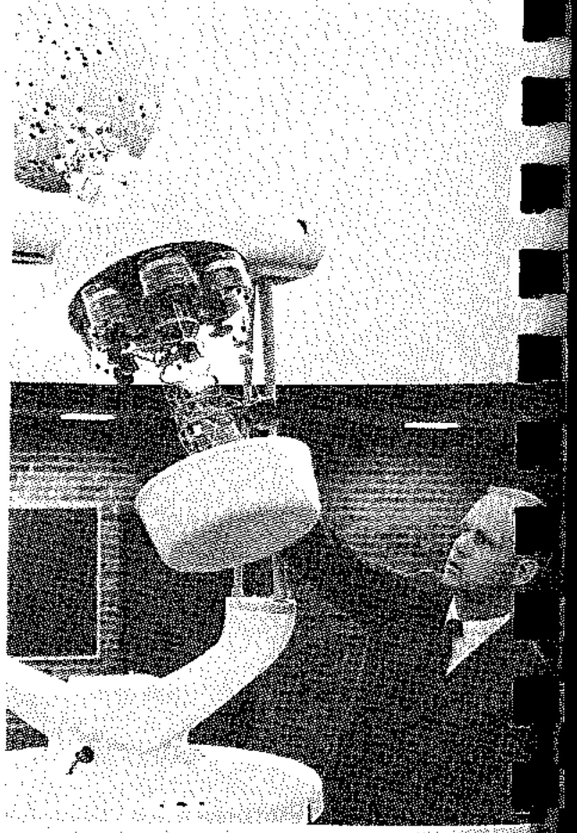
The basic planetarium facility has a 38' diameter aluminum dome with 103 seats available for planetarium use. When used as lecture hall the facility offers 129 seats, each equipped with an electronic responder unit to assist individual response and evaluation. In addition to the Spitz A-4 planetarium projector, the planetarium has auxiliary devices for horizon and special effects projection.

Old Central Library

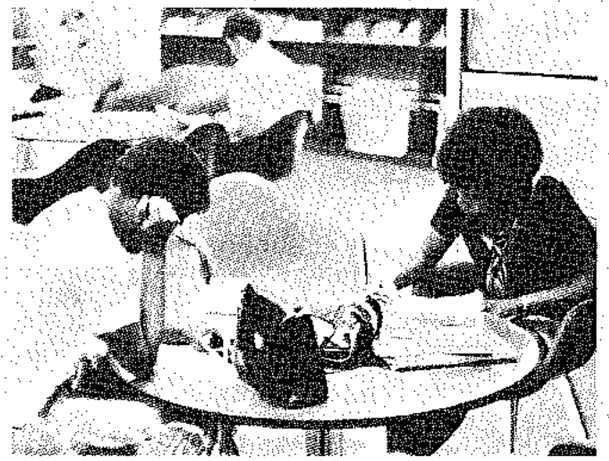


Instructional Media

Liberal Arts Library



Planetarium



Learning Resource Division

Library Technology

The library technician is an assistant to the professional librarian and, in certain instances, is a supervisor of the non-professional staff in a public, special, or school library. He will work with people, books, audio-visual material and general office procedures.

Lansing Community College offers a two-year program of training leading to an Associate Degree in Arts (Library Technology). At least two library technology courses are offered each fall, winter and spring term during the two-year sequence. The introductory course will be offered during the fall term of each school year. Anyone interested may also enroll for a single library technology course.

Certificate Program

		Fall Term	Credit Hours
LT	101	Introduction to and Use of Library	3
LT	201	Technical Services	3
BUS	100	Typewriting I, OR	3
BUS	101	Typewriting II	3
ENG	121	Freshman English	4
SS	101	Sociology	4
			17
		Winter Term	
LT	102	Ordering, Circulation, Maintenance, and Preparation of Materials	3
LT	246	LT Internship and Seminar, OR	3
		Recommended Elective	3
ENG	122	Freshman English	4
PSY	201	Introduction to Psychology, OR	4
BUS	223	Management and Supervisory Development	3
DP	131	Survey of Data Processing	3
			16-17

		Spring Term	
LT	103	Reference	3
LT	205	Library Problems	3
BUS	210	Principles of Accounting I, OR	4
BUS	107	Business Machines I	3
ENG	123	Freshman English	4
		Recommended Elective	3
			16-17

Recommended Electives:

BUS	224	Personnel Management
DP	133	Systems and Applications
ENG	201	Introduction to Literature: Poetry
ENG	202	Introduction to Literature: Drama
ENG	203	Introduction to Literature: Prose
ENG	250	Masterpieces of American Literature

Freshman Year		Fall Term	Credit Hours
LT	101	Introduction to and Use of Library	3
ENG	121	Freshman English	4
NS	101	Botany-Zoology, OR Recommended Elective	4
SO	101	Orientation	1
SS	101	Sociology	4
			16
		Winter Term	
LT	102	Ordering, Circulation, Maintenance, and Preparation of Materials	3
BUS	101	Intermediate Typewriting II	3
ENG	122	Freshman English	4
NS	102	Chemistry-Physics, OR Recommended Elective	4
DP	131	Survey of Data Processing	3
			17
		Spring Term	
LT	103	Reference	3
ENG	123	Freshman English	4
NS	103	Astronomy-Geology, OR Recommended Elective	4
SS	103	Political Science, OR	
SS	104	American Government	4
			15

Sophomore Year		Fall Term	Credit Hours
LT	201	Technical Services	3
BUS	210	Principles of Accounting I, OR	
BUS	224	Personnel Management	4
HUM	201	Western Civilization	4
		Recommended Elective	3
			14
		Winter Term	
LT	246	LT Internship, OR Recommended Elective	3
BUS	107	Business Machines I	3
BUS	229	Public Relations	3
HUM	202	Western Civilization	4
		Recommended Elective	3
			16
		Spring Term	
LT	205	Library Problems	3
BUS		Business Elective	3
HUM	203	Western Civilization	4
SPH	104	Principles of Speech	3
		Recommended Elective	3
			16

Recommended Electives:

BUS 118 Introduction to Business
BUS 223 Management and Supervisory Development
BUS 224 Personnel Management
BUS 108 Business Machines II

DP 131 Survey of Data Processing
DP 133 Systems and Applications
ENG 201 Introduction to Literature: Poetry
ENG 202 Introduction to Literature: Drama
ENG 203 Introduction to Literature: Prose
ENG 250 Masterpieces of American Literature

COURSE DESCRIPTIONS

Library Technology

101 Introduction to Library and Use of the Library — **Three credits**

General course in use of the library, including general background and philosophy of library service, especially public libraries. Students receive instruction and practice in the use of the card catalog, Readers' Guide, encyclopedias, dictionaries, and general reference works. Practice in the shelving of books so that arrangement of books on the shelves is understood. 3 (3-0)

102 Ordering, Circulation, Maintenance, Preparation of Materials — **Three credits**

Ordering, preparation, physical arrangement, circulation, maintenance, and ordering of books, periodicals, pamphlets and other library materials. Study of various systems of circulating library materials. Study of the acquisition of periodicals and pamphlets, records, picture collections, etc. Study of inventory methods, reasons for inventory, and records to be kept.* 3 (3-0)

103 Reference — **Three credits**

Study of general encyclopedias, special reference works, year books, dictionaries, and other basic sources used in reference work. An expanded course going beyond course I and including practice in the preparation of simple bibliographies, emphasizing correct form.* 3 (3-0)

201 Technical Services — **Three credits**

Study of the Dewey Decimal Classification system with problems and practice in simple classification. The purpose is to give an understanding of the classification numbers, not to make classifiers of the students. Practice in dictionary cataloging plus practice in assigning subject headings. Emphasis to be placed on working under direction and on typing catalog cards from prepared copy with work on modifying printed cards. Practice in filing in the various library catalogs — dictionary catalog, authority file, and shelf list.* 3 (3-0)

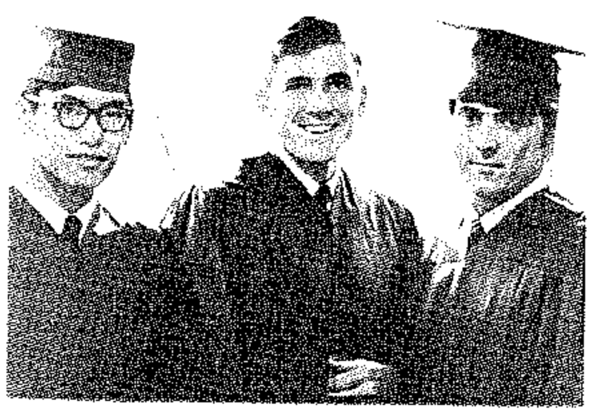
205 Library Problems — **Three credits**

Seminar type course designed to integrate the technical course work of the preceding quarters. Special problems are assigned for investigation and reporting. Group discussion of common problems. A unit on Audio-Visual familiarization is included.* 3 (3-0)

246 LT Internship — **Three credits**

Prerequisite: LT 101, 102, and 103. 3 (3-0)

*Prerequisite: LT 101 or departmental approval.



[illegible] young and glad and even if it is Sunday May you be wrong For when men are always right they are no longer young

COLLEGE OF ARTS AND SCIENCES

Department of Humanities

Department of Language Arts

Department of Mathematics

Department of Science

Department of Social Sciences

College of Arts and Sciences

Dean: Sam Kintzer

The College of Arts and Sciences attempts to confront the student with the full scope of man's knowledge about himself and his world. The curriculum is designed to stimulate knowledge and understanding of past and present cultural and social forces, and to acquaint the student with the ways in which these forces have been interpreted, thus providing educational resources whereby a student may better equip

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himself to make important cultural, social, and economic contributions to society. Emphasis is given to individual growth and human development and a desire to make available to all students intellectual training and knowledge that will add meaning, breadth, motivation, and interest to their lives regardless of vocational aspirations.

The curriculums of the College of Arts and Sciences are flexible, as well as carefully designed to meet student needs.

General education is provided for all students regardless of curriculum. Associate in Arts and Sciences Degrees are offered for two years of study, and pre-professional courses are offered leading to an Associate Degree which will enable transfer to four-year colleges and universities. Many students take Liberal Arts and Sciences courses for personal improvement and satisfaction. The College attempts to provide the student with adequate resources which represent the latest instructional methods and materials.

The faculty, representing diversity of backgrounds and interests, is dedicated to teaching as a profession and to full participation by the student in the learning process.

Many students take Liberal Arts and Science courses for personal improvement and satisfaction. Adult members of the community who have already completed their formal education are provided opportunities to upgrade executive skills through specific courses.

Every individual is afforded an opportunity to attend classes of his choice by flexible schedule permitting enrollment in courses in morning, afternoon, or evening hours. This is of particular value to women interested in pursuing education leading to careers, such as teaching.

High School Honors Institute

Each summer Lansing Community College offers an opportunity for advanced study in the languages, sciences and mathematics to outstanding high school juniors and seniors of the Lansing area. For further information students interested in this program should contact the College admissions officer or the high school principal. Biology, chemistry, physics, mathematics, humanities and psychology are included in this program.

Advanced Placement

Younger students who have demonstrated academic ability may, upon recommendation of the high school principal, be admitted during the junior year to the advanced placement program of the College. Students are accepted prior to graduation from high school and may earn a number of hours of credit toward their pre-professional or associate 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.

Associate Degree Programs

The Associate Degree is traditionally earned by graduates of a two year college program. Students interested in general education, those who desire to continue toward the baccalaureate degree in a four year college or university, and students interested in achieving vocational competence are all able to earn associate degrees.

The college confers both the Associate in Arts and the Associate in Science degrees. Within the College of Arts and Sciences there are a variety of combinations which meet the degree requirements. Major concentrations enable the student to follow his individual interest in cases where he has chosen the skills he most desires.

The student who seeks an Associate Degree without a major may elect the following program. The electives should be selected in consultation with the student's counselor prior to registration. A minimum of ninety credit hours is required for an Associate Degree.

Associate in Arts Degree

Freshman Year	Fall Term	Credit Hours	Sophomore Year	Fall Term	Credit Hours
ENG 121	Freshman English	4	HUM 201	Western Civilization	4
NS	Natural Science	4		Electives	11
SS 101	Social Science I	4			15
	Elective	3-4			
PSY 101	Orientation	1		**Winter Term**	
PE 110	or 111 Physical Education	2	HUM 202	Western Civilization	4
		18-19		Electives	11
	Winter Term				15
ENG 122	Freshman English	4		**Spring Term**	
NS	Natural Science	4	HUM 203	Western Civilization	4
SS 102	Social Science II	4		Electives	11
	Elective	3-4			15
PE 102	Physical Education Elective*	1			
		16-17			
	Spring Term				
ENG 123	Freshman English, OR				
ENG 124	Freshman English	4			
NS	Natural Science	4			
SS 103	Social Science III	4			
	Elective	3-4			
		15-16			

The Associate in Arts Degree candidate is urged to consult his advisor for completion of his sophomore program. It is recommended that he elect a sequence of sophomore level courses in the Liberal Arts and complete the second year of a foreign language.

*Elective may be taken any term.

Associate in Arts — American Studies Major

Freshman Year	Fall Term	Credit Hours	Sophomore Year	Fall Term	Credit Hours
ENG 121	Freshman English	4	HIST 150	Afro-American History	3
SS 101	Social Science I	4	SS 253	Contemporary Social Problems	3
	Natural Science**	4	ENG 250	Masterpieces of American Literature	3
HIST 111	American History I	3		Electives	6
SO 101	Orientation	1			15
		16			
	Winter Term			**Winter Term**	
ENG 122	Freshman English	4	HIST 160	Modern Mexico*	3
SS 102	Social Science II	4	PLS 150	Minorities in the American Political System*	3
	Natural Science**	4	ENG 260	Survey of Afro-American Literature	3
HIST 112	American History II	3		Electives	6
PE 110	Physical Education	2			15
		17			
	Spring Term			**Spring Term**	
ENG 123	Freshman English	4	HIST 170	The Indian-American*	3
SS 103	Social Science III	4	PLS 210	Contemporary Political Affairs	3
	Natural Science**	4		Electives	9
HIST 113	American History III	3			15
	Physical Education Elective	1			
	*Elective may be taken any term.	16			

*New Courses in process of development, subject to approval by the Administrative Council, College of Arts and Sciences.

**Natural Science consists of: NS 101 Botany-Zoology, NS 102 Chemistry-Physics, NS 103 Astronomy-Geology. It is not necessary to take these in sequence.

Recommended Electives:

Humanities

HUM 201-
203 Western Civilization I, II, III . . . 12
PHL 250 Survey of American Philosophy . . 3
REL 200 Religion in American Life . . . 3

Language Arts

ENG 210 The 19th Century American Novel . 3
ENG 211 The 20th Century American Novel . 3

Students desiring to change their curriculum are required to consult with a counselor in Counseling Services.

Associate in Arts — Humanities Major with emphasis in History

Freshman Year	Fall Term	Credit Hours
ENG 121	Freshman English	4
SS 101	Social Science I	4
HST 111	American History I	3
	Elective	3-4
SO 101	Orientation	1
		15-16
	Winter Term	
ENG 122	Freshman English	4
SS 102	Social Science II	4
HST 112	American History II	3
	Elective	3-4
PE 110	or 111 Physical Education	2
		16-17
	Spring Term	
ENG 123	Freshman English	4
SS 103	Social Science III	4
HST 113	American History III	3
	Elective	3-4
	Physical Education Elective*	1
		15-16

Sophomore Year	Fall Term	Credit Hours
HUM 201	Western Civilization I	4
	Natural Science**	4
	Foreign Language***	4
	Elective	3-4
		15-16
	Winter Term	
HUM 202	Western Civilization II	4
	Natural Science**	4
	Foreign Language***	4
	Elective	3-4
		15-16
	Spring Term	
HUM 203	Western Civilization III	4
	Natural Science**	4
	Foreign Language***	4
	Elective	3-4
		15-16

Associate in Arts — Humanities Major with emphasis in Philosophy and/or Religion

Freshman Year	Fall Term	Credit Hours
ENG 121	Freshman English	4
	Natural Science**	4
SS 101	Social Science I	4
SO 101	Orientation	1
	Elective(s)	3-4
		16-17
	Winter Term	
ENG 122	Freshman English	4
	Natural Science**	4
SS 102	Social Science II	4
PE 110	or 111 Physical Education	2
	Elective(s)	3-4
		17-18
	Spring Term	
ENG 123	Freshman English	4
	Natural Science**	4
SS 103	Social Science III	4
	Physical Education Elective*	1
	Elective(s)	3-4
		16-17

Sophomore Year	Fall Term	Credit Hours
HUM 201	Western Civilization I	4
	Foreign Language***	4
PHL 201	Philosophy	3
	Elective(s)	3-4
		14-15
	Winter Term	
HUM 202	Western Civilization II	4
	Foreign Language***	4
PHL 202	Philosophy	3
	Elective(s)	3-4
		14-15
	Spring Term	
HUM 203	Western Civilization III	4
	Foreign Language*	4
PHL 203	Philosophy	3
	Elective(s)	3-4
		14-15

*Elective may be taken any term.

**Natural Science consists of: NS 101 Botany-Zoology, NS 102 Chemistry-Physics, NS 103 Astronomy-Geology. It is not necessary to take these in sequence.

***Student may substitute an elective if he has transferred the equivalent of year's college work in one language.

Students desiring to change their curriculum are required to consult with a counselor in Counseling Services.

Associate in Arts — Language Arts Major with emphasis in English

Freshman Year	Fall Term	Credit Hours
ENG 121	Freshman English	4
NS	Natural Science	4
SS 101	Social Science I	4
PE 110	or 111 Physical Education	1
101	Foreign Language	4
		17
	Winter Term	
ENG 122	Freshman English	4
NS	Natural Science	4
SS 102	Social Science II	4
PE	Physical Education Elective*	1
102	Foreign Language	4
		17
	Spring Term	
ENG 123	Freshman English	4
NS	Natural Science	4
SS 103	Social Science III	4
103	Foreign Language	4
		16

*Elective may be taken any term.

Sophomore Year	Fall Term	Credit Hours
ENG 201	Introduction to Literature	3
HUM 201	Western Civilization	4
201	Foreign Language	4
	Elective	3
		14
	Winter Term	
ENG 202	Introduction to Literature	3
ENG 260	Survey of Afro-American Literature	3
HUM 202	Western Civilization	4
202	Foreign Language	4
		14
	Spring Term	
ENG 203	Introduction to Literature	3
HUM 203	Western Civilization	4
203	Foreign Language	4
	Elective	3
		14

Electives:

1. Highly Recommended: HST 150 Afro-American History (4)
2. Recommended (Required for Pre-Teaching Programs):
   PSY 201 Introduction to Psychology (4)
   PSY 204 Educational Psychology (3)
   SPH 104 Fundamentals of Speech (3)
3. Recommended:
   SPH 201 — PHIL 201, 202, 203
   ENG 230 — HST 111, 112, 113
   ENG 210, 211** — PLS 250, 271
   ENG 290 — SS 270

**In the fall and spring terms only one novel course will be offered: ENG 210 or 211. The course not offered during the regular school year will be offered in the summer.

Associate in Arts — Language Arts Major with emphasis in Foreign Language

Freshman Year	Fall Term	Credit Hours
ENG 121	Freshman English	4
ENG 230	Introduction to English Linguistics	3
101	Foreign Language	4
SS 101	Social Science I	4
PE 110	or 111 Physical Education	1
		17
	Winter Term	
ENG 122	Freshman English	4
SPH 104	Fundamentals of Speech	3
102	Foreign Language	4
SS 102	Social Science II	4
PE	Physical Education Elective*	1
		16
	Spring Term	
ENG 123	Freshman English	4
SPH 105	Voice and Articulation	3
103	Foreign Language	4
SS 103	Social Science III	4
		15

Sophomore Year	Fall Term	Credit Hours
NS	Natural Science	4
201	Foreign Language	4
HUM 201	Western Civilization	4
	Elective	3
		15
	Winter Term	
NS	Natural Science	4
202	Foreign Language	4
HUM 202	Western Civilization	4
ENG 260	Survey of Afro-American Literature	3
		15
	Spring Term	
NS	Natural Science	4
203	Foreign Language	4
HUM 203	Western Civilization	4
	Elective	3
		15

Electives:

1. Highly Recommended:
   HST 150 Afro-American History (4)
   SS 270 Introduction to Anthropology (3)
2. Recommended: (Required for Pre-Teaching Programs):
   PSY 201 Introduction to Psychology (4)
   PSY 204 Educational Psychology (3)
3. Recommended:
   ENG 201, 202, 203
   PHIL 201, 202, 203
   HST 111, 112, 113

Associate in Arts — Language Arts Major with emphasis in Speech

Freshman Year	Fall Term	Credit Hours
ENG 121	Freshman English	4
SS 101	Social Science I	4
SPH 104	Fundamentals of Speech	3
NS	Natural Science	4
PE 110	or 111 Physical Education	1
		16
	Winter Term	
ENG 122	Freshman English	4
SS 102	Social Science II	4
SPH 105	Voice and Articulation	3
NS	Natural Science	4
PE	Physical Education Elective*	1
		16
	Spring Term	
ENG 123	Freshman English	4
SPH 201	Interpretive Reading	3
SS 103	Social Science III	4
NS	Natural Science	4
		16

Sophomore Year	Fall Term	Credit Hours
ENG 230	Introduction to English Linguistics	3
HUM 201	Western Civilization	4
SPH 202	Discussion and Debate	3
ENG 201	Introduction to Literature	3
	Elective	3
		16
	Winter Term	
SPH 220	Introduction to Theater Arts	3
ENG 202	Introduction to Literature	3
ENG 260	Survey of Afro-American Literature	3
HUM 202	Western Civilization	4
	Elective	3
		16
	Spring Term	
ENG 290	Shakespeare	3
SPH 221	Play Production	3
HUM 203	Western Civilization	4
ENG 203	Introduction to Literature	3
	Elective	3
		16

*Elective may be taken any term.

Electives:

1. (Highly Recommended:
   HST 150 Afro-American History (4)
2. Recommended (Check individual Transfer Programs):
   PSY 201 Introduction to Psychology (4)
   PSY 204 Educational Psychology (3)
3. Recommended:
   HST 111, 112, 113
   PHIL 201, 202, 203
   SS 270
   Foreign Language 101, 102, 103

Associate in Arts — Psychology Major

Freshman Year	Fall Term	Credit Hours
ENG 121	Freshman English	4
SS 101	Social Science I	4
HUM 201	Western Civilization I	4
PSY 101	Orientation*	1
PE	Physical Education*	1-2
	Elective***	4
		18-19
	Winter Term	
ENG 122	Freshman English	4
SS 102	Social Science II	4
HUM 202	Western Civilization II	4
PE	Physical Education*	1
PSY 201	Introduction to Psychology	4
		17
	Spring Term	
ENG 123	Freshman English	4
SS 103	Social Science III	4
HUM 203	Western Civilization III	4
PE	Physical Education*	1
	Elective***	4
		17

Sophomore Year	Fall Term	Credit Hours
HST 150	Afro-American History	3
NS	Natural Science**	4
	Electives***	8
		15
	Winter Term	
NS	Natural Science**	4
	Electives***	11
		15
	Spring Term	
NS	Natural Science**	4
	Electives***	11
		15

* Optional

** Natural Science consists of the following three courses and it is not necessary to take these in sequence:
NS 101 Botany-Zoology
NS 102 Chemistry-Physics
NS 103 Astronomy-Geology

*** Electives should be selected from the following categories:

Mathematics. Select option A or B. Students continuing in a four-year program should select option A.

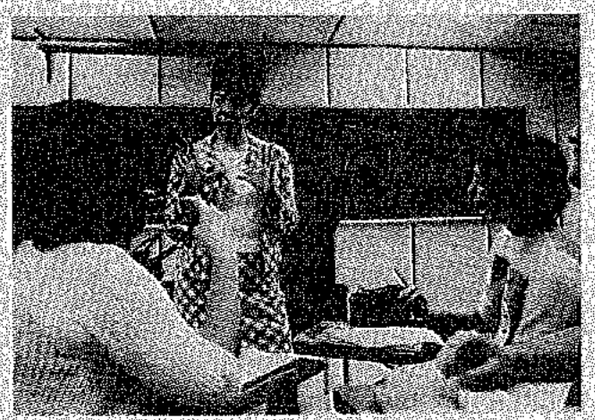
A
MTH 154 Coll. Alg. & Trig. I 5
MTH 155 Coll. Alg. & Trig. II 5

B
MTH 102 Intr. Alg. 5
MTH 158 Desc. Stat. 5

Psychology. Select three courses from the following:
PSY 202 Psych. of Personality 3
PSY 203 Social Psychology 3
PSY 204 Educ. Psych. 3
PSY 205 Growth & Dev. 3

Social Science. Select three courses from any of the following: Political Science 200, 210, 260, 270; Sociology and Anthropology 200, 220, 254, 255, 270, 271; Geography 101, 201, 202, 203.

Optional selection of 8 to 10 hours.



Associate in Arts — Social Science Major

The prospective Social Science or Psychology major is encouraged to consult with the faculty members specializing within his intended major area as well as the counseling staff. During the initial two years the student is urged to cultivate social interests and perceptions by taking advantage of the many symposia and lectures, as well as the applied areas within the college and the larger community.

Freshman Year		Fall Term	Credit Hours
ENG	121	Freshman English	4
SS	101	Social Science I	4
HUM	201	Western Civilization I	4
PSY	101	Orientation*	1
PE	110	or 111 Physical Education*	2
		Elective***	4
			19
		Winter Term	
ENG	122	Freshman English	4
SS	102	Social Science II	4
HUM	202	Western Civilization II	4
PE		Physical Education*	1
PSY	201	Introduction to Psychology	4
			17
		Spring Term	
ENG	123	Freshman English	4
SS	103	Social Science III	4
HUM	203	Western Civilization III	4
		Elective***	4
			16

Sophomore Year		Fall Term	Credit Hours
HST	150	Afro-American History	3
NS		Natural Science**	4
		Electives***	8
			15
		Winter Term	
NS		Natural Science**	4
		Electives***	11
			15
		Spring Term	
NS		Natural Science**	4
		Electives***	11
			15

* Optional

** Natural Science consists of the following three courses and it is not necessary to take these in sequence:
NS 101. Botany-Zoology
NS 102. Chemistry-Physics
NS 103. Astronomy-Geology

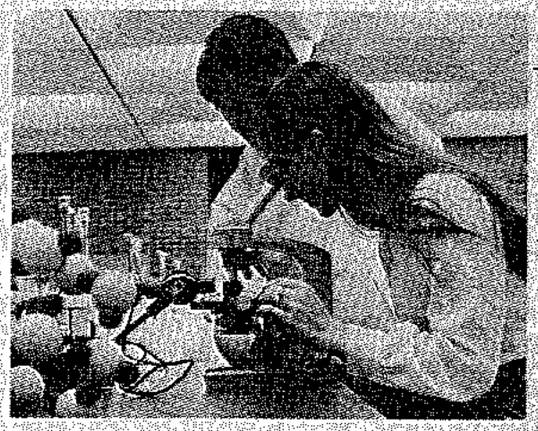
*** Electives should be selected from the following categories:

Geography. Select any one from the following courses: GEO 101, 201, 202, 203.

Psychology. Select any one from the following courses: PSY 202, 203, 204, 205.

Social Science. Select at least three courses from one of the following categories and two from the other:
A. Political Science: 200, 210, 260, 271.
B. Sociology and Anthropology: 200, 220, 254, 255, 270, 271.

Optional selection of 15 to 17 hours. Recommend preparation in foreign language or mathematics for students planning a four year program.



Associate in Science Degree

Freshman Year		Fall Term	Credit Hours
ENG	121	Freshman English	4
MTH	164	College Algebra & Trig. I	5
		Science Electives	4-5
PSY	101	Orientation	1
PE	110	or 111 Physical Education	2
			16-17
		Winter Term	
ENG	122	Freshman English	4
MTH	163	College Algebra & Trig. II	5
		Science Electives	4-5
PE		Physical Education Elective*	1
		Elective	3
			17-18
		Spring Term	
ENG	123	Freshman English	4
		Science Mathematics	9-10
		Elective	3
			16-17

*Elective may be taken any term.

Sophomore Year		Fall Term	Credit Hours
HUM	201	Western Civilization	4
SS	101	Social Science I	4
		Science or Math. Elective	8
			16
		Winter Term	
HUM	202	Western Civilization	4
SS	102	Social Science II	4
		Science or Math Elective	8
			16
		Spring Term	
HUM	203	Western Civilization	4
SS	103	Social Science III	4
		Science or Math Elective	8
			16

Associate in Science — Biology Major

Freshman Year		Fall Term	Credit Hours
ENG	121	Freshman English	4
MTH	164	College Algebra & Trig. I	5
BIO	107	General Biology I	4
PSY	101	Orientation	1
PE	110	or 111 Physical Education	2
			16
		Winter Term	
ENG	122	Freshman English	4
MTH	163	College Algebra & Trig. II	5
BIO	108	General Biology II	4
PE		Physical Education Elective*	1
		Elective	3
			17
		Spring Term	
ENG	123	Freshman English	4
BIO	109	General Biology III	4
		Math or Science Elective	5
			13

Sophomore Year		Fall Term	Credit Hours
HUM	201	Western Civilization	4
SS	101	Social Science I	4
CEM	111	General Chemistry	5
		Elective	4
			17
		Winter Term	
HUM	202	Western Civilization	4
SS	102	Social Science II	4
CEM	112	General Chemistry	5
		Elective	4
			17
		Spring Term	
HUM	203	Western Civilization	4
SS	103	Social Science III	4
CEM	113	Qualitative Analysis	5
		Elective	4
			17

Recommended Electives

MTH	213	Analytic Geometry & Cal. I	5
MTH	214	Analytic Geometry & Cal. II	5
BIO	201	Zoology I	4
BIO	202	Zoology II	4
BIO	203	Botany	4
PHY	201	Physics*	4
PHY	202	Physics	4
PHY	203	Physics	4
PHY	211	Physics**	4
PHY	212	Physics	4
PHY	213	Physics	4

* Prerequisite: Trigonometry or approval of the department.

** Prerequisite: MTH 213 or approval of the department.

Associate in Science — Chemistry Major

Freshman Year	Fall Term	Credit Hours
ENG 121	Freshman English	4
MTH 164	College Algebra & Trig. I	5
CEM 111	General Chemistry	5
PSY 101	Orientation	1
PE 110 or 111	Physical Education	2
		17
	Winter Term	
ENG 122	Freshman English	4
MTH 165	College Algebra & Trigonometry I	5
CEM 112	General Chemistry	5
PE	Physical Education*	1
		15
	Spring Term	
ENG 123	Freshman English	4
CEM 113	General Chemistry	5
	Math of Science Electives	5
		14

Sophomore Year	Fall Term	Credit Hours
HUM 201	Western Civilization	4
SS 101	Social Science I	4
CEM 201	Organic Chemistry	5
	Elective	4
		17
	Winter Term	
HUM 202	Western Civilization	4
SS 102	Social Science II	4
CEM 202	Organic Chemistry	5
	Elective	4
		17
	Spring Term	
HUM 203	Western Civilization	4
SS 103	Social Science III	4
CEM 203	Organic Chemistry	5
	Elective	4
		17

*Elective may be taken any term.

Associate in Science — Earth Science

Freshman Year	Fall Term	Credit Hours
ENG 121	Freshman English	4
MTH 164	College Algebra & Trigonometry I	5
SO 101	Orientation	1
CEM 111	General Chemistry*	5
	Physical Education	2
		17
	Winter Term	
ENG 122	Freshman English	4
MTH 165	College Algebra & Trigonometry II	5
CEM 112	General Chemistry	5
	Physical Education Elective*	1
		15
	Spring Term	
ENG 123	Freshman English	4
GLG 210	Physical Geology	4
CEM 113	Qualitative Analysis	5
		17

Sophomore Year	Fall Term	Credit Hours
HUM 201	Western Civilization I	4
SS 101	Social Science I	4
GLG 211	Historical Geology	4
PHY 201	Physics**	4
		16
	Winter Term	
HUM 202	Western Civilization II	4
MET 112	Introduction to Meteorology	4
PHY 202	Physics	4
AST 201	Introduction to Astronomy	4
		16
	Spring Term	
HUM 203	Western Civilization III	4
SS 104	American Government	4
PHY 203	Physics	4
	Science or Math Elective	4
		16

RECOMMENDED ELECTIVES

MTH 213	Analytical Geometry & Calculus I	5
MTH 214	Analytical Geometry & Calculus II	5
MTH 215	Analytical Geometry & Calculus III	5
BIO 107	General Biology I	4
BIO 108	General Biology II	4
BIO 109	General Biology III	4
BIO 201	Zoology I	4
BIO 202	Zoology II	4
BIO 203	Botany	4

*Elective may be taken any term.

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Arts and Sciences

Associate in Science — Physics Major

Freshman Year	Fall Term	Credit Hours
ENG 121	Freshman English	4
MTH 180	College Algebra and Trig.	5
CEM 111	General Chemistry	5
PSY 101	Orientation	1
PE 110 or 111	Physical Education	2
		17
	Winter Term	
ENG 122	Freshman English	4
MTH 213	Anal. Geom. & Calculus I	5
CEM 112	General Chemistry	5
PE	Physical Education Elective*	1
	Elective	3
		18
	Spring Term	
ENG 123	Freshman English	4
MTH 214	Anal. Geom. & Calculus II	5
CEM 113	General Chemistry	5
	Elective	3
		17

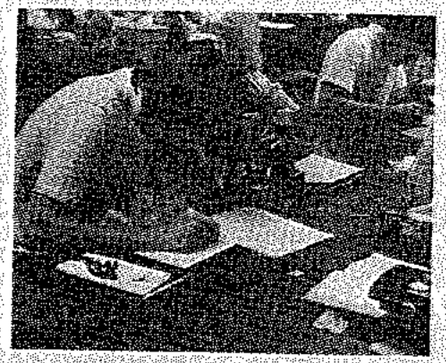
Sophomore Year	Fall Term	Credit Hours
HUM 201	Western Civilization	4
SS 101	Social Science I	4
PHY 211	Physics	4
MTH 215	Anal. Geom. & Calculus III	5
		17
	Winter Term	
HUM 202	Western Civilization	4
SS 102	Social Science II	4
PHY 212	Physics	4
MTH 216	Anal. Geom. & Calculus IV	5
		17
	Spring Term	
HUM 203	Western Civilization	4
SS 103	Social Science III	4
PHY 213	Physics	4
MTH 234	Theory of Matrices (Recommended)	4
		16

*Elective may be taken any term.

Associate in Science — Mathematics Major

Freshman Year	Fall Term	Credit Hours
ENG 121	Freshman English	4
MTH 164	College Algebra and Trigonometry I	5
SS 101	Social Science I	4
PSY 101	Orientation	1
PE 110 or 111	Physical Education	2
		16
	Winter Term	
ENG 122	Freshman English	4
MTH 165	College Algebra and Trigonometry II	5
SS 102	Social Science II	4
PE	Physical Education Elective*	1
	Elective	3
		16
	Spring Term	
ENG 123	Freshman English	4
SS 103	Social Science III	4
MTH 213	Analytical Geometry & Calculus I	5
		13

Sophomore Year	Fall Term	Credit Hours
HUM 201	Western Civilization	4
MTH 214	Analytical Geometry & Calculus II	5
NS	Natural Science	4
	Elective	2
		15
	Winter Term	
HUM 202	Western Civilization	4
MTH 215	Analytical Geometry & Calculus III	5
NS	Natural Science	4
	Elective	1
		14
	Spring Term	
HUM 203	Western Civilization	4
MTH 216	Analytical Geometry & Calculus IV	5
NS	Natural Science	4
MTH 234	Theory of Matrices	4
		17



Pre-Professional Program

The pre-professional curriculums offered by the College of Arts and Sciences parallel in content those offered by four-year institutions within the State of Michigan. They are planned to satisfy both general education requirements and the entrance requirements of the professional schools. A student who does not find a suggested program in the field of his choice should consult a counselor in the Student Personnel Services Office for assistance in choosing a proper sequence of courses.

Admissions 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.

Pre-Chiropractic

It is recommended that students who intend to matriculate in nationally accredited chiropractic colleges complete two full academic years of pre-professional college work before enrollment since most accredited colleges now have this requirement. This is becoming increasingly desirable as more states adopt the two-year pre-professional requirement, in addition to four academic years of professional education as a requisite for licensure.

Freshman Year	Fall Term	Credit Hours	Sophomore Year	Fall Term	Credit Hours
ENG 121	Freshman English	4	CEM 201	Organic Chemistry	5
MTH 164	College Algebra & Trig. I	5	SS 101	Social Science I	4
CEM 111	Inorganic Chemistry	5	HUM 201	Western Civilization	4
BIO 107	General Biology I	4		Elective	3-4
		18			16-17
	Winter Term			**Winter Term**	
ENG 122	Freshman English	4	CEM 202	Organic Chemistry	5
MTH 165	College Algebra & Trig. II	5	SS 102	Social Science II	4
CEM 112	Inorganic Chemistry	5	HUM 202	Western Civilization	4
BIO 108	General Biology II	4		Elective	3-4
		18			16-17
	Spring Term			**Spring Term**	
ENG 123	Freshman English	4	CEM 203	Organic Chemistry	5
CEM 113	Inorganic Chemistry	5	SS 103	Social Science III	4
BIO 109	General Biology III	4	HUM 203	Western Civilization	4
PSY 201	Intro. to Psychology	4		Elective	3-4
		17			16-17

Recommended Electives

Anatomy 301 Anatomy and Physiology
Biology 201 Zoology
Psychology 202 Psychology of Personality
Psychology 203 Social Psychology
Physics 201, 202, 203
Speech 104 Fundamentals of Speech

Pre-Dentistry

Freshman Year	Fall Term	Credit Hours	Sophomore Year	Fall Term	Credit Hours
PSY 101	Orientation	1	HUM 201	Western Civilization	4
ENG 121	Freshman English	4	CEM 201	Organic Chemistry	5
BIO 201	Zoology	4	PHY 201	Physics	4
SS 101	Social Science I	4		Elective	3
CEM 111	Inorganic Chemistry	5			16
PE 110	or 111 Physical Education	2			
		20			
	Winter Term			**Winter Term**	
ENG 122	Freshman English	4	HUM 202	Western Civilization	4
BIO 202	Zoology	4	CEM 202	Organic Chemistry	5
SS 102	Social Science II	4	PHY 202	Physics	4
CEM 112	Inorganic Chemistry	5		Elective	3
PE	Physical Education Elective*	1			16
		18			
	Spring Term			**Spring Term**	
ENG 123	Freshman English	4	HUM 203	Western Civilization	4
BIO 203	Botany	4	CEM 221	Quantitative Analysis	5
SS 103	Social Science III	4	PHY 203	Physics	4
CEM 113	Qualitative Analysis	5		Elective	3
		17			16

Pre-Law

Freshman Year	Fall Term	Credit Hours	Sophomore Year	Fall Term	Credit Hours
ENG 121	Freshman English	4	PHL 201	Philosophy	3
HST 111	American History	3	EC 201	Economics	3
SS 101	Social Science I	4	HUM 201	Western Civilization	4
	Foreign Language	4	NS	Natural Science	4
PSY 101	Orientation	1		Elective	3
PE 110	or 111 Physical Education	2			17
		18			
	Winter Term			**Winter Term**	
ENG 122	Freshman English	4	PHL 202	Philosophy	3
HST 112	American History	3	EC 202	Economics	3
SS 102	Social Science II	4	HUM 202	Western Civilization	4
	Foreign Language	4	NS	Natural Science	4
PE	Physical Education Elective*	1		Elective	3
		16			17
	Spring Term			**Spring Term**	
ENG 123	Freshman English	4	PHL 203	Philosophy	3
HST 113	American History	3	EC 203	Economics	3
SS 103	Social Science III	4	HUM 203	Western Civilization	4
	Foreign Language	4	NS	Natural Science	4
		15		Elective	3
					17

*Elective may be taken any term.

Recommended Electives:

Literature	Psychology
Language	Speech
Accounting	Geography

Pre-Medical

Medical school applicants must present at least 90 semester hours of credit. Two-thirds of these, or 90 term hours, may be taken at Lansing Community College.

Pre-medical students should be familiar with the requirements of the medical school of their choice and adjust their programs of study accordingly — in consultation with their advisers. The University of Michigan School of Medicine, for example, requires facility with a foreign language.

Freshman Year	Fall Term	Credit Hours
PSY 101	Orientation	1
ENG 121	Freshman English	3
SS 101	Social Science I	4
BIO 201	Zoology	4
CEM 111	General Chemistry	5
PE 110	or 111 Physical Education	2
		20
	Winter Term	
ENG 122	Freshman English	4
SS 102	Social Science II	4
BIO 202	Zoology	4
CEM 112	General Chemistry	5
PE	Physical Education Elective*	1
		18
	Spring Term	
ENG 123	Freshman English	4
SS 103	Social Science III	4
BIO 203	Botany	4
CEM 113	Qualitative Analysis	5
		17

Sophomore Year	Fall Term	Credit Hours
PHY 201	Physics	4
CEM 201	Organic Chemistry	5
HUM 201	Western Civilization	4
	Foreign Language or Mathematics	4-5
		17-18
	Winter Term	
PHY 202	Physics	4
CEM 202	Organic Chemistry	5
HUM 202	Western Civilization	4
	Language or Math.	4-5
		17-18
	Spring Term	
PHY 203	Physics	4
CEM 221	Quantitative Analysis	5
HUM 203	Western Civilization	4
	Language or Math.	4-5
		17-18

Pre-Mortuary Science

The Michigan State Board of Mortuary Science requires that a licensed mortician:

1. Complete 90 term hours of instruction at a recognized community college, four-year college or university.
2. Graduate from a nine-month course at an approved college of mortuary science.
3. Complete one year of resident training under the supervision of a licensed mortician.
4. Be 21 years of age, a resident of Michigan, a citizen of the United States, and of good moral character.

Freshman Year	Fall Term	Credit Hours
PSY 101	Orientation	1
SS 101	Social Science I	4
CEM 101	Introduction to Chemistry	3
ENG 121	Freshman English	3
PE 110	or 111 Physical Education	2
	Elective	3
		17
	Winter Term	
ENG 122	Freshman English	4
SS 102	Social Science II	4
CEM 102	Introduction to Chemistry	3
MTH 102	Intermediate Algebra	3
PE	Physical Education Elective*	1
		17
	Spring Term	
ENG 123	Freshman English	4
SS 103	Social Science III	4
CEM 103	Introduction to Chemistry	3
	Electives	4
		15

Sophomore Year	Fall Term	Credit Hours
PSY 201	Psychology	4
BIO 201	Zoology	4
	Electives	9
		17
	Winter Term	
PSY 203	Psychology of Personality	3
BIO 202	Zoology	4
	Electives	9
		16
	Spring Term	
ENG 104	Speech	3
PSY 203	Social Psychology	3
	Electives	9
		15

Recommended Electives

Accounting
Humanities
Social Sciences
Science
Mathematics

*Elective may be taken any term.

Pre-Nursing

For Students Planning to Transfer to Wayne State University

Students at Lansing Community College who wish to enter the College of Nursing, Wayne State University, may transfer the following courses. All students should contact a counselor at Wayne State University College of Nursing as early as possible, and must do so before completing a year of study.

Freshman Year	Fall Term	Credit Hours
ENG 121	Freshman English	4
CEM 111	Inorganic Chemistry	5
SS 101	Social Science I	4
PSY 201	Introduction to Psychology	4
PSY 101	Orientation	1
PE 110	or 111 Physical Education	2
		20

Freshman Year	Winter Term	Credit Hours
ENG 122	Freshman English	4
CEM 112	Inorganic Chemistry	5
SS 102	Social Science II	4
	Social Science Elective	4
PE	Physical Education Elective*	1
		18

Freshman Year	Spring Term	Credit Hours
ENG 123	Freshman English	4
CEM 113	Qualitative Analysis	5
SS 103	Social Science II	4
	Electives	4
		17

Pre-Nursing

For Students Planning to Transfer to Michigan State University

Students at Lansing Community College intending to enter the Michigan State University School of Nursing should consult a counselor there during the freshman year.

Freshman Year	Fall Term	Credit Hours
ENG 121	Freshman Composition	4
CEM 111	Inorganic Chemistry	5
SS 101	Social Science I	4
NS	Natural Science	4
PSY 101	Orientation	1
PE 110	or 111 Physical Education	2
		20

Freshman Year	Winter Term	Credit Hours
ENG 122	Freshman English	4
CEM 113	Inorganic Chemistry	5
SS 102	Social Science II	4
NS	Natural Science	4
PE	Physical Education Elective*	1
		18

Freshman Year	Spring Term	Credit Hours
ENG 123	Freshman English	4
CEM 113	Qualitative Analysis	5
SS 103	Social Science III	4
NS	Natural Science	4
		17

*Elective may be taken any term.

Pre-Nursing

For Students Planning to Transfer to the University of Michigan

Nursing students enrolled in clinical courses in the University Hospital during the third and fourth years receive a stipend of $100.00 at the end of each month in recognition of the contribution of nursing students to the care of patients in the University Hospital. This arrangement begins with the second summer session and is exclusive of planned vacation periods and experience away from the medical center.

A student may be admitted to The University of Michigan School of Nursing upon successful completion of three terms of study, 45 term hours of credit, and will enter the University at the beginning of the first summer session.

Freshman Year	Fall Term	Credit Hours
PSY 101	Orientation	1
ENG 121	Freshman English	4
CEM 111	Inorganic Chemistry	5
SS 101	Social Science I	4
PSY 201	Psychology	4
PE 110	or 111 Physical Education	2
		20

Freshman Year	Winter Term	Credit Hours
ENG 122	Freshman English	4
CEM 112	Inorganic Chemistry	5
SS 102	Social Science II	4
PSY 202	Psychology of Personality	3
PE 102	Physical Education Elective*	1
		17

Freshman Year	Spring Term	Credit Hours
ENG 123	Freshman English	4
CEM 113	Qualitative Analysis	5
SS 103	Social Science III	4
PSY 203	Social Psychology	3
		16

Pre-Occupational Therapy

Students who plan to follow this curriculum should consult the catalogs of Eastern Michigan University, Wayne State University, or Western Michigan University for detailed information concerning course requirements. The specific nature of some of the course work in the second year makes it impossible for a student to complete all of his sophomore year at Lansing Community College.

Freshman Year	Fall Term	Credit Hours
ENG 121	Freshman English	3
BIO 201	Zoology	4
SS 101	Social Science I	4
PSY 101	Orientation	1
PE 110	or 111 Physical Education	1
SPH 101	Speech Fundamentals	3
		16

Freshman Year	Winter Term	Credit Hours
ENG 122	Freshman English	3
BIO 202	Zoology	4
SS 102	Social Science II	4
PE 102	Physical Education	1
NS 102	Chem-Physics	4
		16

Freshman Year	Spring Term	Credit Hours
ENG 123	Freshman English	3
BIO 203	Botany	4
SS 103	Social Science III	4
NS 103	Astronomy-Geology	4
PE 103	Physical Education	1
		16

Pre-Optometry

A degree in optometry now requires five years of study. Some colleges require one year of general education and four years of specialized training. Others require two years of general education and three years of specialized training.

Students may take either the one or two years of general education at Lansing Community College. The curriculum selected here will depend upon the requirements of the college from which the student expects to earn his degree in Optometry.

Pre-Pharmacy

Freshman Year	Fall Term	Credit Hours
ENG 121	Freshman English	4
CEM 111	Inorganic Chemistry	5
PE 110	or 111 Physical Education	2
PSY 101	Orientation	1
MTH 164	College Algebra & Trig. I	5
		17

	Winter Term	
ENG 122	Freshman English	4
CEM 112	Inorganic Chemistry	5
PE	Physical Education Elective*	1
SS 101	Social Science I	4
MTH 165	College Algebra & Trig. II	5
		19

	Spring Term	
ENG 123	Freshman English	4
CEM 113	Qualitative Analysis	5
	Elective	3
		12

Sophomore Year	Fall Term	Credit Hours
CEM 201	Organic Chemistry	5
PHY 201	Physics	4
EC 201	Economics	3
BIO 201	Zoology	4
		16

	Winter Term	
CEM 202	Organic Chemistry	5
PHY 202	Physics	4
EC 202	Economics	3
BIO 202	Zoology	4
		16

	Spring Term	
CEM 203	Organic Chemistry	5
PHY 203	Physics	4
EC 203	Economics	3
SS 104	American Government	4
BIO 203	Botany	4
		20

*Elective may be taken any term.

Pre-Physical Therapy

This curriculum is designed for the student who wishes to transfer to the College of Literature, Science and Arts at the University of Michigan. Requirements are quite detailed and the student should consult the catalog of the Literary College for further information.

Freshman Year	Fall Term	Credit Hours
ENG 121	Freshman English	4
CEM 111	Inorganic Chemistry	5
MTH 164	College Algebra & Trig. I	5
	Foreign Language	4
PE 110	or 111 Physical Education	2
PSY 101	Orientation	1
		21

	Winter Term	
ENG 122	Freshman English	4
CEM 112	Inorganic Chemistry	5
MTH 165	College Algebra & Trig. II	5
	Foreign Language	4
PE	Physical Education Elective*	1
		19

	Spring Term	
ENG 123	Freshman English	4
CEM 113	Qualitative Analysis	5
	Foreign Language	4
		13

Sophomore Year	Fall Term	Credit Hours
SS 101	Social Science I	4
CEM 201	Organic Chemistry	5
PSY 201	Intro. to Psychology	4
BIO 201	Zoology	4
		17

	Winter Term	
SS 102	Social Science II	4
CEM 202	Organic Chemistry	5
BIO 202	Zoology	4
	Elective	3
		16

	Spring Term	
SS 103	Social Science III	4
CEM 203	Quantitative Analysis Organic Chem.	5
PSY 203	Social Psychology	3
BIO 203	Botany	4
	Elective	3
		19

*Elective may be taken any term.

Pre-Social Work

The growing complexity of community problems which are distinctly social in nature has created a need for more well informed citizens who are able to cope with these difficulties. The need for professional and non-professional leaders who understand the problem areas of youth, labor and management, domestic relations, less privileged groups, and racial tension is apparent in almost every community.

Professional career opportunities in both government and private social welfare are increasing in number. Openings in most areas far exceed the supply of trained workers in the field. The suggested curriculum for social work follows, but the student should check the specific requirements of the school of social work he intends to enter and adjust the curriculum to meet his transfer requirements.

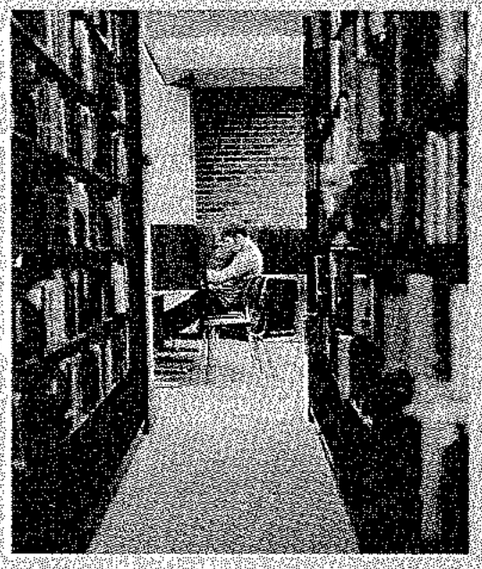
Freshman Year	Fall Term	Credit Hours
PSY 101	Orientation*	1
ENG 121	Freshman English	4
SS 101	Social Science I	4
	Foreign Language	4
	Elective	4
		17
	Winter Term	
ENG 122	Freshman English	4
SS 102	Social Science II	4
PSY 201	Introduction to Psychology	4
	Foreign Language	4
		16
	Spring Term	
ENG 123	Freshman English	4
SS 103	Social Science III	4
PSY 202	Psychology of Personality	4
	Foreign Language	4
		16

Sophomore Year	Fall Term	Credit Hours
HST	Afro-American History	3
HUM 201	Western Civilization I	4
NS 101	Botany-Zoology	4
	Elective	4
		15
	Winter Term	
SS 255	Social Problems	3
HUM 202	Western Civilization II	4
NS 102	Chemistry-Physics	4
	Electives	4
		15
	Spring Term	
SS 254	Marriage and Family	3
HUM 203	Western Civilization III	4
NS 103	Astronomy-Geology	4
	Electives	4
		15

* Optional

Recommended Electives

Second year of a foreign language; any course in Political Science, Geography or Social Science; Mathematics 164, 165; Economics 201, 202, 203; History 111, 113, 115 or Philosophy



PRE-TEACHING CURRICULUM

Electives should be determined by the requirements of the department of the four-year college where the student expects to transfer. He should be aware that many colleges or universities require a full year of a foreign language for graduation. Electives should be determined by one's major and minors (2). The prospective teaching major is urged to consult with the faculty members in the department of Social Science as well as the counseling staff.

Pre-Teaching

Elementary

Freshman Year	Fall Term	Credit Hours
ENG 121	Freshman English	4
SS 101	Social Science I	4
NS	Natural Science	4
ED 150	Introduction to Education	3
PSY 101	Orientation*	1
PE 101	Physical Education*	1
		17
	Winter Term	
ENG 122	Freshman English	4
SS 102	Social Science II	4
NS	Natural Science	4
SPH 101	Fund. of Speech	3
PE 102	Physical Education*	1
		16
	Spring Term	
ENG 123	Freshman English	4
SS 103	Social Science III	4
NS	Natural Science	4
MTH 200	Arith. Foundations	5
PE 103	Physical Education*	1
		18

Sophomore Year	Fall Term	Credit Hours
HUM 201	Western Civilization	4
PSY 201	Introduction to Psychology	4
ENG 230	Introduction to English Linguistics	3
GEO 201	World Regional Geography	3
	Electives	2
		16
	Winter Term	
HUM 202	Western Civilization	4
PSY 204	Education Psychology	3
EPS 212	Foundations of Physical Science	4
	Electives	4
		15
	Spring Term	
HUM 203	Western Civilization	4
PSY 205	Human Growth & Development	3
PBS 211	Foundations of Biological Science	4
	Electives	4
		15

Recommended Electives

Electives should be determined by one's major and minors (2) and may be selected from the following disciplines:

- Biological Sciences
- Physical Sciences
- Mathematics 201, 202
- Social Sciences
- Humanities
- Language Arts
- Art
- Music

Pre-Teaching

Secondary

Freshman Year	Fall Term	Credit Hours
ENG 121	Freshman English	4
SS 101	Social Science I	4
PE 101	Physical Education*	1
	Electives	8
		17
	Winter Term	
ENG 122	Freshman English	4
SS 102	Social Science II	4
PE 102	Physical Education*	1
	Electives	8
		17
	Spring Term	
ENG 123	Freshman English	4
SS 103	Social Science III	4
PE 103	Physical Education*	1
	Electives	8
		17

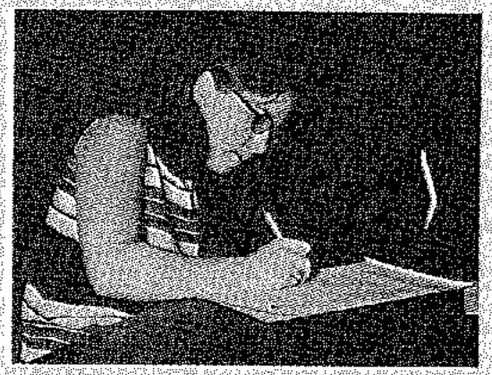
Sophomore Year	Fall Term	Credit Hours
HUM 201	Western Civilization	4
NS	Natural Science	4
PSY 201	Introduction to Psychology	4
	Electives	4
		16
	Winter Term	
HUM 202	Western Civilization	4
NS	Natural Science	4
PSY 204	Educational Psychology	3
	Electives	5
		16
	Spring Term	
HUM 203	Western Civilization	4
NS	Natural Science	4
PSY 203	Human Growth and Development	3
	Electives	4
		15

*Optional

Electives

The electives should be selected from the following disciplines:

Anthropology	English Language	Literature	Physics
Biology	Foreign Language	Mathematics	Political Science
Chemistry	Geography	Music	Psychology
Economics	History	Philosophy	Sociology



Pre-Teaching

Teacher Assistant Curriculum

The Teacher Assistant Program prepares students primarily for service in the elementary grades. It has four purposes: (1) to provide trainees with skills for working with children which will permit the most advantageous use of the professional abilities of the teacher; (2) to prepare trainees to become effective members of a differentiated staff; (3) to provide an entry level to full teacher certification by means of a career development process; (4) to enable pre-teaching candidates to obtain early experiences in the schools in order to facilitate insightful career decisions. Training in the schools takes place under the supervision of fully certificated personnel.

The Teacher Assistant Program has three divisions: Teacher Aide, Teacher Assistant, and Teacher Associate. Each of the divisions is described below.

PART I: TEACHER AIDE

This program leads to the Certificate of Program Completion, Teacher Aide. It consists of 30 credit hours combining academic courses with courses which are task-oriented with clear performance goals.

Summer Pre-Session		Credit Hours
SO 101	Student Orientation	1
ED 150	Introduction to Education	3
ED 101	Curriculum Reinforcement	3
		7

Fall Term		Credit Hours
SS 101	Sociology	4
ED 102	Curriculum Reinforcement	1
ED 201	Teacher Aide Practicum	3
		8

Winter Term		Credit Hours
PSY 201	Introduction to Psychology	4
ED 103	Curriculum Reinforcement	1
ED 202	Teacher Aide Practicum	3
		8

Spring Term		Credit Hours
SPH 104	Principles of Speech	3
ED 104	Curriculum Reinforcement	1
ED 203	Teacher Aide Practicum	3
		7

All practicum courses include one hour formal class meeting and two hours directed field experience in the schools.

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Arts and Sciences

PART II: TEACHER ASSISTANT

Students desiring to meet requirements for the 1 year Certificate, Teacher Assistant, must complete Part I Teacher Aide courses in addition to courses listed below.

Fall Term		Credit Hours
SO 101	Student Orientation	1
ED 150	Introduction to Education	3
ED 101	Curriculum Reinforcement	3
ED 102	Curriculum Reinforcement	1
ED 201	Teacher Aide Practicum	3
ENG 121	Or ENG 111 Communication I	4
		15

Winter Term		Credit Hours
SS 101	Sociology	4
ED 103	Curriculum Reinforcement	1
ED 202	Teacher Aide Practicum	3
PSY 201	Introduction to Psychology	4
ENG 122	Or ENG 112 Communication II	4
		16

Spring Term		Credit Hours
SPH 104	Principles of Speech	3
PSY 204	Educational Psychology	3
ED 104	Curriculum Reinforcement	1
ED 203	Teacher Aide Practicum	3
ENG 123	Or ENG 113 Communication III	4
		14

All practicum courses include one hour formal class meeting and two hours directed field experience in the schools.

PART III: TEACHER ASSOCIATE

Candidates for the Associate Degree, Teacher Associate, must complete both Part I and II and the courses listed below. Students desiring to transfer to a four year college or university are advised to see a counselor.

Freshman Year	Fall Term	Credit Hours
SO 101	Student Orientation	1
ED 150	Introduction to Education	3
ED 101	Curriculum Reinforcement	3
ED 102	Curriculum Reinforcement	1
ED 201	Teacher Aide Practicum	3
ENG 121	Or ENG 111 Communications I	4
		15

Winter Term		Credit Hours
SS 101	Sociology	4
ED 103	Curriculum Reinforcement	1
ED 202	Teacher Aide Practicum	3
PSY 201	Introduction to Psychology	4
ENG 122	Or ENG 112 Communication II	4
		16

Spring Term		Credit Hours
SPH 104	Principles of Speech	3
PSY 204	Educational Psychology	3
ED 104	Curriculum Reinforcement	1
ED 203	Teacher Aide Practicum	3
ENG 123	Or ENG 113 Communication III	4
		14

Sophomore Year	Fall Term	Credit Hours
NS 101	Botany-Zoology	4
HUM 201	Western Civilization I	4
ENG 230	Introduction to English Linguistics	3
GEO 201	World Regional Geography	4
		15

Winter Term		Credit Hours
FPS 212	Foundations of Biological Science	4
NS 102	Chemistry-Physics	4
HUM 202	Western Civilization II	4
SS 102	Economics	4
		16

Spring Term		Credit Hours
FPS 211	Foundations of Physical Science	4
SS 103	Political Science	4
HUM 203	Western Civilization	4
NS 103	Astronomy-Geology	4
		16

All practicum courses include one hour formal class meeting and two hours directed field experience in the schools.

Pre-Theological Curriculum

To meet requirements for entrance into an accredited theological school, a student must complete a four-year program of study leading to the bachelor's degree. The American Association of Theological Schools recommends that the bachelor's program include work in each of these fields: English, philosophy, Bible and religion, history, natural sciences, social sciences, and foreign language.

A candidate for the ministry may appropriately major in one of several academic areas. A major and at least one minor in these areas is especially encouraged: English, history, philosophy, religion, sociology, psychology. Serious consideration should be given to starting the study of Greek language in college.

Freshman Year	Fall Term	Credit Hours
ENG 121	Freshman English	4
	Natural Science**	4
SS 101	Social Science I	4
SO 101	Orientation	1
	Elective(s)	3-4
		16-17
	Winter Term	
ENG 122	Freshman English	4
	Natural Science**	4
SS 102	Social Science II	4
PE 110	or 111 Physical Education	2
	Elective(s)	3-4
		17-18
	Spring Term	
ENG 123	Freshman English	4
	Natural Science**	4
SS 103	Social Science III	4
	Physical Education Elective***	1
	Elective(s)	3-4
		16-17

Students desiring to change their curriculum are required to consult with a counselor in Counseling Services.

Sophomore Year	Fall Term	Credit Hours
HUM 201	Western Civilization I	4
	Foreign Language*	4
PHL 201	Philosophy	3
	Elective(s)	3-4
		14-15
	Winter Term	
HUM 202	Western Civilization II	4
	Foreign Language*	4
PHL 202	Philosophy	3
	Elective(s)	3-4
		14-15
	Spring Term	
HUM 203	Western Civilization III	4
	Foreign Language*	4
PHL 203	Philosophy	3
	Elective(s)	3-4
		14-15

*Student may substitute an elective if he has transferred the equivalent of year's college work in one language.

**Natural Science consists of: NS 101 Botany-Zoology, NS 102 Chemistry-Physics, NS 103 Astronomy-Geology. It is not necessary to take these in sequence.

***Elective may be taken any term.

Pre-Veterinary Science

Freshman Year	Fall Term	Credit Hours
ENG 121	Freshman English	4
SS 101	Social Science I	4
CEM 111	Inorganic Chemistry	5
NS	Natural Science	4
PE 101	Physical Education	1
PSY 101	Orientation	1
		19
	Winter Term	
ENG 122	Freshman English	4
CEM 112	Inorganic Chemistry	5
NS	Natural Science	4
PE 102	Physical Education	1
MTH 180	College Algebra & Trig.	5
		19
	Spring Term	
ENG 123	Freshman English	4
CEM 113	Qualitative Analysis	5
NS	Natural Science	4
SS 102	Social Science II	4
PE 103	Physical Education	1
		18

Sophomore Year	Fall Term	Credit Hours
HUM 201	Western Civilization	4
CEM 201	Organic Chemistry	5
PHY 201	Physics	4
BIO 201	Zoology	4
		17
	Winter Term	
HUM 202	Western Civilization	4
CEM 202	Organic Chemistry	5
PHY 202	Physics	4
BIO 202	Zoology	4
		17
	Spring Term	
HUM 203	Western Civilization	4
PHY 203	Physics	4
SS 103	Social Science III	4
	Electives	3
		15

Department of Humanities

Department Chairman: Dr. Joseph L. Anderson

Humanities

130 Introduction to Art — **Three credits**

Selected works of art from the fields of painting, sculpture, and architecture are examined. The relationships between the works of art, the artist, and the social matrix are analyzed. Not open to art majors. 3 (3-0)

150 History of Art I — **Three 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. 3 (3-0)

151 History of Art II — **Three 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. 3 (3-0)

152 History of Art III — **Three 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 excusions. 3 (3-0)

175 Introduction to Music Literature — **Three credits**

For the non-professional who seeks to enjoy music perceptively as a fine art. Introduction to the elements of music followed by a study of representative instrumental and vocal works of past 300 years. Lectures, records, and demonstrations will be used to illustrate musical ideas and to assist in promoting good listening habits. 3 (3-0)

201 Western Civilization I — **Four credits**

First of a series of three courses in the cultural foundations of Western man. Traces the social, intellectual, religious, philosophic, legal, and artistic patterns of 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**

Continuation of Humanities 201. 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, and art. Prerequisite: Humanities 201 or the approval of the department. 4 (4-0)

203 Western Civilization III — **Four credits**

Continuation of Humanities 202. 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 science, philosophy, literature, art, and music. Prerequisite: Humanities 202 or approval of the department. 4 (4-0)

Humanities

290 Seminar: Foreign Studies **Variable credit**

To strengthen and deepen the student's cross-cultural experience. Program combines research and travel. Students study individually under guidance of faculty advisor. A library research project is combined with foreign travel and final report is prepared which incorporates these experiences.

294, 295, 296 Seminar: Special Subjects **Variable credit**

Special seminars drawn from any area within the disciplines of history, 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 1 to 6. Prerequisites, as individually listed for each offering.

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

Special research project and/or individual readings. Credits variable from 1 to 4. Prerequisite: arrangement with an individual instructor and approval by the department chairman.

History

104 Recent European and World History **Three credits**

Study of contemporary European history in its world setting since 1945, stressing the most recent political, economic, military, and diplomatic events and cultural trends of significance. 3 (3-0)

111 American History I **Three credits**

First of a series of three courses. Traces the origins of the history of the United States from its European beginnings to the Age of Jackson. 3 (3-0)

112 American History II **Three credits**

Continuation of History 111. The United States from the period of Jacksonian Democracy to America's rise to world power in 1900. Prerequisite: History 111 or approval of the department. 3 (3-0)

113 American History III **Three credits**

Continuation of History 112. The United States from 1900 to the present. Prerequisite: History 112 or approval of the department. 3 (3-0)

150 Afro-American History **Three 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. 3 (3-0)

270 The Modern Middle East **Three 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. 3 (3-0)

275 Modern East Asia **Three 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, an analysis of the impact of the West and its role in the transformation. 3 (3-0)

Philosophy

Humanities

101 Principles of Right Reason **Three credits**

An introduction to reasoning on an informal level. Emphasis is placed on learning to recognize a good argument from a bad one, developing logically sound arguments, and discerning how arguments follow from one another and fit together systematically in writing or discussion. 3 (3-0)

201 Survey of Western Philosophy I **Three credits**

First of series of three courses dealing with the philosophies of Western Man. Surveys major problems and historical periods in western philosophy. Designed around integrated readings in problem areas of philosophy and their relation to the historical contexts in which they occur. Emphasizes philosophies of Greece and Rome. 3 (3-0)

202 Survey of Western Philosophy II **Three credits**

Continuation of Philosophy 201. Devotes special attention to the philosophies of the Medieval, Renaissance, and Early Modern Periods. It is recommended that Philosophy 201 be taken prior to this course. 3 (3-0)

203 Survey of Western Philosophy III **Three credits**

Continuation of Philosophy 202. Devotes special attention to the philosophies of the eighteenth, nineteenth and twentieth centuries. It is recommended that Philosophy 202 be taken prior to this course. 3 (3-0)

250 Survey of American Philosophy **Three credits**

Examination of key concepts in American philosophy with special emphasis on the pragmatic school of thought. 3 (3-0)

260 Contemporary Social Philosophy **Three credits**

Survey of current trends in social philosophy with emphasis on prevalent assumptions about "human nature" and how such assumptions may influence theories or methods. Scholars to be discussed include such as Marcuse, Fromm, Galbraith, Skinner, McLuhan, Jaspers, and Toulmin. 3 (3-0)

Religion

150 Major Religions of the World **Three credits**

Survey of the main aspects of the thought and cultural contributions of the major modern religions: Hinduism, Buddhism, Judaism, Christianity, and Islam. Emphasis is upon deepening our understanding of ourselves and others through new appreciation of the role of religion in the development of man's culture and values. 3 (3-0)

Religions of Africa and Asia **Three credits**

Survey of the traditional religions of Africa and Asia, with primary emphasis on the contemporary role and influence of these religions in the modern world. 3 (3-0)

202 Judaism and Christianity **Three credits**

Development of Hebrew religion from the Exodus to the Exile; post-Exilic Judaism and the Rise of Christianity. Distinctive teachings and emphasis of Judaism and Christianity in the modern world. 3 (3-0)

203 Religion in American Life **Three credits**

The changing role of religion in the history of the United States from Columbus to the present day. Emphasis on contemporary institutional and theological trends in relation to American culture and society. 3 (3-0)

Department of Language Arts

Department Chairman: Hugh Schram

Hugh Schram

English

Entrance examinations in English are required for all entering students. Any student who scores below predetermined levels on these examinations will be expected to take the appropriate Language Skills course or courses as a prerequisite to entrance into the curriculum of his choice.

009 Basic Language Skills **Four institutional credits**

For students whose previous academic performance makes admission to college credit courses inadvisable. Concerned with grammar, sentence structure, vocabulary building, and the basic elements of composition. Upon completion of this course, the student may take English 121 only on the recommendation of his instructor. 4 (3-1)

011 Developmental Language Skills **Four institutional credits**

Designed for the student in need of an English refresher program. Considerably more advanced than Basic Language Skills, this course reviews grammar with concentration on sentence structure, vocabulary building, elements of composition, and selected reading. Special attention is given to problems of individual students. 4 (3-1)

019 Basic Reading Skills **Four institutional credits**

For students whose previous academic performance makes admission to college credit courses inadvisable. Designed to improve reading proficiency levels, with emphasis on rate and comprehension. Special attention is given to problems of individual students. 4 (3-1)

021 Efficient Speed Reading **Four institutional credits**

Designed for any student of average reading ability who desires to acquire more efficient reading techniques. Emphasis is upon both theoretical and practical aspects of reading speed and comprehension. Utilization of specialized devices in the Laboratory for Perceptual-Auditory Development is an integral part of the program. 4 (3-1)

111 Communication I **Three credits**

For students entering the one-year certificate programs, and as a foundation for the one-year English requirement in two-year programs. Develops general knowledge and skills in communication necessary for successful employment. Includes review of English fundamentals, writing short themes, some oral communication, with emphasis on writing for business. 3 (3-0)

112 Communication II **Three credits**

Continuation of English 111. Special emphasis on writing the research paper or report, the nature and scope of a variety of reports, techniques for locating information sources in the library, and continuing instruction in English fundamentals and usage. Prerequisite: English 111. 3 (3-0)

113 Communication III **Three credits**

Designed to acquaint the student with the range of verbal and visual communications. Emphasizes analysis of information conveyed through the various media which constitute the major sources of his non-professional experience and influence his decisions as a citizen. Written work consists of several essays or library reports on current events. Prerequisite: English 112. 3 (3-0)

121 Freshman English **Four credits**

Primarily concerned with developing the student's analytical and critical reading and writing skills. The student learns to organize ideas clearly and cogently in shorter papers. The student is introduced to the library and basic research techniques. Prerequisite: Satisfactory score on English Placement Test. 4 (4-0)

122 Freshman English **Four credits**

A continuation of English 121. Reading and writing skills are further developed and special attention is given to the careful reading of the short story. The introduction to research techniques is continued from English 121. Prerequisite: English 121. 4 (4-0)

123 Freshman English **Four credits**

English 123 is an alternate course to English 124. The student may choose either English 123 or English 124 to complete his Freshman English requirements. English 123 continues the development of the student's skills in writing and thinking in a logical, organized and coherent manner, while acquainting him with a variety of literary genres. The student's writing assignments vary in length and the research techniques previously introduced are developed further in a formal paper. Prerequisite: English 121 and English 122. 4 (4-0)

124 Freshman English **Four credits**

English 124 is an alternate course to English 123. The student may choose either English 123 or English 124 to complete his Freshman English requirements. Devoted to the research paper, English 124 includes introduction to principles of argumentation and various research techniques: notes, use of library resources, and organization and documentation of argumentative paper of approximately 3,000 words. Prerequisite: English 121 and English 122. 4 (4-0)

201 Introduction to Literature: Poetry — **Three credits**

Designed to help student understand and appreciate the form and content of narrative and lyric poetry. Includes discussion of nature, language, and content of poetry, with emphasis on learning to read this literary form intelligently. Prepares the student for advanced literary study by acquainting him with literary conventions, providing him with critical vocabulary, and introducing him to experience of writing analytical and critical papers. Required for English majors and minors, and recommended for most students in pre-teaching. Open to freshmen. 3 (3-0)

202 Introduction to Literature: Drama — **Three credits**

Introduction to the drama as a literary form. Acquaints the student with six to nine plays representative of major dramatists of the western world. Some attention given to principles and theories of drama, with primary emphasis on the appreciation of plays by such writers as Sophocles, Aristophanes, Terence, Marlowe, Shakespeare, Moliere, Racine, Congreve, Ibsen, Chekhov, Synge, Shaw, O'Neill, Williams. Student is expected to write analytical and critical papers and scheduled examinations. Required for English majors and minors. Prerequisite: English 121. 3 (3-0)

203 Introduction to Literature: Prose — **Three credits**

Designed to introduce student to the epic in prose translation, the romance, the novel, and satire. Student will read some of the most representative selections of literature of the western world, including such works as *The Odyssey, Don Quixote, Candide, Gulliver's Travels, Joseph Andrews, Billy Budd, Lord Jim,* and *Babbitt.* Student is expected to write analytical and critical papers and scheduled examinations. Required for English majors and minors. Prerequisite: English 121. 3 (3-0)

207 Introduction to Journalism I — **Three credits**

A course designed to introduce the student to newspaper writing, its style, structure, and problems. Topics to be studied include the following: A Comparison of News and Literary Writing, The Journalist, The Canons of Journalism and Press Criticism, The News Operation, The Style Sheet and Headline Schedule, Uses of Language, Clear Writing, Basic News Structure, Writing the Lead, Writing the Head. The student will spend a minimum of four hours weekly on the student newspaper as arranged. 3 (3-0)

208 Introduction to Journalism II — **Three credits**

A continuation of English 207. Topics to be studied include the following: Making News Fit Space, Rewriting, Human Interest in the News, Kinds of News (society, sports, disaster, etc.), News of Speeches and Meetings, Interviews, News Conferences, Using the Pica Rule, Pictures and Cutlines, Using the Copyreading Symbols, Proofreading, Editing. The student will spend a minimum of four hours weekly on the student newspaper as arranged. Prerequisite: English 207 or the approval of the department.

209 Introduction to Journalism III — **Three credits**

A continuation of English 208. Topics to be studied include the following: Writing Feature Stories, Writing Editorials, Writing Reviews, Newspaper Advertising, Make-up, Typography, Printing Machines and Processes, Ethical Problems, Legal Problems. The student will spend a minimum of four hours weekly on the student newspaper as arranged. Prerequisite: English 208 or the approval of the department.

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210 The Nineteenth Century American Novel — **Three credits**

Intensive study of some of the major 19th century American novels from James Fenimore Cooper to Theodore Dreiser and Jack London. General orientation is on historical development of the novel form in America and the novelists' responses to and interpretation of the American scene from colonial times to 1900. In addition to the reading of six to eight novels, critical and analytical papers are required. Prerequisite: English 121 and 122, or approval by the department. 3 (3-0)

211 The Twentieth Century American Novel — **Three credits**

Intensive study of some of the major American novels of this century and of the environments (general or specific) which influenced their writing. Student will read novels by such authors as Anderson, Faulkner, Hemingway, Salinger, and Steinbeck. In addition to the reading of six to eight novels, critical and analytical papers are required. Prerequisite: English 121 and 122, or approval by the department. 3 (3-0)

230 Introduction to English Linguistics — **Three credits**

Designed to introduce the student to various aspects of the English language: grammatical structure, significant sounds, historical change, borrowing, and meaning. Prerequisite: English 121, 122, and 123. Required for most students in pre-elementary teaching. 3 (3-0)

240 The Film As Art — **Three 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 6-8 films, both foreign and American, of recognized merit. 3 (2-3)

241 The Film As Art

Same as 240 above only for continuing education without college credit. 3 (0-3)

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. The student is expected to write analytical and critical papers and scheduled examinations. Required for most students in pre-elementary teaching. Prerequisite: English 121. 3 (3-0)

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

A survey of Afro-American literature from the 17th to the 20th Century. Designed to introduce the student to the various genres in the literature of Black Americans, and to promote an understanding of the human situation through the study of these contributions. The student is expected to write analytical and critical papers and scheduled examinations. Prerequisite: English 121. 3 (3-0)

271 Advanced Writing — **Three credits**

Designed to help the student learn the art and techniques of writing essays, narrative fiction, and poetry. Emphasis on reading of original student work in class to evoke constructive criticism from other students. Student is encouraged to write as much and as well as possible in whatever area he chooses. The class provides an interested and sympathetic audience for creative efforts. Organized to encourage self-criticism as well as criticism from other students and the instructor. No quizzes or examinations. Prerequisite: Approval of the department by submission of an original manuscript. 3 (3-0)

Language Arts

290 Shakespeare — **Three 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 and representative of his early, middle, and late periods. Some attention given to the social and literary background of the Elizabethan world, but primary emphasis is on the plays. Student is expected to write analytical and critical papers and scheduled examinations. Prerequisite: English 202 or approval of the department. 3 (3-0)

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.

101, 102, 103 Elementary French — **Four credits**

Three-term sequence of elementary French designed to teach pronunciation, vocabulary, conversation, and reading from graded texts. Emphasis is given to the oral-aural approach, but the development of the skills of understanding, speaking, reading and writing has equal importance. 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. Five one-hour class periods each week, plus additional work in the language laboratory. Prerequisite: 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 102, and 103; for French 202, French 201, etc. Completion of the elementary sequence and this sequence will fulfill the basic language requirements for liberal arts and associated curricula. Five hours lecture, one laboratory. 4 (5-1)

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 will be handled by contrastive analysis and classroom work will be 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 laboratory work. Prerequisite: 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 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 will be assigned as needed. Prerequisites: for Spanish 201, Spanish 101, 102 and 103; for Spanish 202, Spanish 201, etc. Completion of the elementary and intermediate sequences will fulfill the basic language requirements for liberal arts and associated curricula. 4 (5-1)

Speech

Language Arts

104 Principles of Speech — **Three credits**

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

105 Voice and Articulation — **Three credits**

The 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. Weekly sessions devoted to work in speech laboratory. Prerequisite: Speech 104. 3 (3-0)

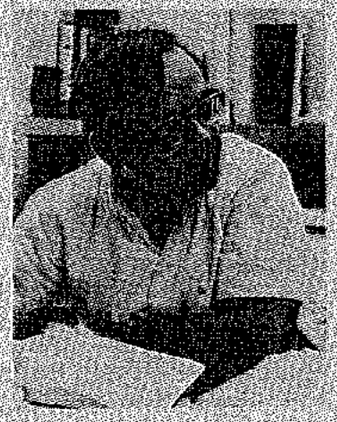
201 Interpretive Reading — **Three credits**

Designed to introduce student to techniques of giving meaning to the oral presentation of literature and communication to an audience through the use of specific skills of voice and gesture. Primary attention is given to selection, preparation, and delivery of literary material. Required for speech majors. Open to freshmen. 3 (3-0)

Special Courses

294, 295, 296 Language Arts — **Credits Variable, One - Four**

Special seminars or workshops on any area within the disciplines of language, literature, communication, the mass media, speech, and foreign languages. There will be a descriptive subtitle each time the course is offered. The course may be repeated for each new subtitle. Prerequisite: department approval.



Department of Mathematics

Department Chairman, Clarence A. Powers

Clarence Powers

The College will admit students who have deficiencies in mathematics. One year each of high school algebra and geometry are, however, essential for certain college courses. These deficiencies may be removed in college, but the time spent may require the student to attend an extra term, or more, to complete requirements for graduation. A satisfactory score on the placement test and/or at least average achievement in preparatory courses is prerequisite for all courses.

009 Basic Arithmetic — **Four Institutional Credits**

Review of fundamental processes with integers, common fractions, decimal fractions and percentage. Includes work with word problems designed to promote good reasoning. Four class hours. 4 (4-0)

011 Beginning Algebra — **Five Institutional Credits**

Contemporary course in elementary algebra designed to provide necessary review and upgrading of previous preparation in mathematics. Emphasis on language, elementary set theory, the real number system, absolute values, algebraic and graphical solutions of linear and quadratic equations and inequalities. Prerequisite: proficiency in basic arithmetic and previous work in elementary algebra. Five class hours. 5 (5-0)

012 Beginning Algebra Laboratory — **Five Institutional Credits**

Elementary algebra using contemporary programmed materials, and designed to meet college entrance requirements. Recommended for students with no previous work in algebra. Each student progresses at his own rate and completes course on an individual basis. May re-register for second term if needed. Prerequisite: proficiency in basic arithmetic. Five class hours. 5 (5-0)

013 Geometry — **Five Institutional Credits**

Elementary course in plane geometry with some of the concepts also related to three-dimensional figures. Included are nature of proof and mensuration principles and formulas. Prerequisite: one unit of high school algebra or Mathematics 011 or 012. Five class hours. 5 (5-0)

102 Intermediate Algebra — **Five credits**

Deals with topics normally considered in second year high school algebra. Includes the real number system, solution of equations, functions and graphs and the complex number system. Prerequisite: one entrance unit each in high school algebra and plane geometry or Mathematics 011 or 012 and Mathematics 013. 5 (5-0)

158 Descriptive Statistics — **Five credits**

Designed for technicians and data-processing majors or as an introductory course for Mathematics 160. Topics include a review of essential mathematical concepts such as absolute values, inequalities, elementary set theory, factorials and combinations; emphasis on terminology, frequency, probability, and normal distributions; measures of spread and location; quality control and sampling. Prerequisite: Mathematics for Technicians I and II or Mathematics 102. 5 (5-0)

160 Statistics — **Five credits**

To acquaint the student with the theory of probability applications to statistical theory. Student will gain an understanding of the kinds of regularity that exist among random fluctuations. Experience in associating and using mathematical models to interpret physical phenomenon and predict, with reasonable certainty, the outcomes of experiments related to practical business problems. Practical experiences in the statistical solution to business problems through the use of computers. Methods of organizing and presenting data with intelligent interpretations of statistics are emphasized. Prerequisite: Mathematics 163; Mathematics 158 recommended. 5 (5-0)

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

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

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

Continuation of Mathematics 164. Prerequisite: Mathematics 164. 5 (5-0)

200 Arithmetical Foundations (Formerly 200A) — **Five credits**

Required for elementary pre-teachers. Course includes concepts of the 'New Math' now being introduced in elementary grades including set theory, algebra, geometry, computation in bases other than ten, and some elementary work in number theory. Also includes review of all basic skills in arithmetic and emphasis on the meaning of the process used, and new format for some of the fundamental processes. Prerequisite: proficiency in basic arithmetic as evidenced by results of an arithmetic skill test. One year of algebra and one year of geometry in high school also desirable. 5 (5-0)

201 Algebra for Teachers (Formerly 200B) — **Five credits**

For elementary pre-teachers. Includes basic understanding of the properties of the real number system, elementary set theory, the fundamental processes with polynomials and algebraic fractions, solving linear and quadratic equations and systems of equations, also graphs of equations and inequalities. Emphasis on understanding of all concepts and processes. Prerequisite: Mathematics 200. 5 (5-0)

202 Geometry for Teachers (Formerly 200C) — **Five credits**

For elementary pre-teachers. Includes the fundamental concepts of two and three dimensional geometric figures with emphasis on proof. Prerequisite: Mathematics 201. 5 (5-0)

Mathematics

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: Mathematics 165. 5 (5-0)

214 Analytic Geometry and Calculus II — **Five credits**

Continuation of Mathematics 213. Prerequisite: Mathematics 213. 5 (5-0)

215 Analytic Geometry and Calculus III — **Five credits**

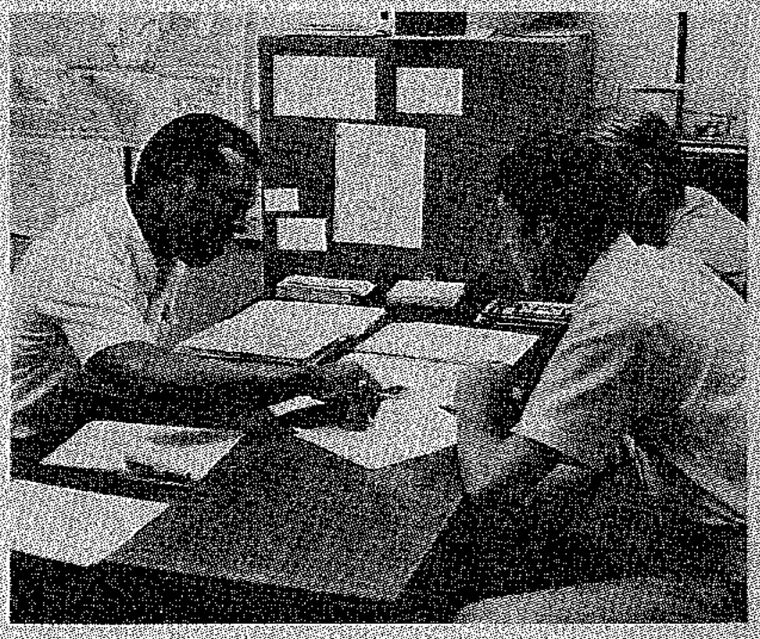
Continuation of Mathematics 214. Prerequisite: Mathematics 214. 5 (5-0)

216 Analytic Geometry and Calculus IV — **Five credits**

Continuation of Mathematics 215. Prerequisite: Mathematics 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: Mathematics 214. 4 (4-0)



Department of Science

Department Chairman: Dr. David L. Shull

Dr. Shull

Astronomy

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: Natural Science 102 and 103, or permission of instructor. 4 (3-3)

Biology

100 Microbiology — **Three credits**

A non-transfer, introductory course emphasizing bacteriology, with some virology. This course gives the student knowledge of what microbes are, what they do, where they are found, what they need for life, how they are controlled and how they are passed from one environment to another. One two-hour laboratory per week allows the student to work with microbes performing exercises designed to teach skills in sterile technique, microscopy, isolation of pure cultures, staining and sterilization. 3 (2-2)

107 General Biology — **Four credits**

First of a three-term sequence devoted to fundamental principles and processes in biology. Presents a general overview of the subject and serves as a background for advanced courses. The following topics are considered: basic chemistry of living matter, origin of life, study of cells, tissues, organs and organ systems, cell division and genetics, evolution and adaptation, metabolism and physiology, anatomy and locomotion, interaction between organisms and their environment, and taxonomy of the plant and animal kingdom. 4 (2-4)

108 General Biology — **Four credits**

Continuation of Biology 107 with primary consideration of the animal kingdom. Prerequisite: Biology 107 or consent of department. 4 (2-4)

109 General Biology — **Four credits**

Continuation of Biology 108 with primary consideration of the plant kingdom. Prerequisite: Biology 108 or consent of department. 4 (2-4)

201 Anatomy and Physiology I — **Four credits**

Part I of a two-term course devoted to the study of the machinery of the human body. Meets the needs of students taking further work in biology or related applied fields such as nursing and mortuary science. Emphasis will be placed on the anatomy and physiology of the skeletal, muscular, nervous, and sensory systems. 4 (2-4)

202 Anatomy and Physiology II — **Four credits**

Continuation of Anatomy 201. Emphasis on the study of the circulatory, respiratory, digestive, excretory, endocrine, and reproductive systems. Prerequisite: Anatomy 201 or approval of department. 4 (2-4)

203 Microbiology — **Four credits**

Introduction to basic bacteriology, with emphasis on the most important communicable disease agents. A study of yeasts, fungi, and protozoa of medical importance, and immunology also of culture media, isolation of pure culture, identification of unknown bacteria, staining methods, practical sterilization, and the collection and handling of specimens. 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. Includes a study of the cell and protoplasm, unicellular organisms, and the animal groups in order of advancing complexity. 4 (2-4)

202 Zoology II — **Four credits**

Continuation of Zoology 201. Deals principally with echinoderms and chordates with emphasis on vertebrate animals. Includes principles of anatomy, physiology, taxonomy, ecology and evolution. 4 (2-4)

203 Botany — **Four credits**

A basic morphological study of the plant kingdom. Structure and life cycles of representative plant groups showing progressive evolutionary developments. 4 (2-4)

Chemistry

010 Basic Chemistry — **Four institutional 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. No prerequisite. 4 (3-1)

100 Concepts in Biochemistry — **Four 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 applications. Prerequisite: High School chemistry within past three years, or Chemistry 010, or approval of Department. 4 (3-3)

101 An Introduction to Inorganic Chemistry I — **Four credits**

The Chemistry 101, 102 and 103 series is designed to meet the needs of many curriculums requiring an understanding of basic chemistry. The program is not designed for chemistry majors or for students wishing to pursue a curriculum requiring more than twelve term hours of chemistry. The series should serve to fulfill general education requirements for students following a Liberal Arts and Sciences curriculum.

Chemistry 101 presents basic inorganic chemical principles and theories. Deals with the nature of atoms, molecules, chemical change, stoichiometry and the solid, liquid, gaseous states of matter. Student applies the basic laws of inorganic chemistry to problem solving situations. Assumes no previous course in chemistry. A good understanding of algebra is necessary, and an understanding of geometry is desirable. Three hours lecture, three hours laboratory. 4 (3-3)

102 An Introduction to Inorganic Chemistry II — **Four credits**

Continuation of 101. Student is also introduced to chemical kinetics and chemical thermodynamics. Opportunity is provided for investigation of chemical phenomena after developing a more thorough understanding of inorganic chemical principles. Emphasis placed on chemical equilibrium, ionic equilibrium and electrochemistry. Prerequisite: Chemistry 101 or approval of department. 4 (3-3)

103 Introduction to Organic Chemistry — **Four credits**

Survey of basic organic principles. Develops student's understanding of homologous series and understanding of appropriate terminology. Relates basic organic concepts to the process of life and industry. Prerequisite: Chemistry 102 or approval of department. 4 (3-3)

111 General Chemistry (Inorganic) — **Five credits**

First of series of three courses designed to give comprehensive introduction to general college chemistry for those students who plan to enter the fields of engineering or the physical sciences. Covers atomic and molecular structure, the periodic classification of the elements, the kinds and states of matter, the laws of gases and solutions, the descriptive chemistry of Groups I, II, VI, VII of the elements, and the noble gases. 5 (3-6)

112 General Chemistry (Inorganic) — **Five credits**

Continuation of Chemistry 111. Includes study of oxidation-reduction, hydrolysis, chemical equilibrium, nuclear chemistry, the descriptive chemistry of Groups III, IV, V of the elements, and the two series of the Rare Earths. Laboratory introduces quantitative analysis, gravimetric, volumetric and instrumental. Prerequisite: Chemistry 111 or approval of the department. 5 (3-6)

113 Qualitative Analysis — **Five credits**

Continuation of the general principles of chemistry introduced in Chemistry 111 and 112, with emphasis on the systematic separation and identification of the principal cations and anions, the application of the principles of the ionization theory of mass action, and chemical equilibrium and the laws of solubility to qualitative analysis. Prerequisite: Chemistry 111 and 112 or approval of the department. 5 (3-6)

200 An Introduction to Biochemistry — **Four credits**

For the student who needs to understand organic principles as they apply to life processes. Deals with enzymes, amino acids, nucleic acids, blood and urine chemistry. Emphasizes other physiological and pathological applications. Prerequisite: Chemistry 103, or approval of department. 5 (3-3)

201 Organic Chemistry I — **Five credits**

First of two courses that constitute an introduction to the chemistry of the carbon compounds and cover the fundamental principles and reactions of organic chemistry. Covers the aliphatic hydrocarbons and their derivatives, the simple alcohols, ethers, aldehydes, ketones, acids, esters, carbohydrates, and organic nitrogen compounds. Prerequisite: Chemistry 111 and 112 or approval of department. 5 (2-6)

202 Organic Chemistry II — **Five credits**

Continuation of Chemistry 201. Takes up the heterocyclic and aromatic hydrocarbons and their derivatives and the kinetics of organic chemical reactions. Prerequisite: Chemistry 201, or approval of department. 5 (2-6)

203 Organic Chemistry III — **Five credits**

Continuation of Chemistry 202. 5 (2-6)

Science

221 Quantitative Analysis — **Five credits**

Laboratory course designed to give the student manipulative ability, a thorough knowledge of the chemical and stoichiometric principles involved in analytical procedures of volumetric and gravimetric analysis. Prerequisite: Chemistry 111 through 113. 5 (2-6)

Science Foundation Courses for Teachers

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 two parts (1) field investigations (2) conservation majors, education majors and others are guided in a second laboratory session according to their specific interests or declared vocations. 4 (2-4)

211 Foundations of Physical Science — **Four credits**

Primarily for students seeking an elementary education certificate. The course will survey the theoretical as well as the practical aspects of physics, inorganic and organic chemistry, earth and space science. Lecture and laboratory. Prerequisite: Sophomore status and Natural Science 102 or equivalent college chemistry and physics. 4 (2-4)

212 Foundations of Biological Science — **Four credits**

Primarily for students seeking an elementary education certificate. Emphasis on modern biology. Student will study such fundamental processes as photosynthesis, energy transfer, nutrition, metabolism, and heredity. Laboratory activities involve the students directly with natural phenomena, their relationships, and application of principles studied. Lecture and laboratory. Prerequisite: Sophomore status and Natural Science 101 or equivalent college biology. Foundations of Physical Science recommended but not required. 4 (2-4)

Geology

210 Physical Geology — **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; physiographic areas of the United States. Laboratory will consist of field investigations to nearby areas as well as a one-weekend extended field trip. Prerequisite: Natural Science 102 and 103 or permission of instructor. 4 (2-4)

211 Historical Geology — **Four credits**

Historical development of the earth from its inception to the present including changes in elevation, size and shape of the continents. Mountain building, marine inundation, formation of mineral deposits and fuels, and the evolution of plant and animal life throughout geologic time. The development of the North American Continent will be emphasized. Prerequisite: N.S. 103 or approval of the department. 4 (3-3)

Natural Science — Science

The three-course sequence in Natural Science is designed to give the student a basic understanding of some of the scientific principles related to both animate and inanimate objects. The Audio-Visual-Tutorial presentation employs a variety of media as an aid to understanding both the empirical and conceptual aspects of Science. The courses are designed to foster initiative and self-reliance on the part of the student. *THE COURSES MAY BE TAKEN IN ANY ORDER.*

101 Natural Science (Botany-Zoology) — **Four credits**

The course begins with an introduction to the cell theory and genetics. This is followed by a phylogenetic approach to a survey of the plant and animal kingdoms. An introduction to ecology is given, stressing its relationship to our present environmental problems. 4 (2-4)

102 Natural Science (Chemistry-Physics) — **Four credits**

Introduces the fundamental laws, theories, and principles of chemistry and physics. Includes such topics as kinetic, atomic and molecular theory, the periodic system, the laws of chemical combinations and the gas laws. Some modern applications of electronics, mechanics, heat, sound and light will be studied. No prerequisite. One year of high school algebra or Mathematics 011 is recommended. 4 (2-4)

103 Natural Science (Astronomy-Geology) — **Four credits**

Topics include rocks and minerals, geological processes, formations, earth history past and present, the solar system, and the universe. No prerequisite. 4 (2-4)

Meteorology

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: N.S. 102 or approval of the Department. 3 (2-4)

Physics

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: Physics 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: Physics 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: Physics 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, relatively, solid state physics, and quantum physics phenomena. Prerequisite: Physics 212, or approval of department. 4 (214)

SEMINARS IN SCIENCE

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

Special seminars are developed from many areas within the disciplines of biology, 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. Prerequisite: Department approval. (Variable)

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 chairman. A detailed plan for the study will be submitted prior to approval. (Variable)

Department of Social Science

Department Chairman: Dr. William Heater

Dr. Heater

Basic Social Science

This three-term sequence of courses introduces the student to the social sciences and forms an integral part of the general education program. The structure and content require that the courses be taken in sequence. Other courses, such as PLS 200, SA 200, or Economics 101, 201 or 202 may not be considered as substitutes for courses in this sequence. Students in curriculums that permit only two courses in social science should take Social Science 101 and 104. Social Science 103 or 104 satisfy the State of Michigan requirement for a 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: Social Science 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: Social Science 102. 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. No prerequisite. 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)

Education

Teacher Assistant Course

101 Curriculum Reinforcement — **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. No prerequisite. 3 (3-0)

102 Curriculum Reinforcement — **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 — **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 — **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. No prerequisite. 3 (3-0)

201 Teacher Aide Practicum — **Three credits**

Seminar course to provide opportunities for teacher aides to discuss problems and topics relevant to their academic and field experiences. Includes the application of Education 101 to the school setting. Prerequisite: ED 101, or departmental approval. 3 (1-2) (Two credit hours for directed field experience.)

202 Teacher Aide Practicum — **Three credits**

Seminar course to provide teacher aides with opportunities to explore and discuss problems and topics relevant to academic and work experiences. Includes the application of understanding gained through Psychology 201 and other subjects applied to the school setting. Prerequisite: Psy 201, ED 101 or departmental approval. 3 (1-2). (Two credit hours for directed field experience.)

203 Teacher Aide Practicum — **Three credits**

Seminar course for teacher aides to discuss problems and topics relevant to academic and work experiences. Emphasizes application of learning gained through Education 104, Speech 104 and other subjects as they relate to the function of the teacher aide in the schools. Prerequisite: ED 104 or departmental approval. 3 (1-2)

Geography

101 Principles of Geography — **Three credits**

Specific geographic principles course which emphasizes the physical forces on a world wide basis. Offers an extensive study and analysis of the physical forces (biotic resources, landforms, maps, water resources, weather and climate, soils, minerals, natural resources, etc.) which affect human life on earth. No prerequisite. 3 (3-0)

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. No prerequisite. 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. No prerequisite. 3 (3-0)

203 Economic Geography — **Three credits**

Study of geographic distribution and production of agricultural commodities, raw materials for industry, and the localization of industries throughout the world. Some emphasis placed on trade of raw materials and finished products among nations. No prerequisite. 3 (3-0)

Social Science

Political Science

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: Social Science 101. 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: Social Science 103. 3 (3-0)

260 Introduction to Comparative Government — **Three credits**

Introduction to the political institutions of modern government, with emphasis given to the institutions of the United Kingdom, France, Germany, and the USSR. Dynamics of political behavior in these and other societies will be included. Also special problems of the newly emerging nations. Prerequisite: Social Science 103. 3 (3-0)

271 International Relations — **Three credits**

Course in contemporary relations, with emphasis upon politics. Concepts and theories, and rudimentary methods, are surveyed. Relationships between international politics, foreign policy, and domestic policy in the U. S. explored. Prerequisite: Social Science 103. 3 (3-0)

Psychology

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 201). No prerequisite. 3 (3-0)

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 principles who do not intend to enroll for advanced courses in the field. (Not eligible for credit after taking Psychology 201. No prerequisite. 3 (3-0)

201 Introduction to Psychology — **Four credits**

Designed to give the student a general understanding of the science of psychology and its methods. Intelligence, motivation, emotion, perception, learning and group processes are discussed. An Audio-Visual-Tutorial presentation utilizing a variety of media is provided as an aid in developing experiences and concepts in psychology. No prerequisite. 4 (2-2½)

Social Science

202 Psychology of Personality — **Three credits**

Discussion of concepts of adjustment, conflict, mental hygiene and behavior modification. Survey of leading theories of personality development and their applications. Prerequisite: Psychology 201. 3 (3-0)

203 Introduction to Social Psychology — **Three 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: Psychology 201. 3 (3-0)

204 Educational Psychology — **Three credits**

An investigation of the contribution of psychology to education. It is concerned with child growth and development, learning, measurement, and group dynamics in the classroom. Observation of a classroom situation in the student's major field of interest is required. Prerequisite: Psychology 201. 3 (3-0)

205 Human Growth and Development — **Three credits**

Study of human growth and development from conception to senescence. Individual psychological development from birth through young adulthood stressed, with emphasis on biological and sociological factors. Prerequisite: Psychology 201. 3 (3-0)

Sociology and Anthropology

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: Social Science 101. 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: Social Science 101. 3 (3-0)

254 Marriage and the Family — **Three credits**

An overview of sex role definitions and the accompanying changes in the structure and functions of the institutions of marriage and the family in contemporary American society. Prerequisite: Social Science 101 and Psychology 201. 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: Social Science 103. 3 (3-0)

270 Introduction to Cultural Anthropology — **Three credits**

Fields, methods, and findings of the science of man. Primary attention given to literature of culture with special emphasis on ethnology, cross-cultural studies. Historical development of anthropological theory and methodology will be surveyed. Prerequisite: Social Science 101. 3 (3-0)

275 Introduction to Physical Anthropology and Archaeology — **Three credits**

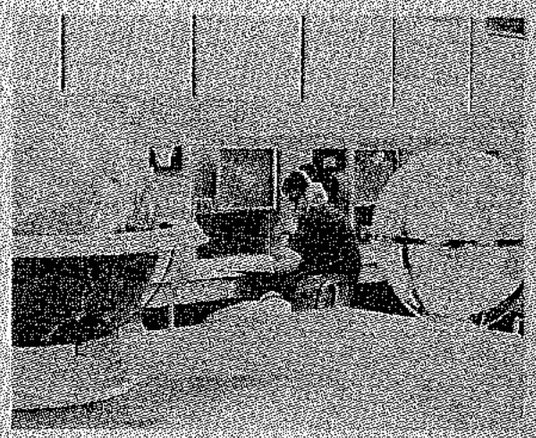
Review of the biological and cultural evolution of man with emphasis on human paleontology, ethnology, cultural ecology, genetics, prehistory and the development of civilization. Prerequisite: SS 101. 3 (3-0)

Social Science **294, 295, 296 Seminar in Special Subjects** **Credits Variable**

Special seminars drawn from any area within the disciplines of anthropology, economics, education, geography, political science, psychology, or sociology. There will be a descriptive sub-title each time the course is offered. The course may be repeated for each new sub-title. Prerequisite: As determined by each individual offering. (Credits variable).

297, 298, 299 Independent Study **Credits Variable**

Special research project and/or individual readings. Prerequisite: Permission of faculty member and departmental chairman. (Credits variable from 1 to 4).



COLLEGE OF BUSINESS

Department of Accounting and Office Programs

Department of Management and Marketing

College of Business

Dean. George Hopkins

Foreword

An Associate Degree in Business is granted to students who successfully complete a specified two-year program. This degree may be earned by students who wish to transfer to a four-year institution and by students who intend to enter an occupation at the end of the two years. A minimum of ninety credit hours is required for an Associate Degree.

1970 - 1972 Lansing Community College Course Catalog www.lcc.edu

The Curriculums offered by the Business College are designed to develop occupational competencies at the skilled or semi-professional levels. The job openings for this level of training represent the fastest growing area of employment in our economy.

Qualified students, interested in gaining new skills and acquiring greater proficiency, may consult with an advisor to select courses that will be equivalent to three terms, or one year, resulting in:

I. A certificate of training.

II. Greater potential skill for the initial job.

III. Increased desire for continued learning.

One-year programs are designed for initial job placement, rather than for transfer to four-year institutions.

Internship and Community Service Programs are offered by this Division to relate to present job requirements and anticipated business changes. Special programs are developed for in-service training for personnel in the various areas of business.

Community Services

One of the most important functions of your Community College is that of service to local business, industry, and government.

Where sufficient interest is shown, every effort will be made to offer instruction which will permit an employee to improve, upgrade, or retrain himself through classroom work. This instruction may be pertinent to the employee's present job requirements or to anticipated advancements. The spectrum of courses offered ranges from those of fundamental content to those requiring considerable preparation and background.

Changes have occurred with increasing incidence during the last few years that require better educated personnel, and there is every indication that the rate of change will increase. The College, in cooperation with business, industry, and government in the Lansing area, has scheduled courses for employees who want to improve their understanding of the more important aspects of their occupation and their employer's business. The College stands ready to develop, for specific requirements, programs ranging from single session meetings to those requiring numerous hours for completion.

Cooperative Internship

Lansing Community College

Internship is an on-the-job work experience program carefully coordinated and integrated with a seminar and departmental offerings. The student spends part of his time working in business or industry to gain actual experience in a vocational field of his 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 time spent at work. (Student must average fifteen or more work hours per week.)

Advantages of internship include the development of occupational competency of 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 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, imagination, and skill.

Placement

Lansing Community College operates a free placement service for all students and alumni desiring full-time, part-time, or summer employment. Although employment cannot be guaranteed, each is afforded the opportunity to meet or to contact prospective employers. Active communication is maintained between the college and hundreds of employing officials. A file is available from each employer giving job descriptions and other vocational information to aid candidates in selecting interviews. Vocational counseling, aids to preparing proper resumes, correspondence checklists, interview checklists and other assistance to job candidates are available at the Placement Office. Students desiring employment are invited to register with the Placement Office and should maintain an active file of their credentials.

Department of Accounting and Office Programs

Department Chairman: Dr. Ronald Edwards

Dr. Edwards

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 fast or as slowly as one's capabilities and/or time commitments will allow. It also provides academic advisors with the ability to construct individual courses to remedy specific deficiencies or to upgrade in special areas.

This system, called Audio-Visual-Tutorial, was designed to replace the traditional classroom situation by programming instruction and demonstrations on audio-visual media such as films, slides, and tapes. These individual learning units are made available to students in 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

One-Year Certificate Program

The Accounting Curriculum is designed to serve students preparing for pre-professional levels of employment from Account Clerk to Account Executives; General Sales Clerks to Retail Managers; Record keepers, Cashiers, and Bookkeepers to Chief Clerks, and Data Processing occupations from Coder to Computer Programmer Trainee. The first two terms of course work covers the need for record keeping and other entrance occupations. The first year of course work covers the need for more complex record keeping occupations and achieves the entrance level for general bookkeepers.

Course Number	Fall Term	Credit Hours
BUS 117	Business Mathematics	3
BUS 118	Introduction to Business	4
BUS 210	Principles of Accounting I (AVT)	4
ENG 111	Communications, or	3
ENG 131	Freshman English	4
		14-15
	Winter Term	
BUS 107	Business Machines I (AVT*)	3
BUS 211	Principles of Accounting II	4
DP 132	Survey of Cobol	3
BUS 101	Intermediate Typing (AVT*), or Elective	3
PSY 152	Applied Psychology	3
		16

Course Number	Spring Term	Credit Hours
BUS 212	Principles of Accounting III	4
BUS 113	Applied Business Law	3
BUS 108	Business Machines II	3
EC 101	Applied Economics	3
	Elective	3
		16
	Recommended Electives	
SS 101	Social Science I	4
BUS 220	Office Management I	3
BUS 204	Business Correspondence	3
BUS 130	Intro. to Marketing	4

*Audio-Visual-Tutorial Instruction.

Accounting

Two-Year Associate Degree Program

The two-year accounting program is designed to meet the needs of modern business and industry for accounting and financial information. 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 sub-professional levels of accounting.

Freshman Year	Fall Term	Credit Hours
BUS 118	Introduction to Business	4
BUS 117	Business Mathematics	3
BUS 210	Principles of Accounting I (AVT)	4
ENG 111	Communications	3
SO 101	Orientation	1
		15
	Winter Term	
DP 132	Survey of Cobol	3
BUS 107	Business Machines I (AVT*)	3
BUS 211	Principles of Accounting II	4
BUS 130	Introduction to Marketing	4
	Elective	3
		17
	Spring Term	
BUS 108	Business Machines II (AVT*)	3
BUS 212	Principles of Accounting III	4
PSY 132	Applied Psychology	3
	Elective	4
		14

Sophomore Year	Fall Term	Credit Hours
BUS 250	Intermediate Accounting I	4
BUS 215	Business Law I	3
EC 201	Principles of Economics I	4
BUS 240	Accounting Internship	3
BUS 257	Federal Income Tax	4
		18
	Winter Term	
BUS 251	Intermediate Accounting II	4
BUS 216	Business Law II	3
EC 202	Principles of Economics II	4
BUS 241	Accounting Internship, or	3
BUS 253	Cost Accounting I	4
		14-15
	Spring Term	
SS 101	American Government	4
BUS 252	Intermediate Accounting III	4
BUS 242	Accounting Internship, or	3
BUS 254	Cost Accounting II	4
	Elective	4
		15-16

Recommended Electives:

BUS 204	Business Correspondence	3
BUS 220	Office Management I	
SS 101	Social Science I	4
SS 102	Social Science II	4
DP 133	Systems & Applications	3
BUS 103	Typing II (AVT*)	3

*Audio-Visual-Tutorial Instruction, see page 89.

**Strongly recommended for those students who anticipate transfer to a four-year college.

Court and Conference Reporting

Two-Year Associate Degree Program

The two-year Court and Conference Reporting curriculum, which includes the summer between the two regular school years, is an associate degree program designed 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.

Freshman Year	Fall Term	Credit Hours
ENG 111	Communications	3
BUS 101	Intermediate Typewriting (AVT*)	3
CCR 101	Machine Shorthand I	6
PSY 101	Orientation	1
		13
	Winter Term	
SS 101	Social Science I	4
CCR 102	Machine Shorthand II	6
BUS 102	Typewriting III (AVT*)	3
		13
	Spring Term	
SS 104	American Government	4
CCR 103	Machine Shorthand III	6
BUS 215	Business Law I	3
		13
	Summer Term	
CCR 104	Machine Shorthand IV	6
BUS 216	Business Law II	3
		9

Sophomore Year	Fall Term	Credit Hours
CCR 201	Court Reporting I	10
BUS 210	Principles of Accounting (AVT)*	4
		14
	Winter Term	
CCR 202	Court Reporting II	10
EC 101	Applied Economics	3
BUS 109	Secretarial Machines (AVT*)	2
		15
	Spring Term	
CCR 203	Court Reporting III	10
CCR 240	Court Practice	4
		14
	Summer Term	
CCR 204	Machine Shorthand Speed Building	4
CCR 241	Court Practice	4
		8

*Audio-Visual-Tutorial Instruction, see page 89.

**If speed requirements are met at the end of the second year spring term, then summer term will not be necessary.

General Clerical

One-Year Certificate Program

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. Upon satisfactory completion of the program, a certificate is awarded. Further courses may be elected on a full-time basis, or part time during evenings, which will lead to the associate degree.

	Fall Term	Credit Hours
ENG 111	Communications	3
BUS 117	Business Mathematics	3
BUS 118	Introduction to Business	4
BUS 210	Principles of Accounting I (AVT*)	4
SO 101	Orientation	1
		15
	Winter Term	
BUS 101	Typing II (AVT*)	3
BUS 109	Secretarial Machines (AVT*)	3
BUS 109	Secretarial Machines (AVT*)	2
EC 101	Applied Economics	3
PSY 132	Applied Psychology	3
		14

	Spring Term	Credit Hours
BUS 102	Typing III (AVT*)	3
BUS 108	Business Machines II (AVT*)	3
BUS 113	Applied Business Law	3
BUS 119	Office Methods	3
BUS 242	Office Internship, or	
	Elective	3
		15

Recommended Electives:

BUS 220	Office Management I	3
BUS 204	Business Correspondence	3
BUS 229	Public Relations	3

*Audio-Visual-Tutorial Instruction, see page 89.

Office Management

Two-Year Associate Degree Program

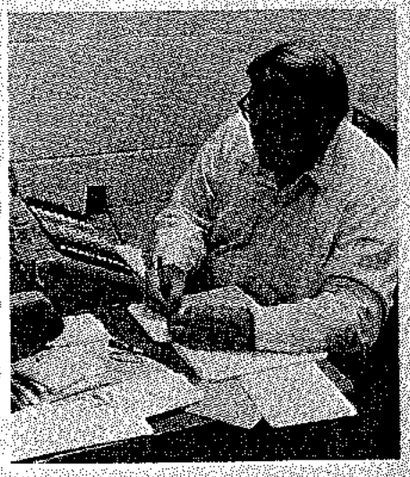
The Office Management curriculum is designed for those persons who wish responsible office positions in other than the stenographic areas. Successful graduates of the program are equipped to handle the functions in most offices with efficiency. The program provides for adequate skills to succeed in entry-level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

Freshman Year	Fall Term	Credit Hours
BUS 118	Introduction to Business	4
ENC 121	Freshman English	4
BUS 117	Business Mathematics	3
BUS 210	Principles of Accounting (AVT*)	4
		15
	Winter Term	
SS 101	Social Science I	4
BUS 211	Principles of Accounting II	4
BUS 107	Business Machines I (AVT*)	3
BUS 101	Typing II (AVT*)	3
		14
	Spring Term	
BUS 212	Principles of Accounting III	4
BUS 108	Business Machines II (AVT*)	3
BUS 202	Typing II (AVT*)	3
BUS 109	Secretarial Machines (AVT*)	2
PSY 152	Applied Psychology	3
		15
Recommended Electives:		
BUS 119	Office Methods	3
BUS 225	Principles of Management	3
SS 102	Social Science II**	4
SS 103	Social Science III**	4
BUS 223	Management & Supervisory Development	3
GEO 203	Economic Geography	3
ENC 122	Freshman English**	4
ENC 123	Freshman English**	4

Sophomore Year	Fall Term	Credit Hours
BUS 220	Office Management I	3
BUS 240	Internship, or Elective	3
SPH 104	Principles of Speech	3
DP 131	Survey of Data Processing	3
	Elective	3
		15
	Winter Term	
BUS 215	Business Law I	3
EC 201	Principles of Economics I	4
BUS 221	Office Management II	3
BUS 241	Internship, and/or Elective	3
BUS 224	Personnel Management	3
		16
	Spring Term	
BUS 216	Business Law II	3
BUS 204	Business Correspondence	3
BUS 242	Office Internship, or Elective	3
EC 201	Principles of Economics II	4
SS 104	American Government	4
		17

*Audio-Visual-Tutorial Instruction, see page 89.

**Strongly recommended for those students who anticipate transfer to a four-year college.



Legal Secretary

Two-Year Associate Degree Program

The Legal Secretarial Program is designed for students who wish to specialize for this rapidly expanding career. The curriculum provides the student with skill and ability necessary to manage the office of an attorney, and develops understanding of the vocabulary and terms used, in addition to the normal secretarial skills. An Associate Degree is awarded upon satisfactory completion of the program.

Freshman Year	Fall Term	Credit Hours
ENC 121	Freshman English	4
BUS 104	Beginning Shorthand***	4
BUS 117	Business Mathematics	4
SS 101	Social Science I	4
		16
	Winter Term	
BUS 118	Introduction to Business	4
BUS 101	Typing II (AVT*)	3
BUS 105	Intermediate Shorthand***	4
BUS 107	Business Machines I (AVT*)	3
		14
	Spring Term	
BUS 102	Typing III (AVT*)	3
BUS 106	Advanced Shorthand***	4
BUS 109	Secretarial Machines (AVT*)	2
BUS 210	Principles of Accounting I (AVT*)	4
	Elective	3
		16
Recommended Electives:		
BUS 108	Business Machines II (AVT*)	3
BUS 220	Office Management	3
BUS 211	Principles of Accounting II**	4
BUS 212	Principles of Accounting III**	4
ENC 122	Composition II**	4
ENC 123	Composition III**	4
SS 102	Social Science II	4
SS 103	Social Science III	4

Sophomore Year	Fall Term	Credit Hours
EC 201	Principles of Economics I	4
BUS 201	Transcription	4
BUS 215	Business Law I	3
PSY 152	Applied Psychology	3
BUS 240	Office Internship, or Elective	3
		17
	Winter Term	
BUS 202	Shorthand Speed Building	4
BUS 216	Business Law II	3
EC 202	Principles of Economics II	4
SPH 104	Principles of Speech	3
BUS 241	Office Internship, or Elective	3
		17
	Spring Term	
SS 104	American Government	4
BUS 203	Secretarial Training	3
BUS 205	Legal Shorthand	2
BUS 204	Business Correspondence	3
BUS 242	Office Internship, or Elective	3
		15

*Audio-Visual Tutorial Instruction, see page 89.

**Strongly recommended for those students who anticipate transfer to a four-year school.

***Students who have completed one or more years of shorthand in high school should see departmental advisor for proper placement. Placement in advanced courses requires departmental approval.

Medical Secretary

Two-Year Associate Degree Program

Designed for the student who wishes to become a secretary in a medical office, this program provides basic secretarial skills and the technical understanding necessary for competence and self-confidence in the specialized field. An Associate Degree is awarded upon satisfactory completion of the curriculum.

Freshman Year	Fall Term	Credit Hours
ENG 121	Freshman English	4
BUS 104	Beginning Shorthand***	4
BUS 117	Business Mathematics	3
NS 101	Botany-Zoology	4
PE 110	Physical Education	2
		17
	Winter Term	
NS 102	Chemistry-Physics	4
BUS 101	Typing II (AVT*)	3
BUS 105	Intermediate Shorthand***	4
BUS 107	Business Machines I (AVT*)	3
PE	Physical Education Elective****	1
		15
	Spring Term	
BUS 102	Typing III (AVT*)	3
BUS 106	Advanced Shorthand***	4
PSY 152	Applied Psychology	3
SS 104	American Government	4
		14

Recommended Electives:

BUS 118	Introduction to Business	4
BUS 220	Office Management I	3
ENG 122	Composition II**	4
ENG 123	Composition III**	4

Sophomore Year	Fall Term	Credit Hours
BUS 109	Secretarial Machines	2
BUS 201	Transcription	4
BUS 215	Business Law I	3
BUS 240	Office Internship	3
	Elective	3
		15
	Winter Term	
BUS 110	Applied Accounting	4
BUS 202	Shorthand Speed Building	4
BUS 216	Business Law II	3
EC 101	Applied Economics	3
BUS 241	Office Internship, or	
	Elective	3
		17
	Spring Term	
BUS 203	Secretarial Training	3
BUS 204	Business Correspondence	3
BUS 207	Medical Shorthand	2
SPH 104	Principles of Speech	3
BUS 242	Office Internship, or	
	Elective	3
		14

*Audio-Visual-Tutorial Instruction, see page 89.

**Strongly recommended for those students who anticipate transfer to a 4-year college.

***If the student has completed shorthand in high school, one term of Advanced Shorthand may be sufficient. Placement in advanced courses requires departmental approval.

****Elective may be taken any term.

Secretarial Science

Two-Year Associate Degree Program

The two-year Secretarial Science program is designed to prepare students for one of 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.

Freshman Year	Fall Term	Credit Hours
ENG 121	Freshman English	3
BUS 118	Introduction to Business	4
BUS 104	Beginning Shorthand***	4
BUS 117	Business Mathematics	3
SO 101	Orientation	1
		16
	Winter Term	
BUS 105	Intermediate Shorthand***	4
BUS 101	Typing II (AVT*)	3
BUS 107	Business Machines I (AVT*)	3
BUS 109	Secretarial Machines (AVT*)	2
SPH 104	Principles of Speech	3
		15
	Spring Term	
BUS 106	Advanced Shorthand***	4
BUS 102	Typing II (AVT*)	3
PSY 152	Applied Psychology	3
SS 104	American Government	4
		14

Recommended Electives:

BUS 108	Business Machines II	3
BUS 130	Introduction to Marketing	4
BUS 212	Principles of Accounting III**	4
BUS 240	Office Internship	3
BUS 257	Federal Income Taxes	4
ENG 122	Freshman English**	4
ENG 123	Freshman English**	4
DP 131	Survey of Data Processing	3
SS 101	Sociology**	4
SS 102	Economics**	4

Sophomore Year	Fall Term	Credit Hours
BUS 201	Transcription	4
BUS 210	Principles of Accounting I (AVT*)	4
EC 201	Principles of Economics I	4
BUS 215	Business Law I	3
		15
	Winter Term	
BUS 202	Shorthand Speed Building	4
BUS 211	Principles of Accounting II	4
BUS 216	Business Law II	3
EC 202	Principles of Economics II	4
		15
	Spring Term	
BUS 203	Secretarial Training	3
BUS 204	Business Correspondence	3
BUS 220	Office Management I	3
BUS 242	Office Internship, or	
	Elective	3
		15

*Audio-Visual-Tutorial Instruction, see page 89.

**Strongly recommended for those students who anticipate transfer to a four-year college.

***Students who have completed one or more years of shorthand in high school should see departmental advisor for proper placement.

Accounting and Office Programs

Stenographic

One-Year Certificate Program

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.

Fall Term			Credit Hours
ENC	100	Communications	3
BUS	118	Introduction to Business	4
BUS	117	Business Mathematics	3
BUS	104	Beginning Shorthand**	4
PSY	101	Orientation	1
			15

Winter Term			Credit Hours
BUS	210	Principles of Accounting I (AVT*)	4
EC	101	Applied Economics	3
BUS	101	Intermediate Typewriting (AVT*)	3
BUS	105	Intermediate Shorthand**	4
BUS	107	Business Machines I (AVT*)	3
			17

Spring Term			Credit Hours
BUS	113	Applied Business Law	3
BUS	102	Intermediate Typewriting (AVT*)	3
BUS	106	Intermediate Shorthand**	4
BUS	119	Office Methods	3
BUS	109	Secretarial Machines (AVT*)	2
			15

Recommended Electives:

PSY 150 Psychology of Human Relations
BUS 201 Transcription
SS 101 Social Science I

*Audio-Visual-Tutorial Instruction, see page 89.

**Students who have completed one or more years of shorthand in high school should see departmental advisor for proper placement. Placement in advanced courses requires departmental approval.

Department of Management and Marketing

Department Chairman: James Person

James Person

Management

Certificate Program

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.

Fall Term			Credit Hours
BUS	118	Introduction to Business	4
BUS	223	Management & Supervisory Development	3
BUS	117	Business Mathematics or equivalent	3
DP	131	Survey of Data Processing	3
ENC	121	Freshman English or Communications	3-4
			16-17

Winter Term			
BUS	170	Introduction to Marketing	4
BUS	224	Personnel Management	3
BUS	229	Public Relations	3
EC	201	Principles of Economics I	4
			14

Spring Term			Hours
BUS	225	Principles of Management	3
BUS	210	Principles of Accounting I	4
		Electives	8
			15

Recommended Electives:

BUS 120 Sales
BUS 121 Retailing
BUS 131 Advertising
BUS 222 Small Business Management
BUS 232 Sales Management
BUS 235 Managerial Marketing
BUS 246 Managerial Internship
BUS 260 Trans. & Traffic Mgmt. (Alt)
BUS 271 Real Estate Essentials
BUS 275 Life Insurance Essentials
BUS 211 Principles of Accounting II
BUS 212 Principles of Accounting III
BUS 215 Business Law
BUS 220 Office Management
DP 133 Systems and Applications
EC 202 Principles of Economics II

(Industrial Supervision electives may be offered as needed.)

Management

Associate Degree Program

The Management program offers 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.

Freshman Year	Fall Term	Credit Hours
BUS 118	Introduction to Business	4
DP 131	Survey of Data Processing	3
ENG 121	Freshman English or Business Communication	3-4
SO 101	Orientation	1
	Elective	3
		14-15
	Winter Term	
BUS 120	Sales	3
BUS 130	Introduction to Marketing	4
BUS 229	Public Relations	3
	Electives	6
		16
	Spring Term	
BUS 232	Sales Management	3
BUS 235	Managerial Marketing	4
SS 104	American Government or	4
SS 103	Political Science	
	Elective	4
		15

Sophomore Year	Fall Term	Credit Hours
BUS 223	Management and Supervisory Development	3
BUS 290	Management Internship or Elective	3
BUS 210	Principles of Accounting I	4
EC 201	Principles of Economics	4
	Elective	3
		17
	Winter Term	
BUS 224	Personnel Management	3
BUS 291	Management Internship or Elective	3
BUS 211	Principles of Accounting II	4
EC 202	Principles of Economics	4
		14
	Spring Term	
BUS 225	Principles of Management	3
BUS 292	Management Internship or Elective	3
BUS 212	Principles of Accounting III	4
	Elective	4
		14

Recommended Electives:

BUS 124	Retailing	DP 132	Cobol
BUS 131	Advertising	DP 133	Forms Design and Control
BUS 222	Small Business Management	DP 134	Standards of Documentation
BUS 260	Trans. & Traffic Mgmt. (Alt)	ENG 122	Freshman English*
BUS 271	Real Estate Essentials	ENG 124	Freshman English*
BUS 275	Life Insurance Essentials	PSY 201	Introduction to Psychology
BUS 215	Business Law	SPH 104	Fundamentals of Speech
BUS 220	Office Management		
BUS 203	Management Internship	*Strongly recommended for those students who anticipate transfer to a four-year college.	
DP 110	Fortran		

Marketing

Certificate Program

A condensed one-year curriculum in Marketing is offered 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 accord with their needs and goals.

First Term		Credit Hours
BUS 118	Introduction to Business	4
BUS 223	Management and Supervisory Development	3
BUS 117	Business Mathematics or equivalent	3
DP 131	Survey of Data Processing	3
ENG 121	Freshman English or Business Communications	3-4
		16-17
	Winter Term	
BUS 120	Sales	3
BUS 121	Retailing	3
BUS 130	Introduction to Marketing	4
BUS 229	Public Relations	3
BUS 210	Principles of Accounting I	4
		17

Spring Term		Credit Hours
BUS 131	Advertising	3
BUS 235	Managerial Marketing	4
BUS 246	Marketing Internship or	3
BUS 232	Sales Management	
EC 201	Principles of Economics or	4
BUS 222	Small Business Management	3
		13-14

Marketing

Associate Degree Program

The Marketing Program offers organized training in retail distribution, wholesaling, management and other activities related to the marketing of goods and services. The courses offered in this area provide education and training to improve the skills, business knowledge, and judgment of those preparing for, or now engaged in, the rapidly growing area of distribution and marketing. The primary objective is to train individuals to participate more efficiently in business activities.

Freshman Year	Fall Term	Credit Hours
BUS 118	Introduction to Business	4
BUS 117	Business Mathematics or equivalent	3
DP 131	Survey of Data Processing	3
ENG 121	Freshman English or Business Communications	3-4
SO 101	Orientation	1
		14-15
	Winter Term	
BUS 120	Sales	3
BUS 121	Retailing	3
BUS 130	Introduction to Marketing	4
BUS 229	Public Relations	3
	Elective	3
		16
	Spring Term	
BUS 131	Advertising	3
BUS 235	Managerial Marketing	4
SS 104	American Government or	4
SS 103	Social Science III	
	Elective	3
		14

Sophomore Year	Fall Term	Credit Hours
BUS 223	Management and Supervisory Development	3
BUS 246	Marketing Internship or Elective	3
BUS 210	Principles of Accounting I	4
EC 201	Principles of Economics	4
	Elective	3
		17
	Winter Term	
BUS 224	Personnel Management	3
BUS 247	Marketing Internship or Elective	3
BUS 211	Principles of Accounting II	4
EC 202	Principles of Economics II	4
		14
	Spring Term	
BUS 225	Principles of Management	3
BUS 232	Sales Management	3
BUS 248	Marketing Internship or Elective	3
BUS 212	Principles of Accounting III	4
	Elective	3
		16

Recommended Electives:

BUS 125	Christmas Sales Training	ENG 124	Composition*
BUS 222	Small Business Management	PSY 201	Introduction to Psychology
BUS 271	Real Estate Essentials		
BUS 275	Life Insurance Essentials	*Strongly recommended for those students who anticipate transfer to a four-year college.	
DP 110	Fortran		
DP 133	Systems and Applications		
ENG 122	Composition*		

Management and Marketing

Data Processing

Certificate Program

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 students 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.

	Fall Term	Credit Hours
DP 132	Basic Cobol	3
DP 151	Introduction to Data Processing	5
ENG 121	Freshman English	4
MTH 102	Intermediate Algebra or equivalent OR	
MTH 164	College Algebra & Trigonometry I	5
SO 101	Orientation	1
		18

	Winter Term	
DP 110	Fortran	3
DP 122	Basic Cobol Applications	2
BUS 130	Introduction to Marketing OR	
SS 121	Sociology**	4
ENG 122	Freshman English** or Elective	3-4
DP 155	Data Processing Math OR	
MTH 165	College Algebra & Trigonometry II	5
		17-18

	Spring Term	
DP 133	Forms Design and Control	3
DP 153	Advanced Cobol	5
SPH 104	Principles of Speech OR Elective	3
BUS 210	Principles of Accounting I	4
		15

Recommended Electives:

PSY 201	Introduction to Psychology	4
SS 102	Economics**	4
SS 103	Political Science**	4
BUS 120	Sales	3
BUS 225	Principles of Management	3
BUS 220	Office Management I	3
BUS 221	Office Management II	3
BUS 222	Small Business Management	3
BUS 131	Advertising	3
BUS 121	Retailing	3

*Prerequisite is MTH 164 and MTH 165.
**Strongly recommended for those students who anticipate transfer to a four-year college.

Management and Marketing

Data Processing

Associate Degree Program

The Data Processing curriculum at Lansing Community College is designed to provide trained graduates capable of meeting the ever increasing demand of the modern business world. 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 of Lansing Community College, schooled in the business applications of data processing equipment, is fully trained for occupations such as computer operator, coder, or computer programmer.

Freshman Year	Fall Term	Credit Hours
DP 132	Basic Cobol	3
DP 151	Introduction to Data Processing	5
ENG 121	Freshman English	4
MTH 102	Intermediate Algebra or equivalent OR	
MTH 164	College Algebra & Trigonometry I	5
SO 101	Orientation	1
		18

	Winter Term	
DP 110	Fortran	3
DP 122	Basic Cobol Applications	2
BUS 130	Introduction to Marketing OR	
SS 101	Social Science I	4
ENG 122	Freshman English** OR Elective	3-4
DP 155	Data Processing Math OR	
MTH 165	College Algebra & Trigonometry II	5
		17-18

	Spring Term	
DP 133	Forms Design and Control	3
DP 153	Advanced Cobol	5
SPH 104	Principles of Speech OR Elective	3
MTH 158	Descriptive Statistics OR	
MTH 160	Statistics*	5
		16

Recommended Electives:

PSY 201	Introduction to Psychology	4
SS 102	Social Science II	4
SS 103	Social Science III	4
BUS 120	Sales	3
BUS 225	Principles of Management	3
BUS 220	Office Management I	3

Sophomore Year	Fall Term	Credit Hours
DP 251	Business and E.D.P. Systems	5
BUS 210	Principles of Accounting I	4
BUS 223	Management & Supervisory Development OR	
EC 201	Principles of Economics I	3-4
		12-13

	Winter Term	
DP 252	Advanced Techniques of DP	5
DP 134	Standards of Documentation OR	
BUS 224	Personnel Management	3
BUS 118	Introduction to Business OR	
EC 202	Principles of Economics II	4
BUS 211	Principles of Accounting II	4
		16

	Spring Term	
DP 253	Assembly Language & Software	5
DP 246	DP Intern or Field Project	3
BUS 212	Principles of Accounting III	4
SS 104	American Government	4
		16

BUS 221	Office Management II	3
BUS 222	Small Business Management	3
BUS 131	Advertising	3
BUS 121	Retailing	3

*Prerequisite is MTH 164 and MTH 165.
**Strongly recommended for those students who anticipate transfer to a four-year college.

Hotel-Motel and Food Service Management

Lansing Community College offers Certificate and Associate Degree curriculums designed to prepare the student for mid-management positions as supervisory personnel in hotels, motels, restaurants, and institutions.

Food Specialist Certificate Program

Fall Term		Credit Hours
HMF 112	Basic Food Management	5
HMF 101	Introduction to Hospitality Industry	4
HMF 201	Food Service Operations	3
HMF 203	Nutrition and Man	4
		16

Winter Term		
HMF 213	Merchandising for Hospitality Industry	3
HMF 123	Food Production & Practice	5
HMF 222	Food and Labor Cost Control	3
BUS 117	Business Mathematics or Equivalent	3
ENG 122	Freshman English or Communications	3
		17

Spring Term		Credit Hours
HMF 221	Hospitality Management	3
HMF 224	Catering & Beverage Management	3
HMF 215	Advanced Food Production	5
HMF 226	Quantity Food Purchasing and Menu Design	5
		16

Food Specialist Associate Degree Program

Freshman Year	Fall Term	Credit Hours
HMF 112	Basic Food Management	5
HMF 101	Introduction to Hospitality Industry	4
ENG 121	Freshman English	4
SO 101	Orientation	1
		14

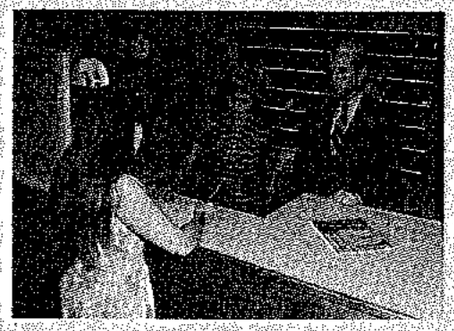
Winter Term		
HMF 123	Food Production and Practice	5
DP 131	Survey of Data Processing OR	3
DP	Survey of Cobol	
BUS 118	Introduction to Business	4
BUS 130	Introduction to Marketing	3
		15

Spring Term		
HMF 215	Advanced Food Production	5
ENG 122	Freshman English	3-4
HMF 134	Internship and Seminar	3
SS 104	American Government	4
		16

Sophomore Year	Fall Term	Credit Hours
HMF 203	Nutrition and Man	4
HMF 201	Food Service Operation	3
BUS 223	Management and Supervisory Development	3
BUS 210	Principles of Accounting I	4
		14

Winter Term		
HMF 222	Food and Labor Cost Control	3
HMF 212	Maintenance and Equipment	4
HMF 213	Merchandising for Hospitality Industry	3
BUS 211	Principles of Accounting II	4
	Elective	3
		17

Spring Term		
HMF 224	Catering and Beverage Control	3
HMF 226	Quantity Food Purchasing and Menu Design	5
HMF 221	Hospitality Management	3
EC 201	Principles of Economics I	4
		15



Hotel-Motel Management Specialist Certificate Program

Fall Term		Credit Hours
HMF 101	Introduction to Hospitality Industry	4
HMF 201	Food Service Operations	3
HMF 202	Hotel-Motel Housekeeping	3
HMF 112	Basic Food Management	5
		15

Winter Term		
HMF 212	Maintenance and Equipment	4
HMF 213	Merchandising for the Hospitality Industry	3
HMF 123	Food Production and Practice	5
HMF 222	Food and Labor Cost Control	3
		15

Spring Term		Credit Hours
HMF 221	Hospitality Management	3
HMF 223	Front Office Procedure	4
BUS 117	Business Mathematics or equivalent	3
ENG 121	Freshman English or Communications	3
	Elective (Business elective recommended)	3
		16

Hotel-Motel Management Specialist Associate Degree Program

Freshman Year	Fall Term	Credit Hours
HMF 101	Introduction to Hospitality Industry	4
BUS 117	Business Mathematics or equivalent	3
ENG 121	Freshman English or Business Communications	4
SO 101	Orientation	1
HMF 112	Basic Food Management	4
		16

Winter Term		
HMF 112	Basic Food Management	5
BUS 118	Introduction to Business	4
DP 131	Survey of Data Processing	3
ENG 122	Freshman English or Communications	4
		16

Spring Term		
HMF 123	Food Production and Practice	5
BUS 130	Introduction to Marketing	3
HMF 134	Internship and Seminar	3
SS 104	American Government	4
		15

Sophomore Year	Fall Term	Credit Hours
HMF 201	Food Service Operation	3
HMF 202	Hotel-Motel Housekeeping	3
BUS 223	Management and Supervisory Development	3
BUS 210	Principles of Accounting	4
		13

Winter Term		
HMF 212	Maintenance and Equipment	4
HMF 213	Merchandising for Hospitality Industry	3
HMF 214	Law as Related to Innkeeping	3
BUS 211	Principles of Accounting II or substitute	4
HMF 230	Apartment Management and Leasing	3
		17

Spring Term		
HMF 221*	Hospitality Management	3
HMF 222	Food and Labor Cost Control	3
HMF 223	Front Office Procedure	4
EC 201	Principles of Economics	4
		14-15

*BUS 212 Accounting III may be substituted by students anticipating transfer to a four-year college.

Any time a student determines that a transfer to a four-year college is desired he should consult the HMF Advisor for recommendations of proper courses.

Recommended Electives for Transfer Students:

Hotel Accounting
ENG 123 Freshman English
PSY 201 Introduction to Psychology

Law Enforcement

Associate Degree

This program is designed to prepare young men or women for police work, and to assist those now in the field to secure the general and 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.

Students who plan to enter this field should enroll in the entire curriculum listed below. (Men and women presently engaged in police work can enroll in specialized law enforcement classes listed.)

Basic Program

Freshman Year	Fall Term	Credit Hours
LE 101	Introduction to Law Enforcement and Criminal Justice	5
ENG 121	Freshman English	4
PE 110	or 121 Physical Education	2
SS 101	Social Science I	4
		15
	Winter Term	
LE 102	Police Organization and Administration	5
ENG 122	Freshman English	4
	Typewriting	3
SS 102	Social Science II	4
		16
	Spring Term	
LE 103	Theory of Patrol	5
ENG 123	Freshman English	4
PE	Physical Education	1
SS 103	Social Science III	4
		14

Recommended Electives:

LE 205	Legal and Criminal Behavior	3
LE 206	Police Interviewing and Interrogation	3
LE 246	Law Enforcement Internship	3

*Electives are approved by the Law Enforcement Coordinator.

Sophomore Year	Fall Term	Credit Hours
LE 201	Introduction to Criminal Investigation	5
BUS 210	Principles of Accounting I, or Approved Elective*	4
SPH 104	Fundamentals of Speech	3
SS 220	Juvenile Delinquency	3
		15
	Winter Term	
LE 202	Criminal Law & Procedures	5
BUS 211	Principles of Accounting II, or Approved Elective*	4
PSY 201	Introduction to Psychology	4
NS 102	Chemistry-Physics	4
		17
	Spring Term	
LE 203	Crime Prevention	5
LE 204	Highway Traffic Administration	5
BUS 212	Principles of Accounting III, or Approved Elective*	4
PE	Physical Education	1
		15

FOOTNOTE:

Students intending to transfer to Michigan State University should take in the sophomore year NS 101 Botany-Zoology, NS 103 Astronomy-Geology, HUM 201, 202, 203 (Western Civilization) instead of other recommended electives.

Law Enforcement Course Certification

Certificate Program

Students who are presently engaged in law enforcement work will receive a certificate upon successful completion of the 38 hours of work in the field of law enforcement.

LE 101	Introduction to Law Enforcement	5	
LE 102	Police Organization and Administration	5	
LE 103	Theory of Patrol	5	
LE 201	Introduction to Criminal Investigation	5	
LE 202	Criminal Law and Procedures	5	
LE 203	Crime Prevention	5	
SS 220	Juvenile Delinquency	3	
LE 204	Traffic Law and Accident Investigation	5	
Recommended Electives:			
LE 205	Legal and Criminal Behavior	3	
LE 206	Police Interviewing and Interrogation	3	
LE 246	Law Enforcement Internship	3	

Pre-Business Administration

Associate Degree Program

The Pre-Business Administration curriculum is designed for students preparing for transfer to a four-year institution to complete work in professional areas of accounting, economics, finance, law, management, marketing, business education, professional secretary, engineering, statistics or related business professions.

Freshman Year	Fall Term	Credit Hours
BUS 118	Introduction to Business	4
ENG 121	Freshman English	4
MTH 164*	College Algebra and Trigonometry I	5
SO 101	Orientation	1
SS 101	Sociology	4
		18
	Winter Term	
ENG 122	Freshman English	4
MTH 165*	College Algebra and Trigonometry II	5
BUS 130	Introduction to Marketing	4
BUS	Elective	3-4
		16-17
	Spring Term	
DP 110	Fortran	3
ENG 124	Freshman English	4
MTH 160	Statistics or Elective	5
SS 103	Social Science III, OR	
SS 104	American Government	4
		16

*MTH 180 College Algebra and Trigonometry (Replaces 164 and 165)

Sophomore Year	Fall Term	Credit Hours
BUS 210	Principles of Accounting I	4
EC 201	Principles of Economics I	4
HUM 201	Western Civilization I	4
NS 101	Botany-Zoology	4
		16
	Winter Term	
BUS 211	Principles of Accounting II	4
EC 202	Principles of Economics II	4
HUM 202	Western Civilization II	4
NS 102	Chemistry-Physics	4
		16
	Spring Term	
BUS 212	Principles of Accounting III	4
HUM 203	Western Civilization III	4
NS 103	Astronomy-Geology	4
		12

Recommended Electives:

BUS 120	Sales
BUS 121	Retailing
BUS 131	Advertising
BUS 223	Management and Supervisory Dev.
BUS 224	Personnel Management
BUS 225	Principles of Management
PSY 201	Introduction to Psychology

Evening Courses in Transportation and Traffic Management

Under the sponsorship of Lansing Community College, in cooperation with the Traffic Club of Lansing, a two-year, six-term course in Traffic and Transportation Management will be conducted at the College. A certificate in Transportation and Traffic Management will be issued by the College.

This course 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 a carrier's general office. This program is also transferable to other programs leading to degrees in the department.

Associate Degree Program

Freshman Year	Fall Term	Credit Hours
BUS 260	Trans/Traffic Management	3
BUS 118	Introduction to Business	4
DP 131	Survey of Data Processing, OR	3
DP 133	Introduction to Data Processing	5
ENG 121	Freshman English or Communications	4
		14-16
	Winter Term	
BUS 261	Trans/Traffic Management	3
BUS 130	Introduction to Marketing	4
BUS 224	Personnel Management	3
SPH 104	Fundamentals of Speech	3
	Elective	3
		16
	Spring Term	
BUS 262	Trans/Traffic Management	3
BUS 117	Business Math or equivalent	3
PSY 132	Applied Psychology	3
SS 104	American Government	4
	Elective	4
		17

Sophomore Year	Fall Term	Credit Hours
BUS 263	Trans/Traffic Management	3
BUS 223	Management and Supervisory Development	3
BUS 210	Principles of Accounting I	4
EC 201	Principles of Economics I	4
		14
	Winter Term	
BUS 264	Trans/Traffic Management	3
BUS 229	Public Relations	3
BUS 246	Internship or Elective	3
BUS 211	Principles of Accounting II	4
EC 202	Principles of Economics II	4
		17
	Spring Term	
BUS 265	Trans/Traffic Management	3
BUS 225	Principles of Management	3
BUS 212	Principles of Accounting III	4
BUS 266	Transportation Law I*	3
		13

Recommended Electives:

BUS 267 Transportation Law II (AVT)
BUS 268 Systems Dis. and Material Handling
BUS 107 Business Machines I (AVT)
BUS 108 Business Machines II (AVT)
BUS 011 Beginning Typewriting (AVT) OR
BUS 101 Intermediate Typewriting (AVT)
DP 132 Cobol

*Prerequisite of BUS 265 or approval of instructor.

The completion of the Transportation and Traffic Management courses qualify candidates for a Certificate in Transportation Management from the College of Advanced Traffic Management and Lansing Community College.

Property Valuation and Assessment Administration

This series of six courses is sponsored by Lansing Community College 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 course is planned to serve as an effective base for intensive on-the-job training. The class 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. Course 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.

ASSOCIATE DEGREE
PROPERTY VALUATION AND
ASSESSMENT ADMINISTRATION

Freshman Year	Fall Term	Credit Hours
BUS 280	Property Appraisal and Assessment Administration I	3
DT 101	Engineering Drawing*	3
ENG 121	Freshman English, OR	4
ENG 111	Communication I*	3
DP 131	Survey of Data Processing, OR	3
DP 151	Introduction to Data Processing	5
	Elective	3
		15-17
	Winter Term	
BUS 281	Property Appraisal and Assessment Administration II	3
BUS 229	Public Relations	3
SPH 104	Principles of Speech	3
BUS 117	Business Mathematics or Equivalent	3
	Elective	3
		15
	Spring Term	
BUS 282	Property Appraisal and Assessment Administration III	3
SS 104	American Government	4
BUS 118	Introduction to Business	4
	Elective	6
		17

Sophomore Year	Fall Term	Credit Hours
BUS 283	Property Appraisal and Assessment Administration IV	3
EC 201	Principles of Economics I	4
BUS 210	Principles of Accounting I	4
BUS 223	Management and Supervisory Development	3
		14
	Winter Term	
BUS 284	Property Valuation V	3
EC 202	Principles of Economics II	4
BUS 211	Principles of Accounting II	4
BUS 201	Personnel Management	3
		14
	Spring Term	
BUS 285	Property Valuation VI	3
BUS 212	Principles of Accounting III	4
BUS 225	Principles of Management	3
	Electives	6
		16

*Note Prerequisite

Recommended Electives:

BUS 130 Introduction to Marketing
BUS 271 Real Estate Essentials
BUS 257 Federal Income Tax
MTH 102 Intermediate Algebra
ENG 112 Communication II
ENG 113 Communication III
ENG 122 Freshman English
ENG 123 Freshman English
GEO 101 Elements of Geography
PSY 151 Psychology of Personal Adjustment
PSY 101 Introduction to Psychology
CT* 103 Construction Costs
CT* 111 Elementary Surveying

COURSE DESCRIPTIONS

020 Smaller Business Management — **Three credits**

Survey of the functions of planning, organizing, and controlling oriented to the problems of smaller business organizations; a review of the major problems in marketing, finance, taxation, law, personnel relations, and economics applied to the smaller business.

011 Beginning 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 and business letters, postcards, and manuscript typing are included. 3 (0-4)

101 Intermediate Typewriting (AVT) — **Three credits**

Intermediate typewriting serves as a refresher typewriting course and as a continuation of Business 011. Special emphasis is placed on improving speed, accuracy and manipulation. The course covers business letters, special communication forms, technical papers, business reports, tabulated reports, business forms and special reports for executives. Prerequisite: Business 011 or department approval. 3 (0-4)

102 Advanced Typewriting (AVT) — **Three credits**

A continuation of Business 101. It is designed to improve judgment, skill and accuracy on straight copy as well as tables with special problems, duplicating processes, reports, legal papers, accounting reports, governmental papers, medical papers and other technical reports. Prerequisite: Business 101. 3 (0-4)

104 Beginning Shorthand I — **Four credits**

Designed to teach the basic principles of shorthand and build an elementary vocabulary. 4 (4-0)

105 Intermediate Shorthand II — **Four credits**

Completes theory begun in Business 104. Develops speed and accuracy in reading from plates, and in limited dictation. Prerequisite: Business 104 or departmental approval. 4 (4-0)

106 Advanced Shorthand III — **Four credits**

Continuation of Business 105. Develops high speed in dictation. Prerequisite: Business 105. 4 (4-0)

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

A beginning course in business machines, which teaches the basic operations of adding and calculating machines. It includes instruction in the use of the 10-key adding-listing machine, the rotary calculator, and the key-driven calculator. Prerequisite: Business 117. 3 (0-3)

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

This course is designed to develop a greater degree of skill in the use of business machines introduced in Business 107. In addition, instruction is provided on the bookkeeping machine, full-keyboard adding machine, and the 10-key printing calculator. Prerequisite: Business 107. 3 (0-3)

109 Secretarial Machines — **Two credits**

Operation and manipulation of the stencil and fluid duplicating processes. Includes study of machine transcription and filing procedure. One hour lecture, one hour laboratory. 2 (0-2)

110, 111, 112 Applied Accounting I, II, III — **(Each) Four credits**

These courses are or will be designed to meet the separate needs of particular curriculums in technical areas where a basic course in Accounting Principles is neither necessary nor desired. Accounting theory is presented in general terms and applications are designed to meet the requirements of specific technical areas. One, two and three-term sequences are developed, depending on the extent of training demanded by the curriculum. Prerequisite: Approval by the student's academic advisor. 4 (4-0)

113 Applied Business Law — **Three credits**

For students who are interested in completing certain one or two-year business programs and others who may be interested for consumer education purposes. Designed to help students develop vocabulary, a fund of information and understanding of meaning and operation for student training and growth in intelligent reading, understanding of, respect for, and obedience to the law. Course relates specifically to contracts, sales, negotiable instruments and other subject areas related to business. 3 (3-0)

117 Business Mathematics — **Three credits**

Designed to develop skill and accuracy in mathematics. Includes study of decimals, fractions, aliquot parts, percentages, discounts, inventory, payroll, interest. 3 (3-0)

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 (2-2)

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: Business 103. 3 (3-0)

120 Sales — **Three credits**

Designed to familiarize the student with fundamentals of sales. Deals with such topics as consumer buying habits, the salesman's job, the sales transaction, retail store and other sales methods, inventory, use of sales media, product demonstration techniques, and customer service problems. 3 (3-0)

121 Retailing — **Three credits**

A comprehensive consideration of the activities involved by retailers in selling goods to ultimate consumers. Emphasis placed on areas relating to the needs and interests of the class. 3 (3-0)

131 Advertising — **Three credits**

Presents methods and techniques in modern advertising, giving information to do the entire advertising job. Copy writing, selection of media and how the advertiser can approach his problems most effectively are included. 3 (3-0)

201 Transcription — **Four credits**

Designed to teach how to type mailable transcripts from shorthand notes. Prerequisite: Business 106 and Business 102. 4 (4-0)

202 Shorthand Speed Building — **Four credits**

Continuation of Business 201. Attention given to specialized vocabulary and high speed writing. Prerequisite: Business 201. 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: Business 102 and Business 106. 3 (3-0)

204 Business Correspondence — **Three credits**

The principles of written business communications are taught by illustration and application. The most effective techniques for formulating the various types of letters to get the desired results are emphasized. 3 (3-0)

205 Legal Shorthand — **Two credits**

Designed to develop skill in writing and transcribing words and phrases commonly recurring in the spoken and written language of the law. Prerequisite: Business 106. 2 (2-0)

207 Medical Shorthand — **Two credits**

Develops skill in writing and transcribing words and phrases occuring in the spoken and written language of medicine. Prerequisite: Business 106. 2 (2-0)

210 Principles of Accounting — **Four credits**

A course designed 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. Prerequisite: Sophomore standing or department approval. 4 (4-0)

211 Principles of Accounting II — **Four credits**

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

212 Principles of Accounting III — **Four credits**

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

215 Business Law I — **Three credits**

Introduction to the 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. Prerequisite: Sophomore standing or departmental approval. 3 (3-0)

216 Business Law II — **Three credits**

The nature and law of sales, commercial paper, security devices, agency, employment, partnerships, corporations—profit and non-profit types—insurance, trusts and estates, and the 1962 Michigan Uniform Commercial Code. Prerequisite: Business 215. 3 (3-0)

220 Office Management I — **Three credits**

First of two courses dealing 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 the supervisory levels of responsibilities in business, government, and other activities. Emphasis is placed on management functions of planning, organizing, directing, coordinating, and controlling, the relationship of policies and procedures, and the responsibilities of supervisory persons for work performance, employee development and evaluation, leadership of workers, and ethics to be considered in decisions. 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**

Study of (a) the field of management in terms of the concept of scientific management, and the qualifications of executives; (b) principles of the planning, organizing, and controlling functions, including the relationship of decision making to the work of the organization; (c) relationship of the management of people, communications, morale, and motivation to the leadership concept of management. 3 (3-0)

229 Public Relations — **Three credits**

Techniques of public relations for those holding supervisory or higher positions in management and marketing. Principles of creating and maintaining good public relations, including employee-employer relations. Customer-employee relations receive emphasis, while focus on the programming of the total public relations effort and selecting of appropriate strategy, media, and persuasive devices to accomplish objectives. 3 (3-0)

230 Introduction to Marketing — **Four credits**

Study of 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. 4 (2-2)

232 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. 3 (3-0)

235 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 effort. 4 (4-0)

240, 241, 242, and 243 (Arranged) Office Internship—Seminar — **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 on the basis of developing a practical training program in agreement with the training station supervisors and the college coordinator. 3 (0-3)

246, 247, 248, and 249 (Arranged) Marketing Internship — Seminar — **Three credits**

After successful completion of basic courses, 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 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 on the basis of developing a practical training program in agreement with the training station supervisors and the college coordinator. 3 (0-3)

250 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: Business 212. 4 (4-0)

251 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: Business 250. 4 (4-0)

252 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: Business 251. 4 (4-0)

253 Cost Accounting I — **Four credits**

The basic principles of cost accounting are discussed including its contribution to management. Cost concepts, classifications and systems are presented to build vocabulary and understanding. Skill is developed in costing techniques and using cost records. The elements of cost-materials, labor, and overhead are treated in depth. Prerequisite: Business 212. 4 (4-0)

254 Cost Accounting II — **Four credits**

This course is a continuation of Cost Accounting I with emphasis on cost systems. Considerable practice is provided in process cost accounting, estimated cost procedures, standard costs, budgetary control, and management reports. Prerequisite: Business 253. 4 (4-0)

257 Federal Income Tax — **Four credits**

Course includes all aspects of Federal Income Tax as it concerns individuals. Fundamentals are emphasized, pertaining to income inclusions and exclusions, deductions allowable and not allowable, types of returns to be filed based on individual circumstances, dependents, exemptions, medical expenses, etc. With respect to a person operating a business as sole proprietor, the course includes reporting methods of business income, net operating loss carryforward and carryback, self-employment tax, investment credit and other pertinent topics. Treatment of capital gains and losses, disposition of business assets, installment sales, and other specialized subjects are covered. Prerequisite: Business 212 or departmental approval. 4 (4-0)

260-265 Traffic and Transportation Management — **(Each) Three credits**

Two-year, six term course 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 (0-3)

267 Governmental and Institutional Accounting I — **Four credits**

Provides instructions in the characteristics of governmental and municipal accounting and how it differs from commercial accounting. The essentials of fund accounting, appropriations, allotments, encumbrances and liquidation are covered. Prerequisite: Business 212 (Business 252 preferred). 4 (4-0)

268 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 summarizations and reports of activities and performance. Prerequisite: Business 267. 4 (4-0)

269 Governmental and Institutional Accounting III — **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: Business 268. 4 (4-0)

271 Real Estate Essentials — **Three credits**

This certificate course, jointly offered by the Lansing Board of Realtors and the College, is required for employment by local Board members, and provides background for the State Real Estate Salesman's examination. The course is designed for real estate sales people, and for those interested in entering the real estate profession. Subjects covered by expert resource people include Michigan License Law, Listing Agreements, Appraising, Finance, Offer to Purchase, Real Estate Law, The Code of Ethics and The Closing Transaction. 3 (3-0)

275 Life Insurance Essentials — **Two credits**

An introductory course in insurance covering various phases of insurance, including the history, growth, and development; the economics of insurance; careers and sales programs; types of life, business, and health insurance; programming and estate planning; and Michigan License Law. The course is designed to give a student the opportunity to explore career positions in the insurance profession; to acquaint the student with various types of insurance and insurance terminology; to allow the student to better understand the purposes of insurance and its benefits; and to allow the student to realize the economic importance of insurance, professional insurance organizations and insurance salesmen in our present day economy. 2 (2-0)

278 Investment Essentials — **One credit**

Familiarizes the student with the workings of the stock market from a fundamental and a technical standpoint, as well as the many external forces which come into play. Valuable for personal enrichment, planning, or broadening of present qualifications. 1 (3-0)

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. 3 (3-0)

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)

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. 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. 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. 3 (3-0)

290, 291, 292, and 293 Management Internship

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.

Court and Conference Reporting

101 Machine Shorthand I — **Six credits**

Theory and techniques of machine shorthand. Designed to develop vocabulary and build skill up to 60 words a minute. 6 (8-0)

102 Machine Shorthand II — **Six credits**

Continuation of CCR 101 with speed development to 100 words a minute. 6 (8-0)

103 Machine Shorthand III — **Six credits**

Continuation of CCR 102 with speed development to 120 words a minute. 6 (8-0)

104 Machine Shorthand IV — **Six credits**

Continuation of CCR 103 with speed development to 140 words a minute. 6 (8-0)

201 Court and Conference Reporting I — **Ten credits**

Introduction to Court and Conference Reporting vocabulary and shortcuts, voice transcription, reporting ethics, techniques and reference texts. Speed development up to 160 words per minute in Machine Shorthand. Prerequisite: CCR 104. 10 (12-0)

202 Court and Conference Reporting II — **Ten credits**

Continued practice in specialized vocabulary and shortcuts with speed development to 180 words per minute. Introduction of Court Reporting procedures, legal typing-transcription, deposition forms and verbatim testimony and jury charge reporting and transcription. Prerequisite: CCR 201. 10 (12-0)

203 Court and Conference Reporting III — **Ten credits**

Continuation of CCR 202 with advanced testimony-jury charge dictation, congressional-literary dictation and speed development of 200+ words per minute. Prerequisite: CCR 202. 10 (12-0)

204 Machine Shorthand Speed Building — **Four credits**

A course designed as both a refresher and up-grading opportunity for those with prior machine shorthand ability. Considerable dictation practice at speeds ranging from 160 words per minute to 240 words per minute with legal and congressional material. Prerequisite: CCR 203 or Departmental Approval. 4 (8-0)

240 Court and Conference Reporting Practice I — **Four credits**

On-the-job training is provided to bridge the gap between the classroom and the actual situation. Student will spend a minimum of 20 hours per week recording actual trials and/or conferences under the direction of a certified reporter and transcribing notes into proper form. Must be taken in conjunction with CCR 203. 4 (3-0)

241 Court and Conference Reporting Practice II — **Four credits**

Either a continuation of CCR 240 or may be used as a refresher-upgrading course with Departmental Approval. 4 (3-0)

Economics

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 overall look at our economic system, prices and their application, money, income and economic growth. 3 (3-0)

201 Principles of Economics I — **Four credits**

This is the first of two courses about the American Economy designed to develop objective consideration of economic issues. Specific objectives are 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**

A continuation of Economics 201 dealing with the aggregate activity of the economy, the level of national income, money supply, and prices. It also includes the relationship of the domestic economy to international economic activity, to provide the student with understanding of broad movements in the economy. Prerequisite: Economics 201. 4 (4-0)

Data Processing

001 Key Punch — **Three credits**

Provides speed and accuracy practice on a training tandem—a simulator for the numerical keys on a key punch machine. Also provides a programmed unit for study containing facts about the key punch, the verifier, and data processing in general. Course includes actual practice on the key punch machine with 4 to 7 jobs using program cards, program drums, and checking work on the verifier. 3 (0-4)

110 Fortran (Fall, Winter, Spring) — **Three credits**

An introduction to programming using Fortran. Covers vocabulary and structure of Fortran. Experience afforded through writing and testing programs. Prerequisite: Mathematics 102. 3 (1-2)

122 Basic Cobol Applications — **Two credits**

The objectives of this course are to study: (1) the Report Writer feature of the Cobol language and (2) the techniques of writing an efficient Cobol program. This course is designed to be taken concurrently with/or after DP 132 since the programs relate directly to the subject matter in DP 132. 2 (1-1)

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 data processing student who wants to strengthen his ability to communicate with data processing personnel. 3 (3-0)

132 Basic Cobol — **Three credits**

The objectives of this course are to study: (1) Cobol Input/Output techniques, (2) Cobol data handling techniques, (3) Cobol program control statements, (4) Cobol vocabulary of reserved words, and (5) the structure of an efficient Cobol program. The course provides the student with the technical knowledge necessary for writing Cobol programs. Those students who wish to develop an expertise in the writing of Cobol programs should enroll in DP 122 in the same or a subsequent quarter that they enroll in DP 132. 3 (1-2)

133 Forms Design and Control — **Three credits**

The purpose of this course is to cover topics in forms design and control from the initial phase of recognizing that a form is needed to the utilization of the form. These topics include: (1) Forms planning and the layout of items on the form by importance and utilization, (2) the Forms design of a printed page with an emphasis on margins, size of print, and spacing, (3) Forms reproduction with emphasis on grades of paper, reproduction techniques and equipment, and binding, and (4) Forms processing by those who are to complete the form. 3 (3-0)

134 Standards of Documentation — **Three credits**

The objectives of this course are to: (1) define the purposes and types of documentation, and assign responsibilities for preparatory review and approval of documentation. (The types of documentation, why we have each type, who does each type, who reviews and approves each type), (2) describe the role and content of documentation within systems development, (3) show the importance of documentation in project control, (4) emphasize the importance of documentation standards and to outline methods of developing these standards, and (5) to outline a model documentation system. Note: It is recommended but not required that this course be taken after Composition I, II, and the Principles of Speech. 3 (3-0)

151 Introduction to Data Processing — **Five credits**

The objectives of this course are to: (1) list and define the basic terminology of data processing, (2) survey the history of the development of present data processing equipment, (3) survey present unit record equipment, (4) study in detail present computer systems, (5) introduce the principles of logic, and (6) develop the techniques of block diagramming. 5 (5-0)

153 Advanced Cobol — **Five credits**

The objectives of this course are to employ the techniques learned in DP 151, DP 132, and DP 122 in the writing, debugging, and documentation of Cobol programs. Emphasis will be placed on a term project involving the use of Cobol for developing a program to handle and edit a large volume data entered in the form of lists and strings of characters. 5 (3-2)

155 Data Processing Mathematics — **Five credits**

The objectives of this course are to study: (1) the Boolean Algebras of logic, sets and circuits, (2) computational methods for solving systems of simultaneous equations, finding roots of polynomials and handling arrays of numbers. Emphasis in this course will be placed on the writing of computational programs in Fortran. Note: Intermediate Algebra (MTH 102) and Fortran (DP 110) are prerequisites. 5 (5-0)

246 DP Intern or Field Project — **Three credits**

This course is student-oriented, designed 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. 3 (0-3)

251 Business and E.D.P. Systems — **Five credits**

The objectives of this course are to study management tools for controlling, planning and operating the organization, and the tools that a data processing staff has 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)

252 Advanced Techniques of Data Processing — **Five credits**

The objectives of this course are to study: (1) Cobol tape and disk, (2) new developments in software and hardware, (3) survey new languages. 5 (5-0)

253 Assembly Language and Software — **Five credits**

The objectives of this course are to study a general assembly language, the nature of compilers, editors and operating systems. 5 (5-0)

Hotel-Motel and Food Service Management

101 Introduction to the Hospitality Industry — **Four credits**

Introduction to the Hotel-Motel industry, and its management departments, the industry's responsibilities, and opportunities for creative employment. 4 (4-0)

112 Basic Food Management & Production — **Five credits**

Basic concepts in menu planning, food purchasing, nutrition, sanitation and food storage. Demonstration and laboratory. 5 (1-4)

123 Food Production Techniques & Practice — **Five credits**

Food production as applied to quantity operation and application. To include laboratory exercises. 5 (1-4)

134 Internship and Seminar — **Three credits**

Offered to students who have successfully completed basic courses. Allows for the student to be placed in an approved training facility, to earn credits for satisfactory work performance, and earn wages for hours worked. 3 (0-3)

201 Food Service Operation — **Three credits**

The five functions of management with emphasis on supervision and service. 3 (3-0)

202 Hotel, Motel Housekeeping — **Three credits**

Deals with the broad scope of the housekeeper's position and stresses employee training, record keeping, executive responsibilities and use of equipment and materials. 4 (3-1)

203 Nutrition and Man — **Four credits**

Physical, chemical and biological characteristics of food. A laboratory course. 4 (4-0)

212 Maintenance and Equipment — **Four credits**

Provides essential technical information in electronics, air conditioning, plumbing, heating, electricity, acoustics and other equipment to establish preventative maintenance routine and to make necessary operating decisions. 4 (4-0)

213 Merchandising for the Hospitality Industry — **Three credits**

Sales promotion and methods used to obtain public recognition and good will. 3 (3-0)

214 Law As Related to Innkeeping — **Three credits**

A course for innkeepers and their personnel as well as students. Presentation of safe, sound rules to assist in avoiding lawsuits and legal pitfalls. 3 (3-0)

215 Advanced Food Production — **Three credits**

Advanced commercial food production. A laboratory course. 3 (1-5)

221 Hospitality Management — **Three credits**

General concepts and management including personnel, guests, and operations present and future. 3 (3-0)

222 Food & Labor Cost Control — **Three credits**

Supervisory procedures in the control of two major items of expense. 3 (3-0)

223 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 of receipts of payment. 4 (3-1)

224 Catering & Beverage Operation — **Three credits**

Food and beverage sales and service. 3 (1-3)

Law Enforcement

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 Police Organization and Administration — **Five credits**

Course covers analysis and study of functional divisions of the modern police department. Functions to be studied will include management operations, coordination of activities, communications, recruiting, training, public relations and a look at the future of law enforcement. Prerequisite: Law Enforcement 101 or Law Enforcement Coordinator approval. 5 (5-0)

103 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. Prerequisite: Law Enforcement 101 or Law Enforcement Coordinator approval. 5 (5-0)

120 Basic Police Science — **Three credits**

Approval of Law Enforcement Coordinator required. 3 (3-0)

201 Introduction to Criminal Investigation — **Five credits**

Fundamentals of criminal investigation, including techniques of surveillance, search at the scene of the crime, collection, recording and preservation of evidence.

methods used in the police science laboratory and cooperation with other agencies. Prerequisite: Law Enforcement 101 or Law Enforcement Coordinator approval. 5 (5-0)

202 Criminal Law and Procedures **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 sources of criminal law; criminal responsibility and general court procedure. Prerequisite: Law Enforcement 101 or Law Enforcement Coordinator approval. 5 (5-0)

203 Crime Prevention **Five credits**

Analysis of causes and control of crime. Causes of crime and methods of dealing with criminal and potential criminal 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: Law Enforcement 101 or Law Enforcement Coordinator approval. 5 (5-0)

204 Highway Traffic Administration **Five 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. Prerequisite: Law Enforcement 101 or Law Enforcement Coordinator approval. 5 (5-0)

205 Legal and Criminal Behavior **Three credits**

A survey of portions of the process whereby justice is arrived at; examines some of the people who take part in this process and looks into their purposes, motives, thoughts, and feelings. The course involves the application of methods and techniques to legal and criminal problems. 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 on the interview process as a method of gathering information. Includes constitutional law and court decisions regulating interviewing of suspects and criminal offenders. 3 (3-0)

207 Narcotic Drug Seminar **Two credits**

This course offers the opportunity to expand one's knowledge of the narcotic drug picture.

246 Law Enforcement Internship **Three credits**

After successful completion of basic Law Enforcement courses students may elect Law Enforcement Internship. This course allows the students to be placed in an approved training station and earn credits for satisfactory work performance. To participate in this program students must secure approval from the Law Enforcement Coordinator. Their occupational interests are considered with their background and related classes to determine employment arrangements. Flexibility of developing individual programs for interested students in any of the Law Enforcement related occupations is accomplished on the basis of developing a practical training program in agreement with the training station supervisors and the college coordinator. The coordinator further conducts an arranged seminar once each week with the internship students to accomplish course objectives which are in accord with purposes of vocational education and to maintain constant evaluation in conjunction with the coordination visits to training stations. 3 (3-0)

COLLEGE OF TECHNOLOGY

Department of Engineering Technology

Department of Applied Technology

Transportation Training Program

Department of Health Careers

Fine Arts Program

College of Technology

Dean: William Monroe

The College of Technology and Health Careers is deeply involved in community service programs as well as the training of students seeking degrees. Accordingly, the college offers many services in career training as part of the community service effort. In accordance with this responsibility, courses are offered when needed by the local community and industry. Thus, on occasions, courses are offered but not included in this catalog.

1970 - 1972 Lansing Community College Course Catalog www.lcc.edu

Specifically, the offerings of the College of Technology and Health Careers can be listed under the following categories.

I. PRE-ENGINEERING CURRICULUM

If a student desires to obtain a four-year Engineering degree, he can enroll in the Pre-Engineering curriculum and conduct his first two years of study at Lansing Community College. Lansing Community College is accredited by North Central Association of Colleges and Secondary Schools, Michigan Commission on College Accreditation, thus insuring that work in specified programs such as this is transferable to other institutions. Admissions requirements to programs vary among schools, colleges, and universities; therefore, the student who wishes to transfer should reach an early decision on the institution he plans to enter. This will enable him to select the courses that will meet the requirements of a particular institution.

II. CAREER TRAINING other than that requiring a four-year degree.

The increased mechanization of American industry, especially in the last ten years, has created a dire need for skilled technicians, young people who have additional practical and technical training above the high school level. To meet this need, Lansing Community College has developed six separate but equally intensive two-year technology programs: Civil Technology (with Highway, Sanitary and Structural options), Computer Technology, Drafting Technology, Fire Science, Electronics Technology, and Mechanical Technology.

The technicians from each of these programs are concerned with "how to do it" and use their special knowledge to perform operations, make calculations, conduct laboratory developmental work, and plan and conduct tests. They are employed as laboratory technicians, draftsmen, testers, research technicians, engineering technicians, and in a host of other capacities.

Another by-product of the increased mechanization of American industry is the continued demand for higher trained skilled craftsmen. The Applied Technology Department has as its objective the training of these craftsmen. Training programs are offered in the fields of building trades, industrial trades, and service trades.

Career training programs at Lansing Community College include:

A. Programs leading to the two-year Associate of Science degree. This group includes training for the career of technician in many fields.

B. One-year Certificate programs leading to a career of engineering technician or craftsman in industrial, building, or service occupations.

C. Special courses providing intensified training leading to a career, such as the Lansing Community College Truck Driver training program.

D. Manpower Development courses sponsored by the U.S. and State of Michigan Departments of Education available in various fields from time to time.

E. HEALTH CAREER curriculums. These include associate degree programs in nursing and dental hygiene, and one-year certificate programs for practical nurses and dental assistants.

The increased emphasis on community health, and opportunities in allied health occupations, provide community health service emphasis in the four health career programs. Community hospitals, clinics, physician and dentist offices are utilized cooperatively in all programs to provide the student with clinical resources in which basic patient care knowledge and skills are applied.

F. An Art Certificate Program for students who wish to pursue a career in art.

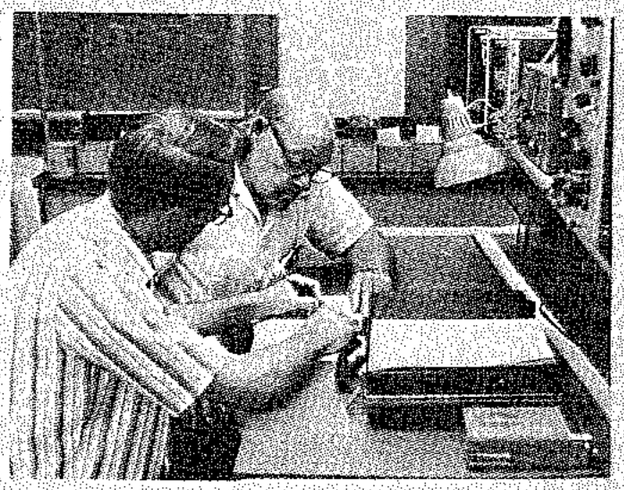
G. Courses in Music which can lead to an associate degree. The student who plans a career in music can follow this with enrollment in a music conservatory, or with subsequent study at a four-year institution to qualify for a teacher of music.

H. Courses in Theater which can lead to an Associate Degree in Arts with specialization in theater, or can prepare the student for auditions required for enrollment in a professional theater school.

III. Individual specific courses which may be taken to provide additional training enabling the student to become more proficient in his field of interest.

These opportunities are described more fully in the following sections outlining the activities of the Engineering Technology Department, the Applied Technology Department, the Transportation Training Program, the Fine Arts Program, and the Department of Health Careers.

And once again in its technical programs, as in its business program, Lansing Community College gives ample opportunity for cooperative training by allowing time for part-time employment that corresponds to and puts classroom theory into practice. For the convenience of the student, most of the courses are offered evenings as well as during the day.



Department of Engineering Technology

Department Chairman: Edwin C. Bergmann

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 preparing these qualified technicians to assume positions in this society.

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 in manipulative skills than full professionals. Technicians usually become qualified through formal technical training, on-the-job training, or a combination of both.

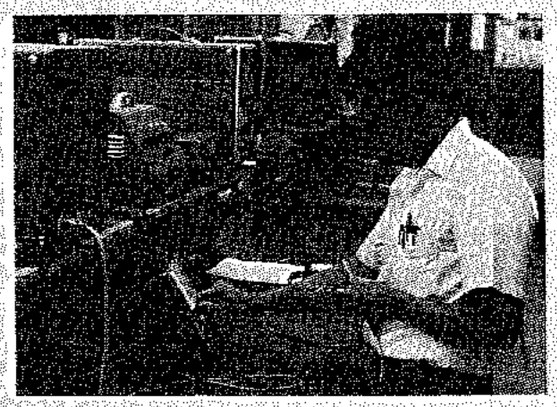
In addition to receiving technical training in a specific field, the prospective technician will be required to take selected courses of a general education nature that will give him a better understanding, appreciation, and knowledge of his home, civic and community responsibilities. Upon completion of a two-year program in a selected area of technology the student is awarded an Associate Degree with qualifications that should assure him of a position in a number of industrial and technological occupations.

The Engineering Technology Department has also assumed the responsibility for providing opportunities for individuals to upgrade themselves in their present positions or to guide them in the selection of a new occupation. Individual courses are offered in all technology areas for these specific purposes.

The Engineering Technology Department features a Certificate Program through which students may obtain training to qualify them for a specific career. The certificate is awarded upon completion of the course prescribed for that curriculum. Certificate programs vary in length from one to two years.

Engineering Technology Curriculums

The various curricula in which a student can enroll are given in the following pages. In each case the curriculum and the career pertaining to that curriculum are discussed briefly, and the specific courses that are required to obtain a Certificate or Degree are listed. For each curriculum an advisor will be appointed from the department concerned. In the subsequent section each of these courses is described more fully.



Architectural Technology Associate Degree Program

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 primarily to prepare a student for employment with an architectural or engineering firm. Many other opportunities are available in the building industry.

35-40 credits required

			Credit Hours
AT	100	Beginning Architectural Drawing*	3
ART	101	Drawing I	3
AT	131	Residential Planning**	3
AT	230	Architectural Drafting—Detailing	3
AT	231	Architectural Drafting—Floor Plans	6
AT	232	Architectural Drafting—Elevations	6
AT	233	Architectural Drafting—Commercial Construction	4
AT	234	Architectural Composition	3
AT	235	Structural Drafting***	3
AT	242	Building Utility Systems	4
AT	245	Architectural Design	6
AT	246	Heating and Air Conditioning	3
AT	135	Architectural Pictorial Illustration	3
AT	241	Office Practices and Procedures	4
AT	247	Architectural History	3
AT	103	Descriptive Geometry	3
AT	308	Project Lab (Architectural)	3
AT	309	Project Lab (Architectural)	6

*For students with no background in Drafting.

**General interest course for those planning to buy, build or remodel a house. Little or no drawing involved.

***AT 235 may be used as Civil or Architectural Drafting requirement.

MATHEMATICS

12-15 credits required

			Credit Hours
ATR	151	Applied Algebra	4
ATR	152	Applied Geometry	4
ATR	153	Applied Trigonometry	4
TEC	151	Mathematics for Technicians	5
TEC	152	Mathematics for Technicians	5
TEC	153	Mathematics for Technicians	5
MTH	164	165*	

ELECTIVES

20 Credits Maximum

Electives are selected on the basis of student interest and specific career preparation requirements.

Students should consult with their Department advisor before making out schedule each term.

*For transfer students.

CIVIL—CONSTRUCTION AREA

12-15 credits required

			Credit Hours
CT	106	Fundamentals of Surveying	5
CT	101	Construction Methods	2
CT	102	Construction Materials	4
CT	103	Construction Costs	2
CT	111	Elementary Plane Surveying	5
CT	201	Construction Contracts	3
CT	204	Strength of Materials	3
CT	207	Structural Technology	4
CT	212	Route Surveying	4

SOCIAL SCIENCE

4 credits required

SS	103	Social Science III	4
SS	104	American Government	4

ENGLISH

9 credits required

ENG	121	Freshman English*	4
ENG	122	Freshman English*	4
ENG	123	Freshman English*	4
TEC	101	Technical Report Writing I	3
ENG	111	Communications I	3
ENG	112	Communications II	3
ENG	113	Communications III	3

*Recommended for four year transfer students.

Architectural Technology Certificate Programs

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 from the following courses:

ARCHITECTURAL DRAFTING

20-23 credits required

			Credit Hours
AT	100	Beginning Architectural Drawing*	3
AT	131	Residential Planning	3
AT	230	Architectural Drafting—Detailing	3
AT	231	Architectural Drafting—Floor Plans	6
AT	232	Architectural Drafting—Elevations	6
AT	233	Architectural Drafting—Commercial Construction	4
AT	135	Architectural Pictorial Illustration	3
AT	308	Project Lab	3
AT	309	Project Lab	6

*For students with no background in drafting.

RELATED INSTRUCTION

20-25 credits required

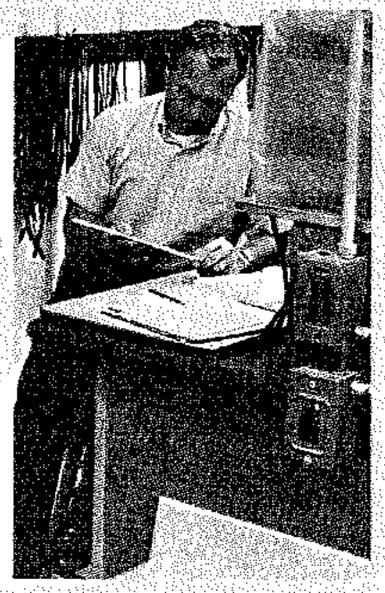
			Credit Hours
ATR	151	Applied Algebra	4
DT	103	Descriptive Geometry	3
CT	101	Construction Methods	2
CT	102	Construction Materials	4
CT	103	Construction Costs	2
CT	201	Construction Contracts	3
CT	204	Strength of Materials	3
CT	111	Elementary Plane Surveying	5
AT	241	Office Practices and Procedures	4
AT	246	Heating and Air Conditioning	3
AT	242	Building Utility Systems	4
TEC	101	Technical Report Writing	3

OPTIONAL COURSES TOWARD CERTIFICATE*

			Credit Hours
ATR	152	Applied Plane Geometry	4
ATR	153	Applied Plane Trigonometry	4
TEC	151	Math for Technicians I	5
TEC	152	Math for Technicians II	5
TEC	153	Math for Technicians III	5
ART	101	Drawing I	3
AT	106	Engineering Drawing (Civil)	3
AT	247	Architectural History	3

Students should consult with their Departmental advisor before making out schedule each term.

The above credits are transferable toward an Associate Degree.



Engineering Technology

Cartographic Drafting and Photogrammetry

Cartographic drawings were among the first methods of transmitting and recording information about land formations, routes, or specific geographic locations.

The art of drawing maps has become an essential vocation in our present society. The technique has been refined and tremendously improved since the beginning when crude maps were made freehand in the field during exploration. Today the work requires solution of cartographic problems involving the investigation, development, evaluation, selection or adaptation of plans, standards, equipment, methods, or techniques of map, chart design or construction.

The following courses in Cartographic Drafting and Photogrammetry are offered as needed:

CT 105 Aerial Photo Interpretation
DT 206 Cartographic Drawing
CT 238 Advanced Photogrammetry & Stereoplotter Operation

Cooperative programs between local industries employing cartographic draftsmen and the college are arranged for students desiring training in this area. Other recommended courses in the drafting and civil programs include:

DT 101 Industrial Drafting I
DT 103 Descriptive Geometry
DT 106 Engineering Drawing (Civil)
CT 111 Elementary Plane Surveying
CT 212 Route Surveying
CT 213 Advanced Surveying
CT 214 Geodetic Surveying

Minimum requirements for a certificate or an Associate Degree in Cartographic Drafting and Photogrammetry are listed below:

CERTIFICATE

	Min. Credits
Cartographic Drafting	9
Mathematics	10
Speech	6
Civil	9
Electives	7
	45

Students desiring to pursue a program should consult with a departmental advisor so that the courses selected will meet the needs of the individual student.

ASSOCIATE DEGREE

	Min. Credits
Cartographic Drafting	9
Basic Drafting	9
Mathematics	15
English - Speech	9
Civil	13
American Government	4
Data Processing	3
Physics	8
Electives	20
	90

Civil Technology

The civil technician is prepared for a variety of positions in the general construction field, especially areas which demand a working knowledge of drafting, surveying, construction materials, mapping, and topography. The Community College two-year program offers training in the basic areas of mathematics and science as needed in the civil engineering field, and includes both construction laboratory and in-the-field experience as part of the technician program.

The program is designed to afford opportunity for work experience related to the curriculum. Some students will be employed by the Michigan State Highway Department on the cooperative work-study program. Others will secure their on-the-job experience with county or municipal departments or private firms.

Engineering Technology

Civil Technology Highway Option

This two-year curriculum is designed to provide the background and skills for immediate 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 Highway Option Cooperative

Under the Highway Option Program, Lansing Community College participates with the Highway Department in a cooperative program. This is available to students who qualify in a competitive Civil Service examination. During the student's work study program he will work cooperatively, attending classes at the College as well as working for the Highway Department.

Other Cooperative and Internship programs can be arranged for students not directly connected with the Highway Department.

HIGHWAY OPTION
OR HIGHWAY OPTION COOPERATIVE

45-50 Credits Required

		Credit Hours
CT	101 Construction Methods	2
CT	102 Construction Materials	4
CT	103 Construction Costs	2
CT	202 Highway Technology	4
CT	203 Soil Testing and Classification	3
CT	201 Construction Contracts	3
CT	214 Geodetic Surveying	4
CT	205 Hydrology	3
CT	213 Advanced Surveying	4
CT	204 Strength of Materials	3
CT	111 Elementary Plane Surveying	5
CT	212 Route Surveying	4
CT	207 Structural Technology	4
CT	206 Project Lab	

MATH

15 Credits Required

TEC	151 Math for Technicians	5
TEC	152 Math for Technicians	5
TEC	153 Math for Technicians	5
MTH	164 College Algebra and Trig I*	5
MTH	165 College Algebra and Trig II*	5

DRAFTING

9 Credits Required

DT	100 Basic Drafting**	3
DT	101 Industrial Drafting I	4
DT	103 Descriptive Geometry	3
DT	106 Engineering Drawing (Civil)	3

**Suggested for those without previous drawing experience.

PHYSICS

12 Credits Required

PHY	201 Physics	4
PHY	202 Physics	4
PHY	203 Physics	4
TEC	201 Applied Physics	4

ENGLISH

9 Credits Required

TEC	101 Technical Report Writing	3
ENG	111 Communication I	3
ENG	112 Communication II	3
ENG	113 Communication III	3
ENG	121 Composition*	4
ENG	122 Composition*	4
ENG	123 Composition*	4

*Recommended for transfer students.

SOCIAL SCIENCE

4 Credits Required

SS	104 American Government	4

Civil Technology — Sanitary Option

This two-year curriculum provides the background and skills for immediate 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 prepares the student for employment as a structural draftsman, construction draftsman, construction estimator, construction inspector, materials laboratory technician, technical specification writer, or building materials and supplies salesman.

SANITARY OPTION PROGRAM* — Credits Required (95)

			Credit Hours
CT	104	Construction Materials (without lab)	2
CEM	111	General Chemistry	5
CEM	112	General Chemistry	5
CEM	113	Chemistry or CEM 201 Chemistry	5
MIC	103	Microbiology	4
ET	100	Basic Electricity and Electronics	4
CT	218	Water Supply and Treatment	4
CT	219	Sewerage and Sewage Treatment	4
CT	210	Hydraulics	3

*Other requirements: 20 Civil Technology course credits, 15 Math credits, 9 English credits, 4 Social Science credits, plus 11 elective credits.

STRUCTURAL OPTION PROGRAM* — Credits Required (95)

			Credit Hours
TEC	201	Applied Physics	4
AT	235	Structural Drawing	3
ATR	142	Metallurgy	3
DT	105	Descriptive Geometry	3

*Other requirements: 45 Civil Technology course credits, 15 Math credits, 9 English credits, 4 Social Science credits, plus 10 elective credits.

Electives are selected on the basis of student interest and specific career preparation requirements.

For each program student should consult with their departmental advisor before making out schedule each term.

Drafting Technology Associate Degree Program

The College offers a two-year associate degree program to prepare students to become competent draftsmen 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 common 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.

DRAFTING TECHNOLOGY

21 Credits Required

			Credit Hours
DT	100	Basic Drafting	3
DT	101	Industrial Drafting I**	4
DT	102	Industrial Drafting II**	4
DT	103	Descriptive Geometry**	4
DT	104	Jigs and Fixtures I**	4
DT	135	Industrial Pictorial Illustration	4
DT	202	Die Design I*	4
DT	203	Die Design II	4
DT	204	Body Design I	4
DT	205	Body Design II	4
DT	306	Project Lab**	4
DT	307	Project Lab	6

*Recommended for Transfer Students.

**Recommended for Associate Degree.

RELATED INSTRUCTION:

MATHEMATICS

13 Credits Required

			Credit Hours
ATR	151	Applied Algebra**	4
ATR	152	Applied Geometry**	4
ATR	153	Applied Trigonometry**	4
TEC	151	Math for Technicians I	5
TEC	152	Math for Technicians II	5
TEC	153	Math for Technicians III	5
MTH	164	College Algebra and Trigonometry I*	5
MTH	165	College Algebra and Trigonometry II*	5

MECHANICAL TECHNOLOGY

20 Credits Required

			Credit Hours
ATR	101	Machine Shop I	4
ATR	102	Machine Shop II	4
ATR	103	Machine Shop III	4
MT	209	Strength of Materials	4
MT	210	Kinematics and Machine Elements	4
MT	211	Machine Design	4
ATR	144	Hydraulics and Pneumatics I	3
ATR	145	Hydraulics and Pneumatics II	3
MT	201	Processing and Plant Layout	3
MT	203	Industrial Management	3
ATR	142	Metallurgy	3

ELECTRONICS TECHNOLOGY AND SCIENCE

6 Credits Required

			Credit Hours
ET	100	Electricity and Electronics	4
ET	106	Industrial Electricity I**	3
ET	107	Industrial Electricity II	3
PHY	201	Physics Mechanical and Heat	4
TEC	201	Applied Physics**	4

SOCIAL SCIENCE

4 Credits Required

			Credit Hours
SS	103	Social Science III	4
SS	101	American Government*	4

ENGLISH

6 Credits Required

			Credit Hours
TEC	101	Technical Report Writing**	3
ENG	111	Communications I**	3
ENG	112	Communications II	3
ENG	113	Communications III	3
ENG	121	Freshman English*	4
ENG	122	Freshman English*	4
ENG	123	Freshman English*	4

*Recommended for Transfer Students.

**Recommended for Associate Degree.

ELECTIVES — 20 Credits

Electives are selected on the basis of student interest and specific career preparation requirements.

Students should consult with their departmental advisor before making out a schedule each term.

Students wishing to attain a certificate in drafting in conjunction with associate degree must have a total of 27 credits in drafting.

Drafting Certificate Program

The college offers a one-year certificate program which prepares 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 evenings 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.

DRAFTING

27 Credits Required

			Credit Hours
DT	101	Industrial Drafting I	4
DT	102	Industrial Drafting II	4
DT	103	Descriptive Geometry	3
DT	104	Jigs and Fixtures I	4
DT	202	Die Design I	4

*Select additional credits from Drafting courses listed below.

MATHEMATICS

8 Credits Required

			Credit Hours
ATR	151	Applied Algebra	4
ATR	153	Applied Trigonometry	4

MECHANICAL TECHNOLOGY

4 Credits Required

			Credit Hours
MT	108	Materials and Processes in Manufacture	4

GENERAL TECHNOLOGY

7 Credits Required

			Credit Hours
TEC	101	Technical Report Writing	3
TEC	201	Applied Physics	4

OPTIONAL COURSES TOWARD DRAFTING CERTIFICATE

			Credit Hours
DT	100	Basic Drafting	3
DT	105	Jigs and Fixtures II	4
DT	203	Die Design II	4
DT	135	Industrial Pictorial Illustration	4
DT	204	Body Design I	4
DT	205	Body Design II	4
DT	306	Project Lab	4
DT	307	Project Lab	6
MT	209	Strength of Materials	4
MT	201	Processing and Plant Layout	3
ATR	101	Machine Shop I	4
ATR	142	Metallurgy	3

Engineering Technology

Electronics Technology Associate Degree Program

Electronics Technicians are employed in many fields, especially in those industries considered necessary for national defense. Many are found in research and development laboratories engaged in experimental, analytical, or testing work on types of equipment necessitating a broad knowledge of electrical and electronic phenomena. The Electronics Technician requires specialized training and education in the application of electronic theory. He should be familiar with the purpose and many uses of vacuum tubes, transistors, transducers and other components of electronic circuits. He repairs and maintains complex electronic equipment such as digital and analog computers, servomechanisms, photoelectric controls, automatic guidance equipment, and devices used in automation. He may be called upon to test precision electronic equipment such as airborne control and navigation equipment (avionics), machine tool controls, and radar. He may design wired and printed circuitry to meet prescribed specifications, using "breadboard" techniques and modifying circuits to obtain desired performance.

ELECTRONICS TECHNOLOGY COURSES

45 Credits Required

		Credit Hours
ET	100 Basic Electricity/Electronics	4
ET	111 Electrical Circuits I	5
ET	112 Electrical Circuits II	5
ET	113 Electrical Circuits III	5
ET	231 Computer Circuits I	3
ET	232 Computer Circuits II	3
ET	233 Computer Circuits III	3
ET	241 Automation I	4
ET	242 Automation II	4
ET	243 Automation III	4
ET	106 Industrial Electricity I	3
ET	107 Industrial Electronics II	3
ET	271 Communications I	5
ET	272 Communications II	5
ET	273 Communications III	5
ET	206 Project Lab	3

MATHEMATICS

12-15 Credits Required

		Credit Hours
ATR	151 Applied Algebra	4
ATR	152 Applied Geometry	4
ATR	153 Applied Trigonometry	4
TEC	151 Math for Technicians I	5
TEC	152 Math for Technicians II	5
TEC	153 Math for Technicians III	5
MTH	164 Algebra and Trigonometry I*	5
MTH	165 Algebra and Trigonometry II*	5
MTH	213 Analytic Geometry and Calculus I*	5

*Students on a transfer program should start the MTH 164, 165, 213, etc. series.

MECHANICAL TECHNOLOGY

3 Credits Required

		Credit Hours
ATR	101 Manufacturing Processes I	3
ATR	102 Manufacturing Processes II	3
ATR	103 Manufacturing Processes III	2
ATR	104 Numerical Control I	4
ATR	105 Numerical Control II	3
ATR	106 Numerical Control III	3

Total Credits Required: 90

ENGLISH

3 Credits Required

		Credit Hours
ENG	111 Communications I	3
ENG	112 Communications II	3
ENG	113 Communications III	3
ENG	121 Freshman English*	4
ENG	122 Freshman English*	4
ENG	123 Freshman English*	4

PHYSICS

12 Credits Required

		Credit Hours
PHY	201 Physics	4
PHY	202 Physics	4
PHY	203 Physics	4
PHY	211 Physics*	4
PHY	212 Physics*	4
PHY	213 Physics*	4

SOCIAL SCIENCE

4 Credits Required

		Credit Hours
SS	104 American Government	4
SS	103 Social Science III	4

ELECTIVES

TEC	101 Technical Report Writing	3
TEC	201 Applied Physics	4
TEC	207 Technical Internship Seminar	3

*Recommended for transfer students.

Electives are selected on the basis of student interest and specific career preparation requirements.

Students should consult with their department advisor before making out schedule each term.

Engineering Technology

Electronics Technology Certificate Program

Certificate programs in industrial electricity-electronics, computer technology and communications are offered as part of the electronics technology program. They are primarily for part-time students who desire basic fundamentals in various areas of electricity and electronics. Basic theory is supplemented with practical laboratory experience.

INDUSTRIAL

		Credit Hours
ET	100 Basic Electricity and Electronics	4
ET	106 Industrial Electricity I	3
ET	107 Industrial Electronics II	3
ET	104 Electrical Math I	5
	Electives (Optional)*	5

COMPUTER

		Credit Hours
ET	100 Basic Electricity and Electronics	4
ET	104 Electrical Math I	5
ET	231 Computer Circuits I	3
	Electives (Optional)*	

COMMUNICATIONS

		Credit Hours
ET	100 Basic Electricity and Electronics	4
ET	104 Electrical Math I	5
ET	105 Electrical Math II	5
ET	271 Communications I	5
ET	272 Communications II	5
ET	273 Communications III	5
	Electives (Optional)*	
TEC	101 Technical Report Writing	3
TEC	201 Applied Physics	4
TEC	151 Math for Technicians	5

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 effectively cope 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.

Young men who have average mechanical skills, technical aptitudes, good health and the desire to preserve and protect property are eligible to enroll in the Fire Science Curriculum.

Lansing Community College offers the following Fire Science courses as needed to meet the needs of the Greater Lansing area fire personnel:

FST 160 Fire Strategy and Tactics
FST 161 Basic Fire Science
FST 164 Fire Science
FST 165 Hazardous Materials
FST 166 Ordinances and Codes
FST 167 Fire Hydraulics
FST 262 Related Ordinances and Codes
FST 263 Building Construction for Fire Security
FST 264 Fire Investigation I
FST 265 Emergency Rescue Procedures
FST 266 Fire Investigation II
FST 267 Organization and Procedures
FST 306 Project Laboratory
FST 307 Project Laboratory

Courses may be taken individually. Students desiring certificates or Associate Degrees in Fire Science may develop programs to fit their individual needs. Certificate programs require 45 credit hours of instruction. Associate Degrees require 90 credit hours of instruction. Minimum credit hours in subject areas for a certificate and Associate Degree are shown below:

ASSOCIATE DEGREE

Courses	Credit Hours
Fire Science	44
Mathematics	9
English	6
Chemistry and Physics	3
American Government	4
Electives	24
	90

Selections of courses will depend upon the background and interest of the individual student.

CERTIFICATE

Courses	Credit Hours
Fire Science	18
Mathematics	9
English	3
Chemistry and Physics	3
Electives	12
	45

Mechanical Technology Associate Degree Program

It has long been evident that machines will be one of the most important factors in our future economy. History records many sequences such as the horse, the steam locomotive, the automobile, the aircraft, and now the missile. Men with a full understanding of machinery will never be idle 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, who 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.

MECHANICAL TECHNOLOGY — 38 Credits Required

			Credit Hours
ATR	101	Machine Shop I	4
ATR	102	Machine Shop II	4
ATR	103	Machine Shop III	4
ATR	106	Numerical Control I	4
ATR	107	Numerical Control II	4
ATR	108	Numerical Control III	4
MT	201	Processing and Plant Layout	3
MT	203	Industrial Management	3
ATR	142	Metallurgy	3
ATR	143	Industrial Heat Treating Processes	3
ATR	144	Hydraulics and Pneumatics I	3
ATR	145	Hydraulics and Pneumatics II	3
MT	209	Strength of Materials	4
MT	210	Kinematics and Machine Elements	4
MT	211	Machine Design	4
MT	108	Materials and Process in Manufacture	4
MT	306	Project Lab	3
MT	307	Project Lab	6

MATHEMATICS — 8-10 Credits Required

			Credit Hours
ATR	151	Applied Algebra	4
ATR	152	Applied Geometry	4
ATR	153	Applied Trigonometry	4
TEC	151	Mathematics for Technicians	3
TEC	152	Mathematics for Technicians	3
TEC	153	Mathematics for Technicians	3

DRAFTING TECHNOLOGY — 12 Credits Required

			Credit Hours
DT	101	Industrial Drafting I	4
DT	102	Industrial Drafting II	4
DT	103	Descriptive Geometry	3
DT	104	Jig and Fixture Design I	4
DT	202	Die Design I	4

ELECTRONICS TECHNOLOGY — 3 Credits Required

			Credit Hours
ET	100	Basic Electricity and Electronics	4
ET	106	Industrial Electricity I	3

GENERAL TECHNOLOGY — 6 Credits Required

			Credit Hours
TEC	101	Technical Report Writing	3
TEC	201	Applied Physics	4
TEC	207	Technical Internship Seminar	3

ENGLISH — 3 Credits Required

			Credit Hours
ENG	111	Communication I	3
ENG	112	Communication II	3
ENG	121	Freshman English*	4
ENG	122	Freshman English*	4
ENG	123	Freshman English*	4

*Recommended for transfer students.

SOCIAL SCIENCE — 4 Credits Required

			Credit Hours
SS	103	Social Science III	4
SS	104	American Government	4

ELECTIVES — 17 Credits Maximum

Electives are selected on the basis of student interest and specific career preparation requirements.

Students should consult with their department advisor before making out schedule each term.

Credits Required: 90

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 to qualified students. The University of Michigan, Dearborn Center and the University of Detroit presently offer cooperative programs 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.

Freshman Year	Fall Term	Credit Hours
MTH 164	College Algebra and Trigonometry	5
ENG 121	Freshman English	4
CEM 111	General Chemistry (Inorganic)	5
PSY 101	Orientation	1
PE 101	Physical Education	1
		16
	Winter Term	
MTH 213	Analytic Geometry and Calculus I	5
ENG 122	Freshman English	4
CEM 112	General Chemistry (Inorganic)	5
	Elective	3-4
PE 102	Physical Education	1
		18-19
	Spring Term	
MTH 214	Analytic Geometry and Calculus II	5
ENG 123	Freshman English	4
CEM 113	Qualitative Analysis	5
	Elective	3-4
PE 103	Physical Education	1
		18-19

Sophomore Year	Fall Term	Credit Hours
MTH 215	Analytic Geometry and Calculus III	5
PHY 211	Physics	4
DT 101	Industrial Drafting I	4
SS 101	Social Science I	4
		17
	Winter Term	
MTH 216	Analytic Geometry and Calculus IV	5
PHY 212	Physics	4
DT 102	Industrial Drafting II	4
SS 102	Social Science II	4
		17
	Spring Term	
MTH 235	Theory of Matrices	4
PHY 213	Physics	4
DT 103	Descriptive Geometry	3
SS 103	Social Science III	4
		15

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)

131 Residential Planning — **Three credits**

General interest course 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)

135 Architectural Pictorial Illustration — **Three credits**

Fundamental course for those interested or who are working as illustrators. Course covers principles of axiometric projection, perspective shading, and shadows, with experience offered in the use of rendering medias. 3 (0-3)

230 Architectural Drawing — **Three 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. 3 (2-4)

231 Architectural Drawing — **Six 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: AT 230. 6 (4-8)

232 Architectural Drawing — **Six 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. 6 (4-8)

233 Architectural Drawing — **Four credits**

Primary emphasis is placed upon commercial and industrial construction. Course covers both low-rise and high-rise buildings. Prerequisite AT 230, 231 and 232 for drafting technology majors; others, approval of department. 4 (2-4)

234 Architectural Composition — **Three credits**

Site and urban planning. Design and composition of architectural and natural elements in open spaces. 3 (2-2)

235 Structural Drawing — **Three credits**

Acquaints the student with the standard graphic representation of various structural designs using concrete, steel, and wood; of structural components, and of structural details. 3 (2-4)

Engineering Technology

Architectural

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 Design — **Six credits**

The development of creative skills in architectural design, theory of esthetic design, color, materials and textures. 6 (4-4)

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 — **Three credits**

Development of architecture as an art form in each of the civilizations or architectural periods from antiquity to contemporary. 3 (3-0)

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 the research, designs or constructs a project to meet the requirements of a three credit architectural course. 3 (0-3)

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. 6 (0-6)

Civil Technology

Engineering Technology

Civil

100 Fundamentals of Surveying — **Five credits**

Specifically designed for those not directly engaged in surveying, or for those engaged in surveying who do not possess the prerequisites for CT 111 Elementary Plane Surveying. Subject matter consists of fundamental elements normally taught in Elementary Plane Surveying and Route Surveying. Special emphasis is placed upon developing a simple, but sound, mathematical background in each subject area. This fundamental subject matter is augmented by special topics of interest or importance to the participants. The course may be accompanied by field work assignments if the needs of the participants so dictate. 5 (7-0)

101 Construction Methods — **Two credits**

Study of techniques and equipment used in constructing highway structures, pipelines, and buildings. Also undertakes the study of earthmoving projects. 2 (2-0)

102 Construction Materials — **Four credits**

A course dealing with determination of the properties of concretes, asphalts, aggregates, steel, wood, clay products, and miscellaneous construction materials. Teaches methods of sampling and testing these materials. Includes discussion of the application of this knowledge to proper design procedures. 4 (2-4)

103 Construction Costs — **Two credits**

Designed to familiarize the student with general methods of preparing material take-offs and labor estimates, and applying current unit costs to estimate construction costs. Provides for the itemizing and discussion of indirect costs and discussion of methods for predicting the trend of future costs. Teaches the student to recognize and evaluate hidden costs. Prerequisite: Civil Technology 101, 102. 2 (2-0)

104 Construction Materials — **Two credits**

Same course content as Civil Technology 102 but without the laboratory. 2 (2-0)

105 Aerial Photo Interpretation — **Three credits**

Covers identification of terrain features (both geology and geomorphology), suitability and identification of ground survey control, elementary soil classification, and identification of vegetation. 3 (2-4)

111 Elementary Plane Surveying — **Five credits**

An introductory course in surveying which includes the study of terminology, the use of tape, level, transit measurement of distances, angles and elevations, analysis and use of verniers, and the study of the public land system, traverses and topographic surveys and mapping. Prerequisite: Trigonometry. 5 (3-8)

201 Construction Contracts — **Three credits**

Preparation of specifications, requests for quotations, bid analysis, proposals and contracts, and change orders. Fundamentals of law in engineering, liability, and workmen's compensation. Prerequisites: Civil Technology 103. 3 (3-0)

202 Highway Technology — **Four credits**

Covers plan and profile drawings, highway planning, financing, organization, geometrical design, traffic studies, structural design of pavements, mass diagrams,

earthwork computations and costs. Also includes discussion of trends in mass transportation. Prerequisite: Civil Technology 203, Civil Technology 205, Civil Technology 212. 4 (2-4)

203 Soil Testing and Classification — **Three credits**

Designed to teach testing and classification of soils: A.S.T.M., A.A.S.H.O. and pedological systems. Also includes discussion of elementary geologic principles as related to soils. Prerequisite: Civil Technology 101, Civil Technology 102. 3 (2-3)

204 Strength of Materials — **Three credits**

Study of: beams, shear and moment diagrams; stress, strain, creep, fatigue, yield; equilibrium-reactions, free body analyses; combined stresses; deflections; shear flexure, compression, tension, and horizontal shear stresses. Prerequisites: Civil Technology 102, Physics 201. 3 (2-3)

205 Hydrology — **Three credits**

Analysis of run-off and the study of designs of devices to control it. Includes discussion of drainage and culverts, stream flow, open channel flow, Bernoulli's Theorem, rainfall storm-water studies, ground water, and water tables. No prerequisite. 3 (2-3)

206 Project Lab (Civil) — **Three credits**

Affords the student the opportunity to undertake and complete an independent study or project under the supervision of the staff. Prerequisite: Graduation term. 3 (0-Arr.)

207 Structural Technology — **Four credits**

Covers plans of sight and structure for bridges, steel detailing, concrete detailing, elementary theory of reinforced concrete, elementary analysis of structural steel, costs and economics of structures, types of bridges and building frames, connections, riveting and bolting details and truss analysis. Prerequisite: Civil Technology 204. 4 (2-6)

208 Structural Technology I — **Four credits**

Elementary theories of reinforced concrete, elementary analysis of structural steel and elementary analysis of timber construction as they pertain to bridges and highways. Various types of structures, connections, riveting and bolting details, and truss analysis are included. 4 (2-4)

209 Structural Technology II — **Four credits**

Continuation of Structural Technology I emphasizing the application of the technical knowledge as it pertains to foundations and structural members of low and high rise buildings. 4 (2-4)

210 Hydraulics — **Three credits**

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, channel transitions. 3 (2-3)

212 Route Surveying — **Four credits**

Study of profiles, horizontal curves, vertical curves, surveying and computations, superelevation, spirals, and compound and reversed curve. Prerequisite: Civil Technology 111. 4 (3-8)

213 Advanced Surveying — **Four credits**

Theory of modern and advanced surveying methods; photogrammetry, ground and aerial; astronomy: stellar and solar observations and calculations; and precise surveying principles. Prerequisite: Civil Technology 111, Civil Technology 212. 4 (3-2)

214 Geodetic Surveying — **Four credits**

Study of precise first and second order measuring methods, base lines, level circuits, trianguation, barometric leveling, least squares, the theory of probable errors, three wire leveling, the use of tilting levels, and theodolites. Prerequisite: Civil Technology 213. 4 (2-4)

218 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; distribution systems. 4 (2-6)

219 Sewerage and Sewage Treatment — **Four credits**

Design, construction, and functioning of sewerage and sewage treatment facilities; includes sedimentation, coagulation, filtration, aeration, digestion, sludge processing, and sterilization; quality of effluent. 4 (2-6)

238 Photogrammetry and Stereoplotter Operation — **Four credits**

Covers in detail: aerial photography, stereoscopy, mosaic construction, radial line plotting, project planning, and operations management. Extensive training will be provided in the actual operation of stereoplotting devices and equipment. 4 (2-4)

250 Engineering Review — **Four credits**

First in a series of three courses which provide a theoretical background in the engineering sciences for people with limited academic background, or who desire an extended review to prepare for engineering registration. A student may enroll for any or all of the courses. Topics include mathematics, physics, statics and dynamics. 4 (6-0)

251 Engineering Review — **Four credits**

Continuation of Civil Technology 250. Includes fluid mechanics, hydraulics, thermodynamics and mechanics of materials. 4 (6-0)

252 Engineering Review — **Four credits**

Continuation of Civil Technology 251. Includes chemistry, electricity, electronics, engineering economics, engineering systems, and selected topics from physics. It may include engineering law and professional ethics. 4 (6-0)

253 Engineering Exam Part II — **Three credits**

This course is open to qualified individuals who are preparing to write the Registered Engineers exam. Topics covered are Soil Mechanics, Road Design, Road Construction, Bridge Construction, Highway Drainage, Traffic Operations, Traffic Geometrics, Planning and Route Location. 3 (3-0)

254 Engineering Review for Land Surveyors — **Three credits**

This course is open to qualified individuals who are preparing to write the Registered Surveyors exam. Topics to be covered are legal requirements, applications, condominiums, space surveys, instruments—adjustments and use, range of accuracy, math from plane surveying, bearing, latitude, longitude, route surveying and use of Solar Ephemorous. 3 (3-0)

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: DT 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: DT 101. 4 (2-4)

103 Descriptive Geometry — **Three 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. 3 (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: DT 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: DT 104. 4 (2-4)

106 Engineering Drawing—Civil — **Three credits**

Offers practice in techniques of transferring field survey notes to the drawing and includes traverse plotting, topographic maps, profiles, cross sections, earthwork plans, logs of boring, and plat maps. 3 (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 Industrial Trades 100. Deals with part prints and assembly drawings. Prerequisite: Industrial Trades 100 or permission of instructor. 4 (2-2)

135 Industrial Pictorial Illustration — **Three credits**

Fundamental course for those who are interested in becoming or who are working as draftsmen or illustrators. Includes exposure to various methods of illustration currently used in industry, including use of sketches, photographs, isometric, and three point perspective grid. Use of various line weights achieves desired finish drawing effects, rather than rendering. Prerequisites: DT 102 or equivalent in experience. 3 (0-3)

202 Die Design and Construction I — **Four credits**

Emphasis on 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: DT 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 industry 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: DT 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)

206 Cartographic Drawing and Photogrammetry — **Six credits**

Essentials of large area mapping and characteristics of the various map projections. Draining, Geological, Land Subdivision, and Route Location Maps are also studied and prepared. Some time devoted to overlay construction for color separation on printed maps. Course also includes fundamentals of photogrammetry and actual operation of stereo plotter. 6 (2-4)

207 Cartographic Drawing — **Four credits**

Covers in detail the preparation of large area maps. Drainage, Geological, Land Subdivision, and Route Location Maps are also studied in detail. Some time devoted to overlay construction for color separation on printed maps. 4 (2-4)

218 Electrical and Electronics Drawing I — **Four credits**

Designed to acquaint the student with the drawing and reading of electrical and electronic circuit diagrams. Includes the study of the use of tubes, transistors and technical manuals, catalogs, and periodical technical literature. Attention given to pictorial drawings, connection diagrams, block diagrams, logic diagrams and schematics, using the latest symbology and practice, and using material based on A.S.A., I.R.E. and Mil-Stds. Includes study of circuit tracing and sketching. Prerequisite: Drafting Technology 101. 4 (2-4)

Engineering Technology

Industrial Drafting

219 Electrical and Electronics Drawing II — **Four credits**

Second of two courses allowing the student majoring in Electrical and Electronics Drafting Technology to select a project that will, at the completion of the second term, constitute a resume of his drafting skills and his general knowledge of the specific field. A project shall be chosen, designed, technical material gathered and preliminary drawings shall be drawn during this course. Prerequisite: Satisfactory completion of first term, second year curriculum. 4 (2-4)

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. Each student also 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)

Electronics

Electronics Technology (ET)

100 Basic Electricity and Basic Electronics — **Four credits**

A basic course covering the fundamentals of electricity and electronics. The emphasis of the course is upon laboratory work stressing measurements and experimental data to reinforce theoretical principles. No prerequisite. 4 (2-4)

101 Basic Electricity — **Four credits**

For trade apprentices and other students who desire an exposure to the fundamentals of electricity for reasons of safety and how it affects their particular occupation. It is not intended for apprentice electrician or electronic technician students. 4 (2-4)

103 Electrical Blueprint Reading — **Three credits**

Designed to enable the student to interpret blueprints and specifications, as well as wiring schematics. A study is also made of typical wiring diagrams, circuits and equipment used in the electrical trade. 3 (2-2)

104 Electrical Math I — **Five credits**

A course covering the basic mathematical skills required by students in electricity courses. Included will be mathematics from fractions to trigonometry. Students will be solving mathematical problems concerning series, parallel, and complex circuits dealing with Ohm's and Kirchoff's Laws. 5 (5-0)

105 Electrical Math II — **Five credits**

A course designed to acquaint students with a variety of problems having practical application in electricity and electronics. Problems intended to reinforce the students understanding of the basic principles of inductance, reactance, impedance, and capacitance as they apply to AC and DC circuits in parallel, series, or combined. 5 (5-0)

Engineering Technology

Electronics

108 Industrial Electricity I — **Three credits**

First of two courses dealing with electrical control of industrial machinery. Includes basics of A.C. and D.C. motor characteristics, and electro-magnetic or "AC" control. 3 (1-2)

107 Industrial Electricity II — **Three credits**

A continuation of ET 260 with emphasis on static control. Topics covered include logic diagrams and symbols, G.E. static control and NORPAK. 3 (1-2)

111 Electrical and Electronic Circuits I — **Five credits**

An introduction of basic electrical circuits with the emphasis on direct current. Covers electrical units, Ohms law, Kirchoff's law, network theorems, inductance and capacitance. Voltage, current, and resistance measurements are emphasized in the lab, through the use of the VOM, VTVM, Ohmmeter, and Wheatstone bridge. Simple meters are constructed and tested. 5 (3-4)

112 Electrical and Electronic Circuit II — **Five credits**

Continuation of ET 111 with emphasis on sinusoidal voltage and current and vacuum tube theory. Analysis of RC, RL, and RLC circuits, both series and parallel. Resonance, network theorems, and coupled circuits are discussed. The vacuum tube is presented and simple amplifiers are studied. Laboratory work emphasizes AC measurements and vacuum tube characteristics through the use of the oscilloscope, voltmeter, milliammeter, signal generators, AC bridge, curve tracers, and tube testers. 5 (3-4)

113 Electrical and Electronic Circuits III — **Five credits**

A continuation of ET 112 with major emphasis on the transistor, Semiconductor theory, small signal characteristics, biasing, and practical applications are studied. Laboratory work enforces the lecture through the construction and testing of the various amplifier circuits. The oscilloscope, voltmeter, milliammeter, signal generators, curve tracers, and transistor testers are used. 5 (3-4)

120 Radio Servicing — **Six credits**

Covers A.C. and D.C. theory and circuitry, trouble shooting principles, oscilloscope, and its use, FM and AM principles, stereo and multiplex systems. The student will build a vacuum tube volt meter, R.F. generator, and do radio repair. 6 (4-4)

121 Television Servicing — **Eight credits**

Covers black and white T.V. and the principles under which it operates. The student will construct an oscilloscope for his use, and will repair black and white television. 8 (4-8)

122 Advanced Television Servicing — **Eight credits**

Work in the area of color television, and the servicing of color television. Student will also make a signal tracer. All equipment made in these courses is kept by the student upon completion. 8 (4-8)

206 Project Laboratory (Electronics) — **Three credits**

Student selects a project compatible with his chosen field of work. The student, under the guidance of the instructor and through research, designs, constructs, and tests an electric or electronic device. Prerequisite: Eighteen or more credits of ET courses and instructor's approval of project proposal. 3 (0-3)

220, 221, and 222 International Morse Code — **One credit**

Principles of International Morse Code transmission, reception, and speed building. The course may be continued under the course numbers indicated in successive terms. 1 (0-3)

231 Computer Circuits I — **Three credits**

First of a series of three courses designed to cover the area of pulse, digital and switching circuits. This course may be taken alone as an introduction to digital computer operation. Included topics are number systems, logic, and computer operation. Laboratory work will emphasize these topics through actual programming of a small computer. 3 (2-4)

232 Computer Circuits II — **Three credits**

Continuation of ET 231 with major emphasis on the actual circuitry of computing and digital devices. Circuits covered are waveforms, switching characteristics of semiconductor devices, and multivibrators. Laboratory work reinforces lecture material through actual construction and test. 3 (2-4)

233 Computer Circuits III — **Three credits**

Continuation of ET 232. Topics covered include Schmitt trigger, blocking oscillators, and time base generators. Applications are made to the field of instrumentation. 3 (2-4)

241 Automation I — **Four credits**

First of a series of three courses covering rotating electrical machines and devices which control them and industrial electronics. Includes basics of A.C. and D.C. motor and generator characteristics, relay control circuits, thyratrons and ignitrons, unijunction transistors and silicon controlled rectifiers. 4 (2-4)

242 Automation II — **Four credits**

A continuation of ET 241 with emphasis on photo-electric devices, industrial electronic amplifiers and electronic motor control. 4 (2-4)

243 Automation III — **Four credits**

A continuation of ET 242 with emphasis on servomechanisms, analog computers, radio frequency heating and numerical control. 4 (2-4)

271 Communications I — **Five credits**

First of series of three courses dealing with electronic communication. Includes study of transmission lines, antennae, RF oscillators, class C amplifiers, and coupling circuits. Laboratory work emphasizes the use of RF measuring instruments such as slotted coax, SWR bridge, impedance bridge, hetrodyne frequency meter, and RF power meters. 5 (3-4)

272 Communications II — **Five credits**

A continuation of ET 271. Includes the theory of modulation circuits, AM and FM demodulation, and the superhetrodyne receiver. Laboratory work emphasizes use of RF signal generator, sweep signal generator, and spectrum analyzer. 5 (3-4)

273 Communications III — **Five credits**

A continuation of ET 272. Includes the television system, UHF, and microwave principles. Laboratory work utilizes television linerity pattern generator, color bar generator, slotted waveguide, reflectometer, and various waveguide components. 5 (3-4)

Fire Science Technology (FST)

160 Fire Fighting Strategy and Tactics — **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 — **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 — **Four credits**

Fire fighting methods relating to hazardous materials, to include solids, liquids and bases and their storage. Consideration also given to the laws, standards and handling techniques of hazardous materials. 4 (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 — **Four 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 to fire fighting problems. 4 (3-0)

263 Building Construction for Fire Security — **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)

265 Emergency Rescue Procedures — **Four credits**

Study of emergency first-aid and rescue practices. Training with resuscitation and rescue equipment and its application for mutual aid, major disaster and civil defense. 4 (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. 3 (3-0)

267 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)

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 (0-3)

307 Project Laboratory — **Six 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. 6 (0-6)

Mechanical

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. No prerequisite. 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 (2-2)

203 Industrial Management — **Three credits**

The management function, foundations of successful management, organizational relationships, the manufacturing function, the procurement function, the personnel function, process control, and production control. 3 (3-0)

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 203, 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 (0-3)

307 Project Laboratory (Mechanical) — **Three 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. 3 (0-6)

Systems

Systems Technology

Some techniques, disciplines, methods, and procedures apply to the entire Systems in contrast to the specific technology disciplines, such as mechanics, electrical, civil, and mechanical technology. These systems disciplines have been grouped in the Systems Technology area. As our society continues with its rapid technological development, more and more systems-oriented technology is developing. Current offerings in the discipline of systems technology include the following:

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 (3-0)

General Technology

101 Technical Report Writing I — **Three credits**

This course emphasizes the means for presenting information effectively, using drawings, prints, sketches, and outlines. Methods for using graphical presentations in technical calculations will be included. Incorporation of such graphic media will be used in laboratory presentation projects. 3 (3-0)

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. This course 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)

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 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 on the basis of developing a practical training program in agreement with the training station supervisors and the college coordinator.

151 Mathematics for Technicians I — **Five credits**

Designed for technicians. Interweaves the applied aspects of algebraic and trigonometric fundamentals. Topics in algebra covered are: review of basics, linear systems of equations, determinants, fractions, factoring and quadratic equations. Topics in trigonometry include: definitions and right triangle properties in all quadrants, trigonometric equations, vectors, laws of sines, law of cosines and graphs of trigonometric functions. Prerequisite: one year each of high school algebra and geometry or equivalent experience. 5 (5-0)

152 Mathematics for Technicians II — **Five credits**

Continues Mathematics for Technicians I with topics on exponents, radicals, j-operator, logarithms, mixed systems of equations, logarithmic equations, theory of equations, inequalities and absolute values, progressions and trigonometric identities, functions and equations. Prerequisite: Mathematics for Technicians I. 5 (5-0)

153 Mathematics for Technicians III — **Five credits**

Continues Mathematics for Technicians II with selected topics in analytic geometry and calculus. Prerequisite: Mathematics for Technicians II. 5 (5-0)

301 Safety and Accident Prevention — **Three credits**

Accident causation and the standards of corrective action are fully discussed. Includes the philosophy of accident prevention; fundamental principles; relative importance of unsafe acts and mechanical hazards; opportunities for correction of accident causes; sources of accident facts; and securing and recording these facts. 3 (3-0)

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302 Economics of Safety — **Three credits**

A study of the costs and factors in accidental injuries to the person injured, the company, and to society. Also includes safety suggestion systems and safety awards. 3 (3-0)

303 Industrial Hazards — **Three credits**

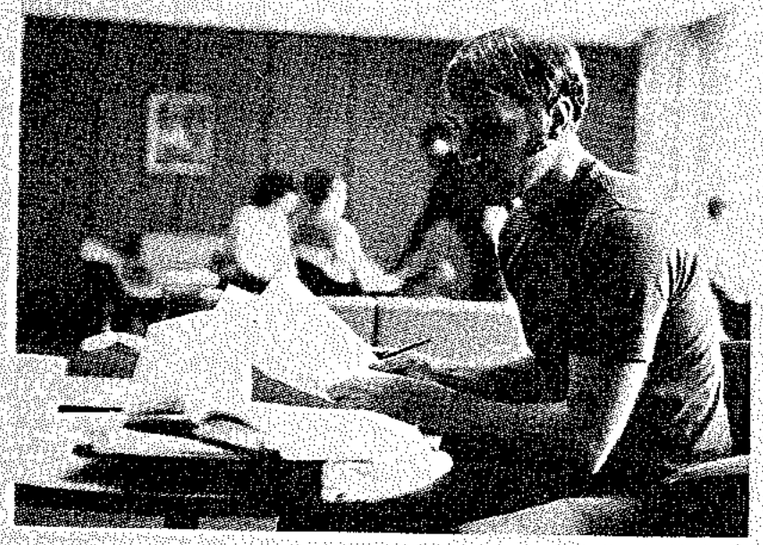
Developed to acquaint accident prevention personnel and those beginning this work with the specific nature and significance of accident situations. 3 (3-0)

304 Industrial Hygiene — **Three credits**

Modern methods in the prevention and control of industrial diseases. Occupational diseases—their nature, incidence, and prevention, air sampling methods and analyses; engineering control methods; personnel protective equipment, and industrial health education. 3 (3-0)

305 Safe Practices and First Aid — **Three credits**

This course is 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 work 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)



Applied Technology Department

Department Chairman: Harold J. Walper

Harold J. Walper

The Department of Applied Technology offers curricula and courses providing training which can lead to a career as craftsman in the building trades, industrial trades, or the service trades. The field of building trades applies to commercial and home construction, and includes careers in:

- Bricklaying
- Carpentry
- Electrical
- Glazing
- Painting and Decorating
- Plumbing and Pipefitting
- Sheet Metal

Industrial trades careers include:

- Die Making
- Die Sinking
- Engraver-Die
- Machine Repair
- Machinist
- Millwright
- Model Making
- Structural Steel Fabrication
- Tool Inspection
- Tool Making
- Tool and Die Making

Service trades careers include those of:

- Appliance Servicing
- Automotive Body Repair
- Automotive Painter
- Automotive Servicing
- Heating, Air Conditioning and Refrigeration

In addition to training leading to a career, students can enroll to take special courses to improve their performance or extend their abilities in their present activity. In general, courses are open to everyone except that, in some cases, preference is given to apprentices and journeymen. From time to time courses may be set up for special groups.

The various curricula in which a student can enroll are given in the following pages. In the subsequent section each of these courses is described more fully.

The Applied Technology Department offers courses in Building, Industrial and Service Trades, as well as core courses applicable, in general, to all the trades.

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 do, however, place apprentices in the building trades.

Apprentice training offers the individual the opportunity to learn a skilled craft or trade while he works at the trade for wages and takes related instruction to learn more about the job. A person desiring apprentice training must, therefore, be employed as an apprentice before entering class. The potential is unlimited. Many of the key men in industry today began as apprentices.

Upon completion of his training program, the apprentice is awarded the status of journeyman signifying that he is a skilled craftsman or tradesman.

To qualify for apprenticeship in any of the skilled trades, a young man must have mechanical aptitude, perseverance, ambition and initiative. In addition, he must have good health, be mentally alert and genuinely interested in the training. Most 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 most committees in determining the qualifications of an applicant.

Applications for most apprenticeships may be secured from 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 is making application.**

Applicants approved for apprentice 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 which 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.**

Service Trades

The progress that industry is making in providing people with automobiles, and appliances, added to the great abundance and ease of obtaining them, has expanded the need for this new area of training.

The automobile industry alone is placing more automobiles on the roads today than can be adequately serviced by the existing mechanics. The appliance servicing areas are also increasing.

Along with the areas of service that take care of family needs we also have those which aid industry. The trucking industry is in great need of diesel and gas engine mechanics. The farm implement dealers have a similar need for mechanics.

The need for service trades in the future will expand and be more demanding on manpower—whether it is servicing an electric stove for the home, an automated production line for industry, or an electric computer for business.

Seminars

In an effort to meet the educational needs of the citizens of our community, Lansing Community College develops many seminars. These seminars are designed to upgrade the individual's working effectiveness, to provide additional knowledge and to develop new skills. They can be lectures, laboratories or a combination.

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 on demand, and credit varies.

If you are interested in a seminar, write to: Dean, College of Technology, Lansing Community College, 419 North Capitol Avenue, Lansing, Michigan 48914; or call 489-3731.

Department of Applied Technology

Certificate Programs

The one-year certificate programs offered by the Applied Technology Department are designed for initial job placement. They should also enable many students to later begin apprenticeship training programs and receive partial or full pre-credit for the courses taken. These courses may also 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 if they are enrolled as regular students.

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 and 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 College of Applied Technology office.

To prevent student misunderstanding as to 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.

The following programs are offered under the above plan:

1. Automotive Service
2. Heating, Air Conditioning and Refrigeration
3. Metal Trades—Die Maker, Tool and Die Maker
4. Metal Trades—Machinist, Toolmaker
5. Metal Trades—Machine Repair—Millwright
6. Pipefitter
7. Sheet Metal
8. Welder (Not the same as "certified welder")

Additional or special certificate programs may be available from time to time other than those mentioned above. Consult the Applied Technology Department Chairman for further information.

COURSE AND DEPARTMENT CODES

ATR Applied Technology Related
ATS Applied Technology Seminars
AUT Automotive
BTA Building Trades Apprentice
BTJ Building Trades Journeyman
BTR Building Trades—General
HAC Heating, Air Conditioning and Refrigeration
SPA Special Projects, Applied
WLD Welding

Curriculums

AUTOMOTIVE SERVICE

All full-time students will need a basic set of hand tools.

Fall Term		Credit Hours
AUT 100	Auto Service I	4
AUT 110	Auto Electrical Theory	4
AUT 120	Auto Drive Lines	4
AUT 130	Auto Engines	4
		16

Winter Term		
AUT 111	Tune-Up I	4
AUT 140	Auto Brakes	4
AUT 150	Auto Suspension	4
	Specialization	6
		18

Spring Term		
AUT 112	Tune-Up II	4
AUT 160	Auto Air Conditioning	4
	Specialization	6
		14

Automatic transmission students must go a fourth term. Only students approved by the automatic transmission instructor will be allowed into the automatic transmission classes.

DIE MAKER, TOOL & DIE MAKER

Fall Term		Credit Hours
TEC 305	Safety Practices & First Aid	2
DT 100	Basic Drafting	3
ATR 151	Applied Algebra	4
ATR 101	Machine Shop I	4
ATR 127	Machinery Handbook I	4
		17

Winter Term		
DT 101	Industrial Drafting I	4
ATR 152	Applied Plane Geometry	4
ATR 102	Machine Shop II	4
ATR 113	Die Construction I	3
		15

Spring Term		
DT 102	Industrial Drafting II	4
ATR 153	Applied Plane Trigonometry	4
ATR 103	Machine Shop III	4
ATR 111	Die Construction II	3
		15

Recommended Electives:

ATR 150	Basic Math	4
ATR 142	Metallurgy	3
ATR 143	Industrial Heat Treat	3
ATR 106	Numerical Control I	4

HEATING, AIR CONDITIONING & REFRIGERATION

Fall Term		Credit Hours
ATR 135	Structural Blueprint Reading	4
ET 101	Basic Electricity	4
ATR 151	Applied Algebra	4
TEC 201	Applied Physics	4
		16

Winter Term		
AT 230	Architectural Drafting	3
MT 209	Strength of Materials	4
HAC 102	Air Conditioning II	5
HAC 120	Gas and Oil Burner Service I	4
		16

Spring Term		
CEM 110	Industrial Chemistry (Inorganic)	4
ATR 141	Hydraulics and Pneumatics I	3
HAC 103	Air Conditioning III	4
HAC 121	Gas and Oil Burner Service II	4
ATR 164	Customer Relations	2
		17

Recommended Electives:

AT 246	Heating and Air Conditioning	3
HAC 110	Refrigeration Service I	4
HAC 111	Refrigeration Service II	4
HAC 101	Air Conditioning I	4

MACHINE REPAIR, MILLWRIGHT

Fall Term		Credit Hours
TEC 305	Safety Practices & First Aid	2
DT 110	Blueprint Reading I	4
ATR 151	Applied Algebra	4
ATR 101	Machine Shop I	4
ATR 142	Metallurgy	3
		17

Winter Term		
DT 111	Blueprint Reading II	4
ATR 152	Applied Plane Geometry	4
WLD 100	Combination Welding	4
ATR 144	Hydraulics & Pneumatics I	3
		15

Spring Term		
ATR 139	Rigging	3
WLD 101	Arc Welding I	4
ATR 145	Hydraulics & Pneumatics II	3
ATR 135	Structural Blueprint Reading	4
		14

Electives:

ATR 150	Basic Math	4
TEC 201	Applied Physics	4
WLD 102	Gas Welding & Brazing	4
ET 101	Basic Electricity	4

Applied Technology
Curriculums

MACHINIST & TOOLMAKER

		Fall Term	Credit Hours
TEC	305	Safety Practices & First Aid	2
DT	100	Basic Drafting	3
ATR	151	Applied Algebra	4
ATR	101	Machine Shop I	4
ATR	127	Machinery Handbook I	1
			14

		Winter Term	
DT	101	Industrial Drafting I	4
ATR	152	Applied Plane Geometry	4
ATR	102	Machine Shop II	4
ATR	142	Metallurgy	3
			15

		Spring Term	
DT	111	Blueprint Reading II	4
ATR	153	Applied Plane Trigonometry	4
ATR	103	Machine Shop III	4
ATR	106	Numerical Control I	4
			16

Electives:

ATR	150	Basic Mathematics	4
ATR	155	Compound Angles I	4
ATR	160	Precision Inspection I	3

PIPEFITTER

		Fall Term	Credit Hours
TEC	305	Safety Practices & First Aid	2
WLD	100	Combination Welding	4
DT	100	Basic Drafting	3
ATR	151	Applied Algebra	4
		Elective	4
			17

		Winter Term	
BTR	135	Blueprint Reading for Plumbers I	4
ATR	144	Hydraulics & Pneumatics I	3
ATR	152	Applied Plane Geometry	4
TEC	201	Applied Physics	4
			15

		Spring Term	
BTR	136	Blueprint Reading for Plumbers II	4
ATR	145	Hydraulics & Pneumatics II	3
HAC	101	Air Conditioning I	4
		Elective	4
			15

Recommended Electives:

ATR	150	Basic Math	4
BTJ	160	Journeyman Pipefitters Welding I	4
ATR	153	Applied Plane Trigonometry	4

SHEET METAL

		Fall Term	Credit Hours
TEC	305	Safety Practices & First Aid	2
BTR	175	Sheet Metal I	3
DT	100	Basic Drafting	3
ATR	151	Applied Algebra	4
WLD	100	Combination Welding	4
			16

		Winter Term	
BTR	176	Sheet Metal II	3
DT	101	Industrial Drafting I	4
ATR	152	Applied Plane Geometry	4
WLD	102	Gas Welding & Brazing	4
			15

		Spring Term	
BTR	177	Sheet Metal III	3
DT	102	Industrial Drafting II	4
ATR	153	Applied Plane Trigonometry	4
TEC	201	Applied Physics	4
			15

Recommended Electives:

ATR	150	Basic Mathematics	4
DT	103	Descriptive Geometry	3
WLD	101	Arc Welding I	4

WELDOR

NOTE: This program is not intended to qualify the student as a "certified welder". Nor does it lead to journeyman status.

		Fall Term	Credit Hours
TEC	305	Safety Practices & First Aid	2
ET	101	Basic Electricity	4
ATR	151	Applied Algebra	4
WLD	100	Combination Welding	4
DT	100	Basic Drafting	3
			17

		Winter Term	
ATR	133	Blueprint Reading for Welders I	4
WLD	101	Arc Welding	4
WLD	102	Gas Welding & Brazing	4
ATR	152	Applied Plane Geometry	4
			16

		Spring Term	
ATR	134	Blueprint Reading for Welders II	4
ATR	142	Metallurgy	3
WLD	103	Arc Welding II	4
WLD	104	Tig & Mig Welding	4
			15

Recommended Electives:

ATR	150	Basic Math	4
ATR	135	Structural Blueprint Reading	4
ATR	143	Industrial Heat Treat	3

COURSE DESCRIPTIONS

Applied Technology
Related

Applied Technology Related (ATR)

ATR 101 Machine Shop — **Four credits**
Formerly MT 101

Designed to teach the theory and practice in the operation and setup of machine tools; lathe, milling machine, shaper, drill press, grinder, metal sawing, bench work and measuring instruments. $10 Laboratory fee. 4 (2-4)

ATR 102 Machine Shop — **Four credits**
Formerly MT 102

Continuation of ATR 101 with emphasis on milling, shaping and planing. Prerequisite: ATR 101. $10 Laboratory fee. 4 (2-4)

ATR 103 Machine Shop — **Four credits**
Formerly MT 103

Continuation of ATR 102 with emphasis on grinding, sawing, hydraulic power transmission, metallurgy and cutting fluids. Prerequisite: ATR 102. $10 Laboratory fee. 4 (2-4)

ATR 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. 4 (0-6)

ATR 106 Numerical Control I — Fundamentals of Numerical Control — **Four credits**
Formerly MT 104

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: Algebra. 4 (3-1)

ATR 107 Numerical Control II — Manual Programming for Numerical Control — **Four credits**
Formerly MT 105

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 Flexowriter and vertical milling machine provides important part of this course. Prerequisite: ATR 106 Numerical Control I or equivalent. 4 (3-1)

ATR 108 Numerical Control III — Introduction to Computer Assisted Programming — **Four credits**
Formerly MT 106

Study of types of parts which can be programmed to advantage, using a computer, and actual experience programming typical elementary examples. Includes survey of various computer programming languages and methods used to apply to numerically controlled machine tools. Equipment used includes computer, Flexowriter and numerically controlled milling machine. Prerequisite: ATR 107 Numerical Control II or equivalent. 4 (3-1)

ATR 111 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, selects a project compatible with his field of work. 3 (0-4)

ATR 112 Template Making and Model Checking **Three credits**
Formerly ITR 112

Functions of models and how to check models using sine bar and height gauge. Functions of templates and how they are made and used. Types of aids made from models and how these aids are used. Interpretations and sectioning of drawings used for template making and model checking. Prerequisite: Drafting Technology 100 or 110 or approval of instructor. 3 (2-2)

ATR 113 Die Construction I **Three credits**
Formerly ITR 113

Layout and processing related to die construction. Types of aids used in die construction and how to use these aids. How to select steels used in die construction. Limitations on accuracy and finish of parts used in die construction explored, such as grinding and lapping. 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)

ATR 114 Die Construction II **Three credits**
Formerly ITR 114

Continuation of layout and processing from ATR 113. Covers theory of heat treat, 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. Repair and maintenance of dies considered as well as how dies should be built to make maintenance possible and provide long die life. Prerequisite: ATR 113 or approval of instructor. 3 (2-2)

ATR 120 Plastics I (Introduction) **Four credits**
Formerly ITR 120

Will include the classification of plastics, plastic structure, and how plastics are made: The thermoplastic family, acetal, acrylic, cellulosic, fluorocarbon, polyamide, polypropylene, styrene and vinyl plastics; and the thermoset family, urea and melamine, casin, epoxy phenolic, polyester silicone, urethane, etc. 4 (4-0)

ATR 121 Plastics II (Processing) **Four credits**
Formerly ITR 121

Covers molding processes such as compression, transfer, injection, extrusion, etc.; casting processes and thermoforming processes such as mechanical, vacuum, matched, etc.; forming processes, such as the molding expandable, casting urethane foam, vacuum metalizing and electroplating will be discussed. 4 (4-0)

ATR 122 Plastics III (Fabrication and Design) **Four credits**
Formerly ITR 122

The cutting and finishing of plastics, joining and fastening and types of tools and equipment used for plastic work. Also covers product design in plastics as it is influenced by processing and fabrication. Prerequisite: Plastics I and II or approval of instructor. 4 (4-0)

ATR 127 Machinery Handbook I **Four credits**
Formerly ITR 140

Designed to familiarize the student with the effective utilization of information contained in this handbook. 4 (4-0)

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Applied Technology
Related

ATR 130 Blueprint Reading for Die Sinkers **Four credits**
Formerly ITR 103

An applied course in Blueprint Reading designed especially for the Die Sinking trades. The course is designed to familiarize 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)

ATR 133 Blueprint Reading for Weldors I **Four credits**
Formerly ITR 107

Covers mechanical blueprints and stresses welding symbols. 4 (4-0)

ATR 134 Blueprint Reading for Weldors II **Four credits**

Continuation of Blueprint Reading for Weldors I. 4 (4-0)

ATR 135 Structural Blueprint Reading **Four credits**
Formerly BTR 190

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)

ATR 137 Industrial Presses **Four credits**
Formerly ITR 125

A practical course to familiarize the student with the different types of presses, terminology, and purposes in industry. Lecture will include computation of tonnage capacity, mechanical action, and maintenance systems as well as safety to the operator and set-up personnel. This course should be excellent for the following people: All mechanical trades apprentices, press repair and maintenance people, stamping plant foreman, press operators, die set-up employees, mechanical engineers, students of Engineering Technology. 4 (4-0)

ATR 139 Rigging **Three credits**
Formerly GTR 140

The uses and strength 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. 3 (2-2)

ATR 142 Metallurgy **Three credits**
Formerly MT 204

Physical and mechanical properties of metals, atomic structure, crystal structure, phases in metal systems, phase diagrams, and metallography. 3 (2-2)

ATR 143 Industrial Heat Treat **Three credits**
Formerly MT 205

Hardening, normalizing, annealing, case hardening, carburizing, cyaniding, nitriding, flame hardening, induction hardening, marquenching, austempering, martempering, and production of metals. Prerequisite: ATR 142 Metallurgy. 3 (2-2)

ATR 144 Hydraulics and Pneumatics I **Three credits**
Formerly MT 207

Pressure, viscosity, flow rate, fluid power, hydraulic and pneumatic fluids, pumps, motors, cylinders, valves, accumulators, controls, reservoirs, strainers, filters, and basic circuits. 3 (2-2)

Applied Technology

Related

ATR 145 Hydraulics and Pneumatics II — **Three credits**
Formerly MT 208

Continuation of ATR 144. Emphasis is on applications of pneumatic and hydraulic circuitry to industrial machinery. Prerequisite: ATR 144 Hydraulics and Pneumatics I. 3 (2-2)

ATR 150 Basic Mathematics — **Four credits**
Formerly ITR 150

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)

ATR 151 Applied Algebra — **Four credits**
Formerly ITR 151

Applications of algebraic equations to shop work. 4 (4-0)

ATR 152 Applied Plane Geometry — **Four credits**
Formerly ITR 152

Application of geometric functions to the solution of practical shop problems. Introduction to trigonometry. Prerequisite: ATR 151. 4 (4-0)

ATR 153 Applied Plane Trigonometry — **Four credits**
Formerly ITR 153

Emphasis on analysis of industrial problems utilizing trigonometric solutions by logarithms. Prerequisite: ATR 152. 4 (4-0)

ATR 154 Advanced Applied Trigonometry — **Four credits**
Formerly ITR 154

Continuation of ATR 153. Provides broad experience in solution of problems taken directly from industry. Prerequisite: ATR 153. 4 (4-0)

ATR 155 Compound Angles I — **Four credits**
Formerly ITR 155

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)

ATR 156 Compound Angles II — **Four credits**
Formerly ITR 156

Continuation of ATR 155. Emphasis on application of actual tooling setups for complex machining operations. Prerequisite: ATR 155. 4 (4-0)

ATR 160 Precision Inspection I — **Three credits**
Formerly ITR 160

Advanced 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)

ATR 161 Precision Inspection II — **Three credits**
Formerly ITR 161

Precision layout work related to gauges and inspection problems. Prerequisite: ATR 160. 3 (2-2)

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Applied Technology

Related

ATR 164 Customer Relations — **Two credits**
Formerly STR 130

Teaches competence in talking to and performing work for customers. Some background in sales but emphasis is placed upon customer service problems. 2 (2-0)

ATR 165 Employer-Employee Relations — **Two credits**
Formerly ITR 130

Emphasizes the interdependence of capital, labor and management. Includes personal and physical qualities essential to success. 2 (2-0)

ATR 190 Appliance Servicing I Formerly STR 175 — **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. $5 Laboratory fee. 4 (2-4)

ATR 191 Appliance Servicing II Formerly STR 176 — **Four credits**

The student begins work on ranges, dishwashers, washing machines, clothes dryers and humidifiers utilizing the knowledge that he obtained in Appliance Servicing I. The use of service manuals and other published information for servicing is stressed. Prerequisite: ATR 190 or equivalent. $5 Laboratory fee. 4 (2-4)

ATR 192 Appliance Servicing III Formerly STR 177 — **Four credits**

Designed to familiarize the student with the theory and application of refrigeration. Covers diagnosing and repairing of malfunction of refrigerators, freezers and room air conditioners, dehumidifiers and water coolers. Prerequisite: ATR 191 or equivalent. $5 Laboratory fee. 4 (2-4)

Seminars

Seminars

ATS 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.

ATS 090-090 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.

ATS 110-119 Automotive Seminar — **Up to Nine Credits**
Formerly STR 590

Intended for any area related to the automotive field.

ATS 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.

ATS 130-139 Heating and Air Conditioning Seminar — **Up to Nine Credits**
Formerly STR 580

Covers cooling, heating, humidifying, filtering, servicing and/or ventilating, etc. for individuals already in the field or interested in any of these areas.

Applied Technology

Seminars

ATS 140-149 Industrial Seminar **Up to Nine Credits**

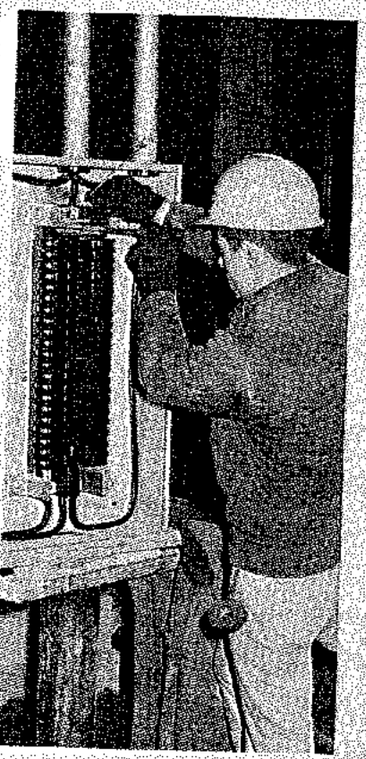
Intended for any area in industry which could be of benefit to the individuals or industry concerned.

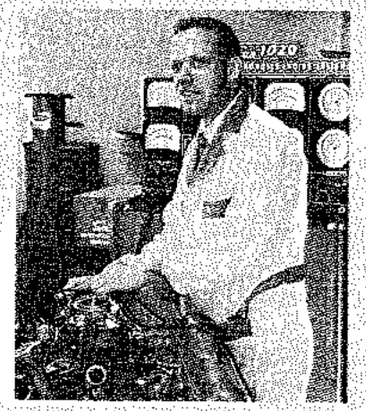
ATS 150-159 Industrial Management Seminar **Up to Nine Credits**
Formerly CTR 590

Planned for those presently in management or planning to enter management functions.

ATS 160-169 Welding Seminar **Up to Nine Credits**
Formerly ITR 590

Includes maintenance welding, production welding, resistance welding, and/or tool and die welding, etc.





Applied Technology

Automotive Trades

Automotive Trades

Auto Mechanics

AUT 100 Auto Service I **Four credits**
Formerly STR 100

Teaches the understanding of basic tools and equipment, safety, lubrication, exhaust systems, and basic Oxy-acetylene welding. $5 Laboratory fee. 4 (3-2)

AUT 110 Auto Electrical Theory **Four credits**
Formerly STR 101

A theory course covering batteries, starters, generators, regulators, ignition systems, and chassis wiring. 4 (2-4)

AUT 111 Tune-Up I **Four credits**

A lecture-laboratory course covering fuel systems, equipment operation, and tune-up procedure. $5 Laboratory fee. 4 (2-4) Prerequisite: AUT 110

AUT 112 Tune-Up II **Four credits**

A lecture-laboratory course with emphasis on actually tuning engines. $5 Laboratory fee. 4 (2-4) Prerequisite: AUT 110, AUT 111.

AUT 120 Auto Drive Lines **Four credits**
Formerly STR 106

Teaches the student to service clutches, manual shift transmissions, universal joints, differentials, and rear axles. $5 Laboratory fee. 4 (2-4)

AUT 121 Automatic Transmission I **Four credits**

This is a basic course for automatic transmission repair. $5 Laboratory fee. 4 (2-4). Prerequisite: AUT 120 and instructor approval.

AUT 122 Automatic Transmission II **Four credits**

This is advanced automatic transmission repair. $5 Laboratory fee. 4 (2-4). Prerequisites: AUT 120, AUT 121.

AUT 123 Automatic Transmission III **Four credits**

This is advanced automatic transmission repair. $5 Laboratory fee. 4 (2-4). Prerequisites. AUT 120, AUT 121.

AUT 130 Engines **Four credits**
Formerly STR 105

A background in principles, design, operation, and service procedures of modern gasoline engines. Prepares student to begin practical experience in engine maintenance and service. $5 Laboratory fee. 4 (2-4)

Applied Technology

Automotive Trades

AUT 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. $5 Laboratory fee. 4 (2-4)

AUT 150 Auto Suspension — **Four credits**

This course instructs the student in wheel alignment, wheel balancing, and front end part replacement procedures. $5 Laboratory fee. 4 (2-4)

AUT 160 Auto Air Conditioning — **Four credits**

Instruction is given in the operation of auto air conditioning systems and repair procedures. $5 Laboratory fee. 4 (2-4)

AUT 165 General Auto Mechanics — **Three credits**
Formerly STR 112

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 preventative maintenance, tune-up, brakes, engines, electrical systems, drive lines, front end and steering. $5 Laboratory fee. 3 (3-0)

AUT 166 Automotive Review — **Three credits**
Formerly STR 166

A review of automotive courses with emphasis on the individual needs of each student. 3 (2-2)

AUT 170 Auto Shop Management — **Four credits**

This is a laboratory course that gives a student an opportunity to practice running an auto shop. 4 (0-8) Prerequisite: Instructor approval

AUT 171 Engine Specialization — **Six credits**

A laboratory course to develop trade entry skill. $5 Laboratory fee. 6 (0-12). Prerequisites: AUT 100, AUT 130.

AUT 172 Tune-Up and Electrical Specialization — **Six credits**

A laboratory course to develop trade entry skill. $5 Laboratory fee. 6 (0-12). Prerequisites: AUT 100, AUT 110, AUT 111, AUT 112.

AUT 173 Brake Specialization — **Six credits**

A laboratory course to develop trade entry skill. $5 Laboratory fee. 6 (0-12). Prerequisites: AUT 100, AUT 140.

AUT 174 Suspension Specialization — **Six credits**

A laboratory course to develop trade entry skill. $5 Laboratory fee. 6 (0-12). Prerequisites: AUT 100, AUT 150.

AUT 176 Automatic Transmission Specialization — **Six credits**

A laboratory course to develop trade entry skill. $5 Laboratory fee. 6 (0-12). Prerequisites: AUT 100, AUT 120, AUT 121.

Applied Technology

Automotive Trades

Auto Body Repair

AUT 180 Body Shop I — **Four credits**
Formerly STR 180

Begins instruction in welding, brazing, lead filling, plastic filling, bumping, metal finishing, trim work, chrome work, removing and replacing of parts. Laboratory work required. $5 Laboratory fee. 4 (2-4)

AUT 181 Body Shop II — **Four credits**
Formerly STR 181

Continuation of Body Shop I. Prerequisite: Body Shop I or Instructor's permission. $5 Laboratory fee. 4 (2-4)

AUT 182 Body Shop III — **Four credits**
Formerly STR 182

Continuation of Body Shop II. Prerequisite: Body Shop II or Instructor's permission. $5 Laboratory fee. 4 (2-4)

AUT 183 Body Shop IV — **Four credits**
Formerly STR 183

Continuation of Body Shop III. Prerequisite: Body Shop III or Instructor's permission. $5 Laboratory fee. 4 (2-4)

AUT 184 Body Shop V — **Four credits**
Formerly STR 184

Begins instruction in major damage repair including total wreck type repairs and some frame instruction. $5 Laboratory fee. 4 (2-4)

AUT 185 Body Shop VI — **Four credits**
Formerly STR 185

Continuation of Body Shop V. Prerequisite: Body Shop V or Instructor's permission. $5 Laboratory fee. 4 (2-4)

AUT 186 Body Shop VII — **Four credits**
Formerly STR 186

Continuation of Body Shop VI. Prerequisite Body Shop VI or Instructor's permission. $5 Laboratory fee. 4 (2-4)

Auto Painting

AUT 190 Automotive Painting I — **Four credits**
Formerly STR 190

Begins instruction in automotive painting. Includes preparation, priming, sealing and painting. All common materials used in the automotive painting process will be covered. $5 Laboratory fee. 4 (2-4)

AUT 191 Automotive Painting II — **Four credits**
Formerly STR 191

Continuation of Automotive Painting I. Prerequisite: Automotive Painting I or Instructor's permission. $5 Laboratory fee. 4 (2-4)

AUT 192 Automotive Painting III — **Four credits**
Formerly STR 192

Continuation of Automotive Painting II. Prerequisite: Automotive Painting II or Instructor's permission. $5 Laboratory fee. 4 (2-4)

AUT 193 Automotive Painting IV — **Four credits**
Formerly STR 193

Continuation of Automotive Painting III. Prerequisite: Automotive Painting III or Instructor's permission. $5 Laboratory fee. 4 (2-4)

AUT 194 Automotive Painting V — **Four credits**
Formerly STR 194

Continuation of Automotive Painting IV. Prerequisite: Automotive Painting IV or Instructor's permission. $5 Laboratory fee. 4 (2-4)

AUT 195 Automotive Painting VI — **Four credits**
Formerly STR 195

Continuation of Automotive Painting V. Prerequisite: Automotive Painting V or Instructor's permission. $5 Laboratory fee. 4 (2-4)

Auto Parts

AUT 196 Parts Counter Man I — **Four credits**
Formerly STR 170

Covers the nomenclature of automotive parts and repairs made on an automobile. 4 (4-0)

AUT 197 Parts Counter Man II — **Four credits**
Formerly STR 171

This course covers parts catalogs and their use. 4 (4-0)

AUT 198 Parts Counter Man III — **Four credits**
Formerly STR 172

This course covers product knowledge. 4 (4-0)

Building Trades (Open to Apprentices Only)

BTA 100 Apprentice Bricklaying — **Three 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. 3 (2-2)

BTA 110 Apprentice-Carpentry — **Three 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. 3 (2-2)

BTA 120 Apprentice-Electrical — **Three credits**

Open to electrical apprentices indentured to the Lansing Electrical Joint Apprenticeship Committee. Covers blueprint reading and drawing, electrical theory, laboratory work, electrical code and mathematics. 3 (2-2)

BTA 137 Apprentice Glazing — **Three credits**

Open to apprentices indentured to the Flint-Lansing Glaziers J.A.C. Covers blueprint reading and sketching, basic and applied mathematics, tools and equipment, safety, materials, glass processing, installation, suspended glazing and special jobs related to glazing. 3 (2-2)

BTA 140 Apprentice Painting and Decorating — **Three credits**

Open to apprentice 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. 3 (2-2)

BTA 150 Apprentice Plumbing or Pipefitting — **Three 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. 3 (2-2)

BTA 170 Apprentice Sheet Metal — **Three credits**

Open to apprentices indentured to the Lansing Sheet Metal Joint Apprenticeship Committee. Covers manipulative practices, layout, mathematics and drafting. 3 (2-2)

Building Trades (Open to Journeymen and Apprentices Only)

BTJ 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. $10 Laboratory fee. 4 (2-4)

BTJ 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. $10 Laboratory fee. 4 (2-4)

BTJ 147 Paper Hanging For Journeymen I — **Four credits**

Designed for journeymen painter-decorators. Includes preparation of surfaces, selection and care of tools, selection of materials, and adhesives, estimating of materials, layout, avoiding and correcting of faults, application of paper and vinyl. $5 Laboratory fee. 4 (2-4)

BTJ 148 Paper Hanging For Journeymen II — **Four credits**

Continuation of Building Trades 147, Paper Hanging for Journeymen I. $5 Laboratory fee. 4 (2-4)

BTJ 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 need of the individual student. Teaches welding of all kinds of pipe, including stainless steel by the heliarc method. $10 Laboratory fee. 4 (2-4)

BTJ 161 Journeyman Pipefitters Welding II — **Four credits**

Continuation of BTJ 160. Prerequisite: BTJ 160. $10 Laboratory fee. 4 (2-4)

BTJ 162 Journeyman Pipefitters Welding III — **Four credits**

Continuation of BTJ 161. Prerequisite: BTJ 161. $10 Laboratory fee. 4 (2-4)

Building Trades (Open to Anyone)

BTR 115 Framing Square — **Two 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. 2 (2-0)

BTR 123 National Electrical Code — **Five credits**

Intensive study of the most recent National Electrical Code. Outside study required. Twelve (12) weeks are required to complete the course. 5 (4-0)

BTR 155 Blueprint Reading for Plumbers I — **Four credits**

Covers orthographic projection, linear and angular measurement and reading of prints whose three views are given in the three principal planes of projection. Examples apply to the plumbing trades. 4 (4-0)

BTR 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 instructor. 4 (4-0)

BTR 175 Sheet Metal I — **Three credits**

Course includes mathematics and pattern drafting related to sheet metal. Covers straight line, parallel line, radial line and triangulation pattern development. Shop work includes layout of fittings with hand and machine tools. Current techniques of fabrication emphasized. 3 (2-2)

BTR 176 Sheet Metal II — **Three credits**

Continuation of Sheet Metal I with more advanced problems. Prerequisite: BTR 175 or permission of instructor. 3 (2-2)

BTR 177 Sheet Metal III — **Three credits**

Continuation of Sheet Metal II with specialty work. Prerequisite: BTR 176. 3 (2-2)

BTR 180 Sheet Metal Welding I — **Four credits**

Arc welding as applied to sheet metal. Introduction to heliarc. $10 Laboratory fee. 4 (2-4)

BTR 181 Sheet Metal Welding II — **Four credits**

Continuation of Building Trades 180 with additional emphasis on heliarc. Prerequisite: BTR 180 or approval of instructor. $10 Laboratory fee. 4 (2-4)

Heating, Air Conditioning and Refrigeration (HAC)

HAC 101 Air Conditioning I — **Four credits**

Air Conditioning I is organized to acquaint 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)

HAC 102 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. $5 Laboratory fee. 5 (4-2)

HAC 103 Air Conditioning III — **Four credits**

The fundamentals of air conditioning servicing. Students test, repair and trouble shoot 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 102. $5 Laboratory fee. 4 (2-4)

HAC 110 Refrigeration Servicing I — **Four credits**
Formerly STR 120

Instruction for beginners in the refrigeration servicing field. Domestic refrigerators are studied in detail. Most common types of 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. The student performs such jobs as tube bending, flaring, and soldering, as well as the charging and testing of refrigeration equipment. $5 Laboratory fee. 4 (2-4)

HAC 111 Refrigeration Servicing II — **Four credits**
Formerly STR 121

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. $5 Laboratory fee. 4 (2-4)

HAC 120 Gas and Oil Burner Servicing I — **Four credits**
Formerly STR 125

Information about construction and operation of various types of automatic heating equipment for servicemen, steamfitters, sheetmetal men, and others interested. Material covered includes construction and operation of high-pressure oil burners; installation of conversion burners; servicing of nozzles, electrodes, and pumps; and basic controls and control circuits. $5 Laboratory fee. 4 (2-4)

Applied Technology

Heating, Air Conditioning and Refrigeration

HAC 121 Gas and Oil Burner Servicing II — **Four credits**
Formerly STR 126

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. $5 Laboratory fee. 4 (2-4)

Special Projects

Special Projects

SPA 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 could complete the course successfully. Must have the approval of the department chairman.

SPA 602 Special Projects — **Two credits**

See SPA 601 for description.

SPA 603 Special Projects — **Three credits**

See SPA 601 for description.

SPA 604 Special Projects — **Four credits**

See SPA 601 for description.

SPA 605 Special Projects — **Five credits**

See SPA 601 for description.

SPA 606 Special Projects — **Six credits**

See SPA 601 for description.

Welding

Welding

All welding students must furnish their own safety glasses, gloves and pliers.

WLD 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 processes are presented. Each process consists of beading, butt, lap and corner joints in the flat and horizontal positions. $10 Laboratory fee. 4 (2-4)

WLD 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 powdered electrodes and recommended procedures are presented in preparation for passing performance tests in the flat and horizontal position. Prerequisite: WLD 100. $10 Laboratory fee. 4 (2-4)

WLD 102 Gas Welding and Brazing — **Four credits**

A practical course designed to develop skills and confidence in joining of 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. $10 Laboratory fee. 4 (2-4)

WLD 103 Arc Welding II — **Four credits**

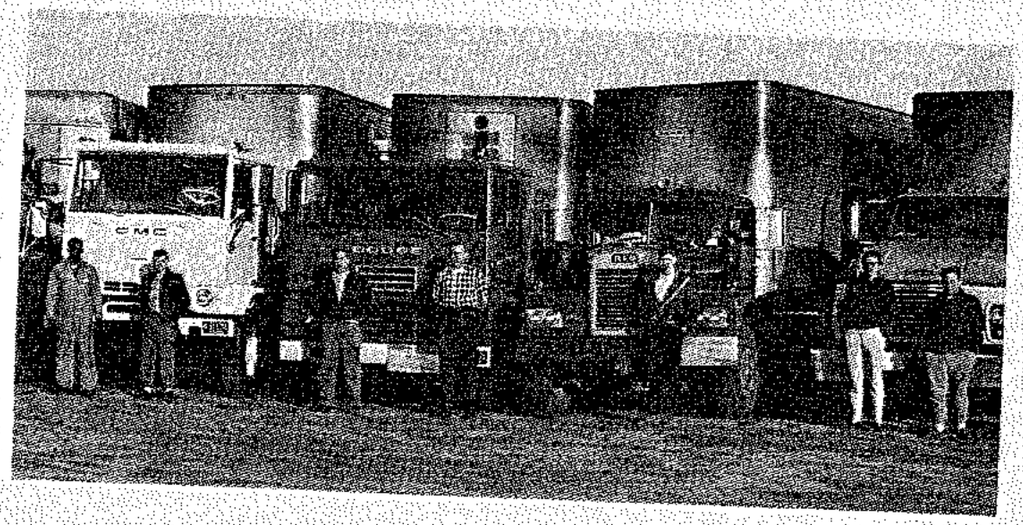
An advanced course designed to develop skills and confidence in the vertical and overhead positions. Multiple pass fillet and groove welds are demonstrated in preparation for performance tests. The use and interpretation of welding symbols related to arc welding applications are presented. Prerequisite: WLD 101. $10 Laboratory fee. 4 (2-4)

WLD 104 Tig and Mig Welding — **Four credits**

A study of the principles and fundamentals of Tig (Heliarc) and Mig (Gas Metal Arc Welding) of steel, stainless steel and aluminum. The spray and short circuiting arc (low voltage) and spot welding techniques in all positions are presented. Prerequisites: WLD 100. $10 Laboratory fee. 4 (2-4)

Applied Technology

Welding



Edward D. Jenkins

Transportation Training Program

Coordinator: Edward D. Jenkins

The Transportation Training program has been established with the objective of providing training in preparation for a career in the transportation industry. Although the curriculum will ultimately include training in many of the diverse activities of this industry, the current program offering consists of driver and operator training.

This program includes studies on the following subjects:

Accident Prevention and Reporting
Air Brake System
Communications
Customer and Public Relations
Driver's Daily Logs
Driver's Responsibility & Maintenance
Driver Situations
Fire Fighting
Freight Handling
Health & First Aid
Highway Regulations & Laws
History & Importance of Industry
D.O.T. Safety Regulations
Job Injury Prevention
Labor Relations
Loading & Securing Loads
Mathematics
Orientation
Psycho-Physical
Registration
State Code

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.

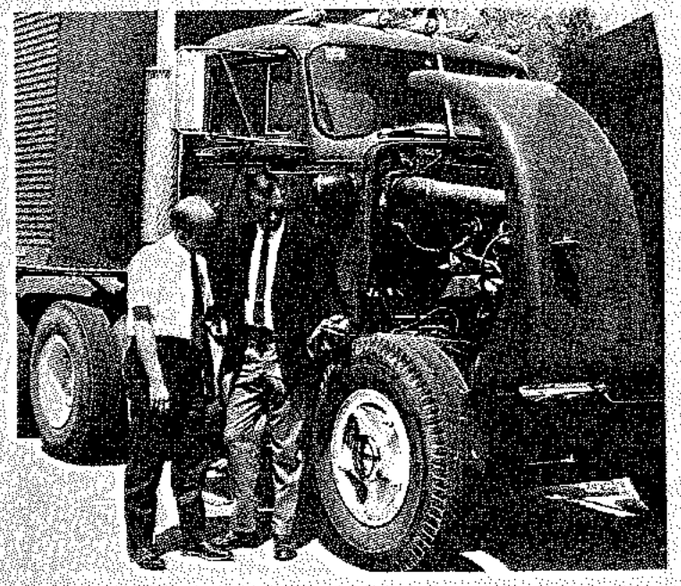
Enrollment requirements for this program include good health, ability to communicate in the English language, both spoken and written, a good driving record, good moral character, freedom from addiction to drugs or excessive use of alcohol, and must be between the ages of 18 and 45.

Transportation Training Program

Enrollment in this transportation training program differs from the enrollment in other programs. In the transportation program only, the enrollment steps are outlined below:

1. Write or telephone the coordinator, Transportation Training Center, Lansing Community College, 419 North Capitol Avenue, Lansing, Michigan 48914, requesting application forms.
2. Complete the forms you receive and return them to the coordinator along with the application fee ($5.00) and tuition deposit ($25.00). The forms you will receive include Interstate Commerce Commission physical examination blank to be completed by a doctor and the American Transportation Association application for employment.
3. After your application is reviewed by the Lansing Community College staff and a screening committee composed of representatives of the trucking industry, you will be notified of your acceptance and the time, date, and location for the first class.
4. The balance of the tuition fee must be paid in full when registering for the class unless special arrangements are made with the coordinator. A $25 tuition deposit is required with the application, and will be credited toward full tuition on acceptance, refunded only if the applicant does not pass the entrance requirements.
5. The tuition deposit is returned to those applicants not accepted for the program.
6. Students who withdraw for any reason during the course will be charged prorata for the weeks of training received, less $25 with no refunds after completion of the second full week of training.

From time to time a special training program is conducted for safety personnel for truck driving companies. This safety program consists of training safety personnel in the application of their assignments to the profession of driving trucks.



Department of Health Careers

Department Chairman: Michael Lenkowski

Michael Lenkowski

Suggested Programs of Study

These programs of study are intended to guide the student in his selection of courses at the College. Ample opportunity will be allowed for individualized programs to fit the specific requirements of the senior college or university of the student's choice when the course work involved requires study beyond that offered here. Every student planning to transfer to a four-year institution should be familiar with the requirements of the school to which he plans to transfer.

Associate Degree Program in Nursing

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 Licensure 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 experiences are provided in three community hospitals with College faculty conducting the scheduled laboratory sessions in the hospitals. Other community health agencies and programs provide opportunities for observation of related health activities.

Student experiences progress from simple to complex patient care. Emphasis is placed on understanding of principles and the development of skills in the clinical setting. Pertinent activities of patient care, such as pharmacology, nutrition and nurse-patient relationships, are integrated throughout major nursing courses.

Upon completion of the program, the graduate will have had theory and related clinical experiences in medical, surgical, maternal-child and psychiatric nursing. The senior seminar and practicum provide theory and opportunities to apply beginning principles of leadership which relate to the patient care team.

The student is required to meet the College criteria for the Associate Degree, and the criteria for students in the Nursing Program to qualify for graduation.

First Year — Fall Term	Credits
Nursing Foundations 101	5
Anatomy/Physiology 201	4
Psychology 201 — General	4
Sociology 101	4
	17
Spring Term	
Nursing in Physical-Mental Illness 201	10
Microbiology 203	4
Psychiatric Nursing 204*	4
	18

*May be assigned concurrent with NUR 201 or NUR 202.

Second Year — Fall Term	Credits
Maternal-Child Nursing 103*	10
Psychology — Growth & Dev. 205	3
	13

*Or Winter Term as indicated by enrollment.

Spring Term	Credits
Advanced Nursing Skills 203	10
Humanities Elective	4
	14

Winter Term	Credits
Nursing Foundations 102	5
Anatomy/Physiology 202	4
English 121	4
Psychology 202	3
	16
Summer Term	**Credits**
English 122	4
Speech 104	3
Government 104	4
	11

Winter Term	Credits
Nursing in Physical-Mental Illness 202*	10
English 123	4
	14

*Or Fall Term as indicated by enrollment.

General Education	49
Nursing Major	54
Total for Graduation	103

Associate Degree Program in Dental Hygiene

Fall Term		
ANT 201	Anatomy and Physiology	4
CEME 100	Concepts of Biochemistry	4
HME 203	Food Science	4
DH 100	Seminar: Dental Auxiliary	1
DH 101	Dental Anatomy I	3
		16
Winter Term		
ANT 202	Anatomy and Physiology	4
ENG 121	Freshman English	4
PSY 201	Introduction to Psychology	4
DH 102	Dental Anatomy II	3
DH 103	Introduction to Clinical Dental Hygiene	3
		18
Spring Term		
MIC 203	Microbiology	4
ENG 122	Freshman English	4
DH 105	Dental Radiology	2
PSY 202	Psychology of Personality	3
DH 201	Clinical Dental Hygiene I	3
DH 206	Periodontics I	2
		18
Summer Term		
ENG 123	Freshman English	4
SS 101	Social Science I	4
		8

*Other courses offered by the Humanities Department may be substituted. Approval of the Program Coordinator or Department Chairman is required.

Students desiring to substitute course curriculum are required to consult with the Coordinator or Department Chairman.

Fall Term		
HUM 201	Western Civilization I*	4
SS 104	American Government	4
DH 207	Periodontics II	2
DH 205	Dental Materials	3
DH 202	Clinical Dental Hygiene II	4
DH 104	Pharmacology	1
		18
Winter Term		
HUM 202	Western Civilization II*	4
DH 209	Community Dental Health	2
DH 211	Oral Pathology	3
DH 203	Clinical Dental Hygiene III	5
DH 212	First Aid and Emergencies	2
		16
Spring Term		
HUM 203	Western Civilization III*	4
DH 204	Clinical Dental Hygiene IV	5
DH 210	Orientation to Clinical Practice	4
DH 208	Dental Health Education	2
		15

Total Credit Hours - 1st Year	69
Total Credit Hours - 2nd Year	49
Total Credit Hours - Two Years	109
Total General Education Credits	56
Total Dental Hygiene Major Credits	53
	109

Health Careers

Dental Assistant

The one year curriculum for dental assistant combines business and science courses. It is designed to help the student develop skills necessary to assist the dentist in his office management and with chairside assistance.

After completing the three terms of course and laboratory work at Lansing Community College, and two years of employment in a dentist office, the student may apply for a Certified Dental Assistant rating. The student will receive certification after successful completion of the examination conducted by the American Dental Assistant Association Certifying Board.

		Fall Term	Credit Hours
DA	101	Dental Assisting I	5
PN	602	Anatomy and Physiology	4
ENG	111	Communication I	3
BUS	110	Applied Accounting I	3
PSY	151	Psychology of Personal Adjustment	3
			18

		Winter Term	
DA	102	Dental Assisting II	5
MIC	100	Microbiology	3
DA	105	Dental Techniques and Materials	3
PN	606	Nutrition	2
ENG	112	Communication II	3
HC	212	First Aid and Emergency	2
			18

		Spring Term	
DA	103	Dental Assisting III	5
DH	105	Dental Radiology	2
DA	106	Dental Specialty Techniques	3
ENG	113	Communication III	3
BUS	204	Business Correspondence	3
			16

		Summer Term	
DA	104	Dental Assisting IV (Seminar and Dental Office Experience)	5
SPH	104	Introduction to Speech	4
			9

NOTE: D.A., D.H., and P.N. courses open only to students who have received a letter of acceptance to the DENTAL ASSISTANT PROGRAM. Students preparing for admission may take other courses in this curriculum prior to admission. Dental Assisting I, et cetera, formerly Dental Science I.

Health Careers

Practical Nursing

Lansing Community College is one of thirty-three schools in the state of Michigan approved by the Michigan Board of Nursing to prepare men and women for careers in Practical Nursing.

This is a one-year program designed to give the student one term of classroom and laboratory instruction, followed by three terms of clinical experience in affiliated hospitals.

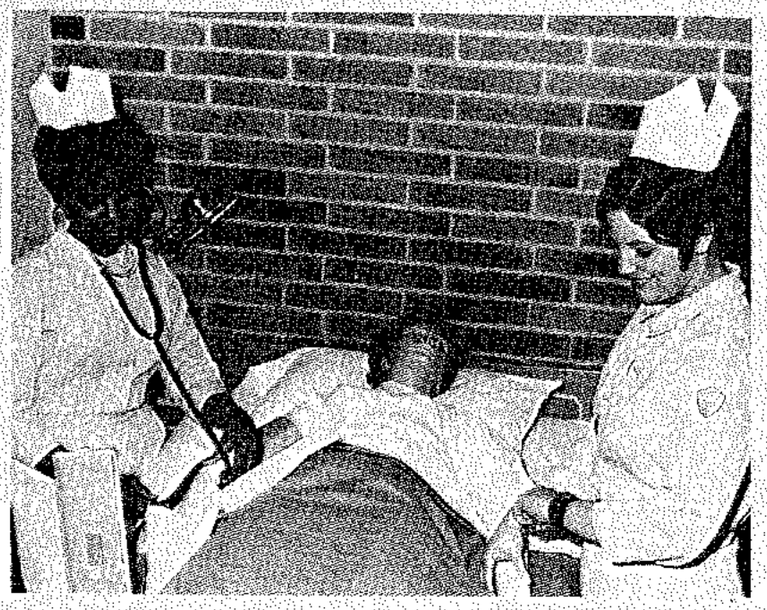
New classes begin in September of each year, and are offered on a full-time, daytime basis only.

Students must meet the requirements of the College as well as the Practical Nursing Department for admission, continuation, and graduation.

		1st Term	Credit Hours
PN	600	Foundations of Nursing	5
PN	602	Anatomy & Physiology	4
PN	606	Nutrition	2
PN	608	Community Health	1
PN	610	Vocational Relations	1
PSY	101	Psychology (PN)	4
PN	618	Nursing Skills I	3

		2nd Term	Credit Hours
PN	612	Fundamentals of Nursing	3
PN	604	Growth & Development	3
PN	622	Nursing Skills II	6
		3rd Term	
PN	616	Medical-Surgical Nursing	6
PN	624	Medical-Surgical Skills	6
		4th Term	
PN	614	Maternal-Child Nursing	6
PN	626	Maternal-Child Skills	6

Students receive graduate pins and Certificates of Achievement upon satisfactory completion of the program, and are eligible to write the State Board Examination for Practical Nurse licensure. For more complete and detailed information, write or telephone for the Practical Nursing brochure, Admissions Office, Lansing Community College, 419 N. Capitol, Lansing, Michigan 48914. Telephone, 489-3751, ext. 291. Application should be made as soon as possible since there is usually a waiting list.



COURSE DESCRIPTION

Associate Degree Nursing

101 Nursing Foundations I **Fall Term** **Five credits**

The beginning course in the sequence of Nursing courses. Consistent with the progression from simple to complex, this course emphasizes basic principles of patient care. Nurse-Patient relationships, communication, observation of overt-covert physical and emotional needs, and related basic patient care activities are included. The student has opportunity to apply principles in selected hospital laboratory experiences, and to reinforce knowledge and skills in campus practice laboratories and Audio-Visual Tutorial study. 5 (3-7)

102 Nursing Foundations II **Winter Term** **Five credits**

A continuation of Nursing Foundations I with emphasis upon more complex basic patient care. Oxygen needs, fluid and electrolyte balance, administration of medicines, and beginning concepts of rehabilitation are emphasized. Observation and intervention as indicated by the overt-covert physical and emotional needs are stressed as well as attention to the priority of needs. Basic principles of nutrition, pharmacology, physics and chemistry are integrated as they apply throughout this course and succeeding courses in the nursing sequence. Prerequisite: Nursing Foundations I. 5 (3-7)

103 Maternal-Child Nursing **Fall or Winter Term** **Ten 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 I and II. 10 (5-15)

201 Physical and Mental Illness I **Spring Term** **Ten 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- and post-hospitalization health services which are available to the patient. Prerequisite: Nursing Foundations I and II. 10 (5-15)

202 Physical and Mental Illness II **Fall or Winter Term** **Ten credits**

A continuation of Physical-Mental Illness I with emphasis on more complex aspects of patient care in the presence of common physical illnesses. Emphasis is also placed upon observation of overt-covert needs, 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: Nursing Foundations I and II and Physical and Mental Illness I. 10 (5-15)

203 Advanced Nursing Skills **Spring Term (2nd year)** **Ten credits**

A seminar and related practicum in the hospital and other community health agencies. The dual objective of the course emphasizes the principles of leadership as they relate to the functions of the patient care team, and principles related to developing and implementing nursing care plans for several patients based on priority and complexity of patient needs. Observations in specialty and concentrated care units are utilized to assist the student in understanding the full range of patient care facilities. Several seminar sessions are devoted to professional, legal, and ethical responsibilities of the nurse. Prerequisite: Physical and Mental Illness I and II. 10 (5-15)

204 Psychiatric Nursing **Four credits**

Lectures in psychiatric nursing with emphasis on application of principles. Nursing 204 must be taken concurrently with Nursing 201 or Nursing 202 for clinical laboratory credit.

Dental Assistant

Dental Science I **Five credits**

Study of dental vocabulary, structure of teeth, mouth tissues and related anatomy. Introduction to dental instruments and equipment. 5 (3-3)

Dental Science II **Five credits**

Theory of dental roentgenology, principles of X-ray production techniques of intro oral radiography. Introductory laboratory and practical experience course. Dental materials, with study of physical properties, characteristics and uses.

Study of bacteriology and sterilization; principles and methods of sterilization and disinfection. 5 (3-3)

Dental Science III **Five credits**

Clinical experience in exposing, processing and mounting X-rays. Continuation of selected areas in dental laboratory technique.

Chairside assisting; fundamentals, armamentarium procedures, dental assistant duties.

Selected practical experiences in a dental office. 5 (3-3)

Dental Hygiene

103 Introduction to Clinical Dental Hygiene

An introductory clinical course providing the student with selected opportunities for development of understanding and beginning skills in: principles of asepsis and techniques of sterilization; medical histories, oral examinations, charting procedures; instrumentation in oral prophylaxis; care of dental equipment, instruments and materials used for oral prophylaxis; and procedures for reception of patients. Introductory clinic sessions include practice with the dental manikin and student partners. Prerequisite to Clinical Dental Hygiene I-IV.

201 Clinical Dental Hygiene I

Beginning course offering the student opportunities to apply beginning knowledge and skill in: methods of teaching oral physiotherapy and control of dental caries; recognition and recording observed oral and dental conditions, and other aspects of patient evaluation; techniques of topical application of fluoride; performing a complete oral prophylaxis for adult patients with history of periodontal disease, with emphasis on recognition and removal of calculus, differentiating healthy and diseased tissue, and instruction of patients; establishing and maintaining a recall procedure for patients, and the care and sharpening of instruments.

202 Clinical Dental Hygiene II

A continuation of the sequence, beginning with a review of instrumentation, oral examination, and recording. Additional opportunities for the development of knowledge and skill in advanced procedures and techniques in: Polishing dental restorations; performing oral prophylaxis with emphasis on increasing skills and quality of performance; exposing, developing and mounting dental radiographs; scheduling and implementing appointments for dental health education, and sterilization and patient records.

203 Clinical Dental Hygiene III

A continuation of the Clinical Dental Hygiene sequence with additional opportunities for development of understanding and skill in: recognition, care and use of varied dental prophylaxis instruments; use of the cavitron (following demonstration, each student will have opportunities for practice); and performing more complex prophylaxis with discussion and review of the progress and completion of individual clinic patients.

204 Clinical Dental Hygiene IV

The final clinical course in the Clinical Dental Hygiene sequence, giving the student the opportunity to develop understanding and skill in management of the handicapped patient, and the patient with complex dental problems. Additional experiences with aged, retarded, or blind patients will be stressed.

208 Dental Health Education

Course emphasizes principles and methods in dental health education—chairside instruction, patient motivation, and continuing education programs. Students review and develop audio-visual aids for use with individuals and groups. Opportunities are provided for dental health instruction in schools and community agencies.

210 Orientation to Clinical Practice

Learning experiences designed to give the student insight into the total responsibility of beginning practice of Dental Hygiene. Students investigate, observe, and participate in dental office procedures, with emphasis upon: supply systems; recall and appointment plans; chairside assisting techniques; specialty practices, and observations with specialists in oral surgery, periodontics, endodontics, et cetera, in the community.

Practical Nursing

600 Foundations of Nursing — **Five credits**

A course given in conjunction with nursing skills I and designed to acquaint the student with the foundations of nursing practice and the principles underlying them. Includes the physical and emotional effects of illness on the patient. Stresses the special effects of long term illness. 5 (8-0)

602 Anatomy and Physiology — **Four credits**

A course designed to enable the student to develop an adequate working knowledge of the normal structure and functions of the human body, a realization of the relationship of illness to body functions, and the terminology necessary to communicate with other health team members. 4 (4-0)

606 Nutrition — **Two credits**

A course designed to acquaint the student with the normal, basic nutritional needs of the individual and how these needs may be met. Includes also the scientific principles on which modification of the diet during illness is based. 2 (1-2)

608 Community Health — **One credit**

A discussion of the public and volunteer agencies of the community; their relationship to the health field; and how they function to prevent and control disease and promote community health. 1 (1-0)

610 Vocational Relations — **One credit**

A discussion of the history of nursing; the legal responsibilities of nursing and the social structure and relationships of nursing. 1 (1-0)

612 Fundamentals of Nursing — **Three credits**

A course designed as an introduction to the characteristics of chronic illness and to planning comprehensive nursing care for the long term patient. 3 (4-0)

616 Medical-Surgical Nursing — **Six credits**

A course dealing with the characteristics of acute medical conditions and to the body's response to surgical procedure, and with the special nursing needs of these patients. It is in this course that the students learn the principles of rehabilitation and how to apply these principles to the care of all patients. 6 (9-0)

614 Maternal-Child Nursing — **Six credits**

A course dealing with the characteristics of the post-partum patient, the newborn baby and with the special nursing needs of these patients; the course also includes the knowledge necessary to care for the sick child and to recognize his special needs. 6 (9-0)

604 Growth and Development — **Three credits**

A course dealing with the principles of physical development and with the characteristics of the normal individual throughout the various periods of his life span. 3(3-0)

618 Nursing Skills I 6 (0-12) — **Six credits**
622 Nursing Skills II 6 (0-24) — **Six credits**
624 Medical-Surgical Skills 6 (0-24) — **Six credits**
626 Maternal-Child Skills 6 (0-24) — **Six credits**

A sequence of four courses designed to develop in the student the necessary competency to perform nursing care for patients whose state of illness has become relatively stabilized. She should be able to apply the scientific principles of nursing, and related subjects, to make the necessary judgements for meeting the nursing needs of the individual patient.

PSY 100 Psychology (PN) — **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 and to deal effectively with the patient's behavior. 2 (2-0)

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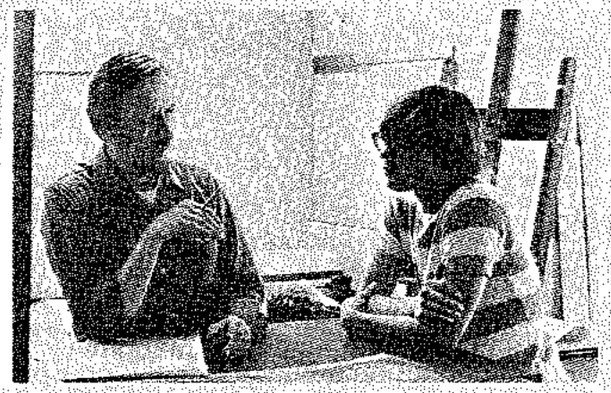

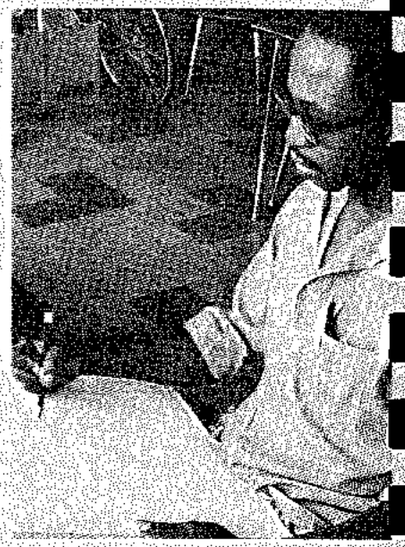

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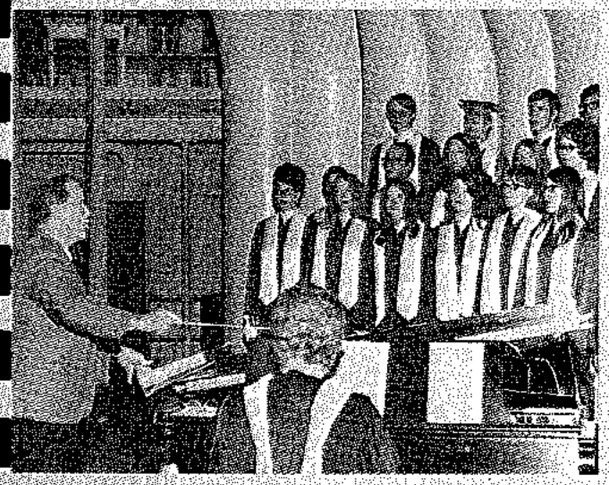


Art

Programs in art have been designed to provide a sound basis for several types of students: those who wish to enrich their individual lives and careers; those who intend to pursue art in depth; and students contemplating transfer to other institutions. Arrangements may be made with the art director for advanced work to develop individual areas of interest or concentration in painting, drawing, sculpture, illustration and advertising design.

Art Certificate Program

A Pre-Professional Art Certificate Program is available for students who wish to pursue a career in art. To qualify for a certificate, a portfolio of the student's work must be presented and passed by the Art Review Board. A Certificate of Achievement would then be issued which would serve as a recommendation, enabling the student to enter certain professional schools of art.

COURSE DESCRIPTIONS

101 Design I — Introduction to Drawing — **Three 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. 3 (0-6)

102 Design II — Introduction to Painting — **Three credits**

A practice course, continuing the emphasis on Design I but adding the problem of color. Emphasis upon the elements of composition and their application. Prerequisite: Art 101. 3 (0-6)

103 Drawing I — **Three credits**

Basic practice course, where the student is encouraged to improve his skills. The student is introduced to a variety of tools and methods in the art of drawing. Prerequisite: Art 101. 3 (0-6)

104 Drawing II — **Three credits**

Continuation and expansion of Drawing I, with possible introduction of color used in a variety of media. Prerequisite: Art 103. 3 (0-6)

105 Drawing III — **Three credits**

An extension of Drawing II, with possible introduction of some painting and sculpture experiences. Prerequisite: Art 104. 3 (0-6)

201 Painting I — **Three credits**

Beginning exercises to instill good work habits and to explore a variety of approaches to painting in oil and acrylic media. Students advance on an individual basis. Prerequisite: Art 102. 3 (0-6)

202 Painting II — **Three credits**

Continuation of Painting I. Each student advances according to his individual requirements, and works to fuse his developing skills into a mature technique and approach to painting. Prerequisite: Art 201. 3 (0-6)

203 Painting III — **Three credits**

A polishing of skills and techniques acquired in Painting I and II. Prerequisite: Art 202. 3 (0-6)

220 Sculpture I — **Three 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 102. 3 (0-6)

221 Sculpture II — **Three credits**

Continuation of Art 220 with individual projects which further explore sculpture possibilities. A major emphasis will be the casting process. Prerequisite: Art 220. 3 (0-6)

222 Sculpture III — **Three credits**

Advanced projects in special interests and larger sculptures using professional techniques. May follow realistic or modern lines, and may include experimentation with new materials or advanced work with the human figure. Prerequisite: Art 221. 3 (0-6)

240 Advanced Painting (credit arranged) — **Variable credit (1-5)**

Continuation of Art 203 for students with special skills desiring to continue work in advanced techniques. Watercolor introduced. Enrollment by permission of the instructor who will assign credit.

250 Advanced Sculpture (credit arranged) — **Variable credit (1-5)**

Continuation of Art 222 for students with special skills who wish to continue work in advanced techniques. Enrollment by permission of the instructor who will assign credit. Prerequisite: Art 222. 3 (0-6)

275 Advertising Design I — **Three credits**

Study and application of the principles of design as used in the field of advertising. Blending design with studio skills to enable the student to solve visual problems in all visual communications media. Prerequisite: Art 102. 3 (0-6)

276 Advertising Design II — **Three credits**

Continuation of Art 275. Prerequisite: Art 275. 3 (0-6)

277 Advertising Design III — **Three credits**

Continuation of Art 276. Prerequisite: Art 276. 3 (0-6)

300 Life Drawing I — **Three credits**

Advanced work to develop skill in understanding, interpreting and drawing the human figure in both two and three dimensional materials. Prerequisite: Art 103. 3 (0-6)

301 Life Drawing II — **Three credits**

Continuation of Art 300. Prerequisite: Art 300. 3 (0-6)

302 Life Drawing III — **Three credits**

Continuation of Art 301. Prerequisite: Art 301. 3 (0-6)

Music

Lansing Community College offers a diverse music program to meet a variety of student objectives. Courses are offered which lead to an Associate Degree in Arts with specialization in music. This program can be pursued further by enrollment in a music conservatory for training leading to a professional career. A student may choose to select a curriculum which, with subsequent study at a university, will qualify him as a teacher of music. The music program also affords an opportunity to people of the community who wish to participate in different performing arts as recreational activity.

Currently, the music programs at Lansing Community College encompass performing choral and dramatic groups. Plans are being made to provide an instrumental program. Students interested in the instrumental program should inquire about the status of that program prior to enrollment.

A course in Music Theory and Ear Training is available to those wishing to broaden their knowledge of music.

All music theory students are required to take one activity in the performing music classes.

COURSE DESCRIPTIONS

101, 102, 103, 201, 202, 203 The LanSingers (A Cappella Choir) One credit

A class for men and women designed to interest those students who would enjoy the pleasure of singing the best in A capella literature, as well as music in the lighter vein with piano accompaniment. The number in the ensemble is limited to a balance of 60 voices. 1 (3-0)

104, 105, 106, 204, 205, 206 The LanSing Men's Glee Club One credit

For those who love to sing. Designed for the study, expression, and performance of the finest in glee club music. No previous experience is necessary, as the course integrates the needed musical and vocal knowledge in its rehearsals. Class limited to 60 voices. 1 (2-0)

114, 115, 116, 214, 215, 216 The LanSing Girl's Glee Club One credit

For those who love to sing. Designed for the study, expression, and performance of the finest in glee club music. No previous experience is necessary, as the course integrates the needed musical and vocal knowledge in its rehearsals. Class limited to 60 voices. 1 (2-0)

120, 121, 122 LanSing Tudor Singers One credit

A select group of musically and vocally talented students interested in singing Madrigal music of the 14th through the 18th centuries. Enrollment by invitation only. Members must also be enrolled in the LanSingers or one of the Glee Clubs. 1 (2-0)

130, 131, 132, 230, 231, 232 Class Voice Two credits

Class instruction for those singers and speakers interested in knowing the principles of voice production and technique as applied to solo singing and choral tone. No previous vocal training required. Soloists for major music programs given by the Music Department are selected from this class. The limit in this class is 20. 2 (2-0)

140, 141, 142, 240, 241, 242 The LanSing Steinman and Maids One credit

This group is limited to 12 members; membership is by invitation only. The course specializes in the performance of that light type of music sung by students when exams are over and spirits soar high. In their costumes they represent the Old

Heidelberg University men as depicted in Bomberg's "Student Prince." Bawdy ballads, drinking songs, college songs amid festive atmosphere and narration furnish the continuity for the appearances of this choice group of singers. 1 (2-0)

150, 151, 152, 250, 251, 252 The LanSing Lassies (Girls' Barbershop Quartet) One credit

An invitation class for girls interested in the art of barbershop singing. Repertoire is modern as well as standard. A performing quartet is chosen from this class. 1 (2-0)

160, 161, 162, 260, 261, 262 LanSymphonic Choir One credit

This civic-college choir is the official choir of the LCC Opera Workshop, as well as performing in its own concerts, with at least two concerts a season.

Its purpose is to learn and perform the great choral works of the masters, which have been composed specifically for chorus and orchestra. Membership is limited to a balanced 150 mixed voices. Entrance to the choir is by audition and invitation. The course is on a 3-term basis and offers one credit per term for those who qualify. There is a $10.00 per year registration fee for anyone not currently enrolled at Lansing Community College. Within the 150 voice chorus is a 40 voice chorus, chosen groups of singers who qualify as soloists and have the ability to pass a standard musical theory examination. The soloists for the various productions are chosen from this group. 1 (3-0)

170, 171, 172, 270, 271, 272 The LanSing Lads (Men's Barbershop Quartet) One credit

An invitation class of men interested in the art of barbershop singing. Repertoire is modern as well as standard, and the formation of a performing quartet is the goal. 1 (2-0)

185, 186, 187 Theory and Ear Training I, II, III Four credits

For those interested in pursuing a career in music or a serious avocation. The first year of the study of music theory involves basic scale, key signature and triad spellings through harmonization of melody lines by primary and secondary triads and seventh chords. The use of non-harmonic tones and traditional part writing practice is also studied. Sight singing and correlated melodic, harmonic, and rhythmic dictation are included.

285, 286, 287 Theory and Ear Training IV, V, VI Four credits

A continuation of the first year of Music Theory. Class includes the study of 9th, 11th, and 13th chords; the Neapolitan 6th chord, and chords of the augmented 6th. Chromaticism and impressionism are studied, as well as various 20th century techniques—serialism, pan tonality, and improvisation. Class performances of student works and correlated melodic, harmonic, and rhythmic dictation are included.

Applied Music

All Music Lessons: Students are registered for the entire term. The student should arrange with the teacher for a conference before registering for lessons. Lessons consist of two half hour sessions per week, time to be agreed upon by student and teacher. Voice students who plan concentrated vocal study should be aware that some piano knowledge is necessary for all major Music School courses.

Fees: Students enrolling for courses under applied music will pay the regular course fee per credit hour, through the College Business Office. Applied music fees for music lessons, however, are paid directly to the instructor. The following fee schedule is applicable:

Dr. David Machtel: $10.00 per one-half hour lesson, $220.00 per term.
Mrs. Wanda Richards: $4.00 per one-half hour lesson, $88.00 per term.

Voice. Instructor: Dr. David Machtel

176, 177, 178 Applied Voice I, II, III **Variable credit**

This classification will include the student whose major interest is in another field of music and whose purpose in studying is to develop a better singing voice. Song repertoire studied will be in English and Italian.

276, 277, 278 Applied Voice I, II, III **Variable credit**

For the voice student who shows evidence of outstanding voice, good ear, musical intelligence, and pleasing personality. Song literature in Italian, French and German, as well as English, will be studied. Definite standards of vocal proficiency are to be met. Appearance in recitals is a part of the course.

Piano. Instructor: Wanda Richards

180, 181, 182 Applied Piano I, II, III **Two credits**

This course is open to all students, both beginners and those more advanced. Requirements are necessarily flexible, designed to meet the needs and aims of the student.

280, 281, 282 Applied Piano IV, V, VI **Two credits**

This course is designed to give the student greater proficiency in piano. It covers major and minor scales, major and minor arpeggios, dominant and diminished sevenths, and selections from classic, romantic, and modern masters.

Theater

The theater programs offered at Lansing Community College provide opportunities for students who wish to enter the theater as professional performers or as amateurs interested in the performing arts. The program provided for a potential professional performer includes opportunities for assessing potential talent as well as developing that talent. Courses can lead to an Associate Degree in Arts with specialization in theater, or can prepare the student for auditions required for enrollment in a professional theater school. The individual receiving an associate degree and/or pursuing his studies further at a four-year university can continue study to become a teacher of Theater Arts as a profession.

In addition to the theater programs intended to train professional actors, Lansing Community College offers an opportunity and encourages individuals of the community to participate in theater programs for personal enjoyment. The theater program is a broad program. It includes training not only for performing actors but also for supporting activities such as set design and construction, costume design and construction, lighting, and other technical activities. A feature of the college theater program is an arrangement with the Ledges Playhouse, a professional theater company operating throughout the year in Grand Ledge, Michigan. This provides outstanding opportunities for realistic and practical training as a performer.

COURSE DESCRIPTIONS

220 Introduction to Theater Arts **Three credits**

Designed to introduce the student to the theater and the theoretical principles of its arts. Includes historical development from arena through proscenium, techniques of acting and directing, and principles of lighting, design, costuming and makeup. Open to freshmen. 3 (3-0)

221 Play Production **Three credits**

Designed to acquaint the student with practical problems of producing a play for an audience. Class work is focused on script analysis, acting and directing, stagecraft, and producing the play. Students actually produce their own one-act play under the guidance of a student director, and each student prepares a complete promptbook for the play in which he participates. Prerequisite: Speech 220 or approval of the department. 3 (3-0)

230 Honors Theater Workshop **Four credits**

Offered only in the summer at the Ledges Playhouse, Grand Ledge, on principles of theatrical production. Emphasizes practical experience in design and construction of scenery, lighting, costuming, make-up, and business management, using the actual Ledges productions for laboratory projects. Student is required to attend a formal one-hour lecture and work on laboratory projects at least five hours each week of the summer term. Enrollment limited to twelve students. Prerequisites: Theater 220 and written application to the department. 4 (1-5)

NOTE: Students in Theater 220 and Theater 221 are encouraged to participate in productions of the Lansing Civic Players and the Community Circle Players. Listed below are one technical workshop and two three-term sequences in theatrical production, offered at the Ledges Playhouse and designed as an introduction and basic development of those minimal skills needed to enter the professional theatrical field. Emphasis is placed on the practical elements of acting, technical theater and theatrical direction.

Fine Arts

241 The Scenic Dimension — **Three credits**

Lecture and Laboratory in the scenic elements of play production; analysis of theater forms in relation to visual design; application of basic elements of scenery construction. Offered fall term only. 3 (0-6)

242 Lighting and Sound — **Three credits**

Theory and practice in the illumination of stage productions and in the use of recorded and live sound effects. Offered winter term only. (3-6)

251 Voice and Movement — **Three credits**

Development of the vocal and physical skills necessary to sustain public performance. Offered fall term only. 3 (0-6)

252 Acting I — **Three credits**

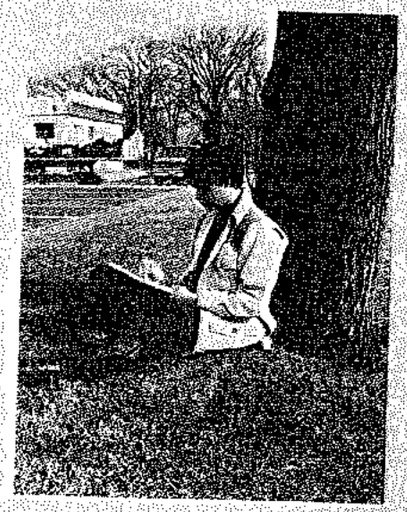
Fundamentals of acting including improvisation rehearsal techniques. Most performance requirements will be met in classroom situations. Public performance is not recommended. Offered winter term only. 3 (0-6)

253 Acting II — **Three credits**

Fundamentals of acting including character analysis and the means of realizing character on stage. Public performance is required. Offered spring term only. 3 (0-6)

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 directly with plays in rehearsal at the theater. Offered spring term only. 3 (0-6)



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O may my heart's truth
Still be sung
On this high hill in a year's turning.

Dylan Thomas

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At a special election held December 15, 1964, voters adopted a proposal creating the Ingham County Community College District, with six trustees elected to serve for a period of two years. Meeting on January 6, 1965, the newly elected Board of Trustees resolved, "that the Ingham Community College Board of Trustees desires to enter into negotiations with the Lansing Board of Education concerning the orderly transfer of the operation and control of the institution now known as the Lansing Community College and to establish by July 1, 1965, the new area community college." At a subsequent meeting the Board agreed to retain the name of Lansing Community College.

Under the new tax base, greater than that previously determined by the Lansing School District, it became possible to provide more education and training programs for more people of all ages. Since the election of this first Board of Trustees, site planning has been completed for the downtown campus; the new Health Careers-Liberal Arts and Sciences unit opened for students in the fall of 1968, the renovation of Old Central is complete, and student enrollment totaled 7,242 students in the fall of 1970.

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Dean
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College of Business

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College of Technology and Health Careers

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Director
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James Platte
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Faculty and Staff Directory

Faculty and Staff Directory

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