

LANSING COMMUNITY COLLEGE

210 W. Shiawassee
Lansing, Michigan
Telephone 489-3751

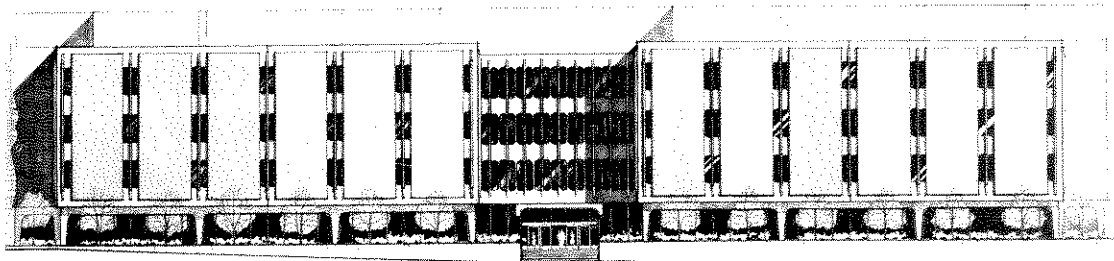
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Administrative Reference Center
LANSING COMMUNITY COLLEGE

1965/66

ACCREDITED BY

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



PROPOSED BUILDING

CALENDAR FOR 1965 - 66

SEPTEMBER

S	M	T	W	T	F	S
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OCTOBER

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NOVEMBER

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APRIL

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JUNE

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JULY

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AUGUST

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LANSING COMMUNITY COLLEGE CALENDAR 1965-1966

FALL TERM 1965

September 13-17	Faculty and Committee Meetings
September 20, 21, 22	Fall Term Registration
September 23	Classes Begin
September 30	Last day for adding classes
October 15	M.A.J.C. Meetings
November 25-27	Thanksgiving Recess
November 29-December 15	Academic Advisor Conferences
December 15	Fall Term Closes

WINTER TERM 1966

January 3 and 6	Faculty Meetings
January 4-5	Winter Term Registration
January 7	Classes Begin
January 14	Last day for adding classes
March 9-24	Academic Advisor Conferences
March 24	Winter Term Closes

SPRING TERM 1966

April 4 and 7	Faculty Meeting
April 5 and 6	Registration
April 8	Classes Begin
April 15	Last day for adding classes
May 30	Memorial Day Holiday
June 12	Commencement Exercises
June 23	Spring Term Closes

SUMMER TERM 1966

June 27	Registration
June 28	Classes Begin
July 1	Last day for adding classes
July 4	Independence Day Holiday
August 22	Summer Term Closes

BOARD OF TRUSTEES

Mr. Lee A. Trumble	Chairman
Mr. David D. Diehl	Secretary
Mr. Albert C. Boyd	Treasurer
Mr. John H. Dart	
Mr. David L. Froh	
Mr. Cecil E. MacDonald	

ADMINISTRATIVE ORGANIZATION

OFFICERS

PHILIP CANNON, President of the College
FRANK BENEDICT, Director of Personnel and Physical Plant
BRUCE NEWMAN, Business Manager
THOMAS MACCLURE, Dean, Applied Arts and Sciences
R. STEPHEN NICHOLSON, Dean, Liberal Arts and Sciences
KENNETH SPROWL, Dean, Student Personnel Services

DEPARTMENT CHAIRMEN

HAROLD WALPER, Apprenticeship
GEORGE HOPKINS, Business
MARVIN CHURCH, Engineering Technologies
GLORIA BOUTERSE, Health Sciences
DAVID ARGANIAN, Humanities
HUGH SCHRAM, Language Arts
CLARENCE POWERS, Mathematics
DOUGLAS MCKINSTRY, Retraining
FLOYD HUGGETT, Science
MILAN REBAN, Social Science



INGHAM COUNTY COMMUNITY COLLEGE STUDY COMMITTEE

LEE A. TRUMBLE
Chairman

DR. MAX S. SMITH
Study Director

JOHN M. EATON
Study Coordinator

SUBCOMMITTEE MEMBERS

LEGAL BASIS & ORGANIZATION:

Robert Drake
Chairman
Benjamin Gibson
Vice Chairman
Fred Colwell
Robert M. Reames
Marvin Tableman

Wendell Anderson
Carl Bates
Mrs. John Bissinger
David Diehl
Robert Fitch
Benjamin Gibson
Frederick Jappinga
Donald Julien
Lloyd W. LaChapelle
Robert M. Reames
Mrs. Victor Smith

NEEDS, GROWTH & PROGRAM:

Dr. Justin Sleight
Chairman
Dr. Raymond Hatch
Vice Chairman
Brother Athanasius
Frank Corser
Richard Dougherty
Malcolm Dunham
Morris M. Goldstein
Mrs. W. H. King
Mrs. Walter P. Maner
Dr. William H. Pipes
S. Don Potter
Alton Stroud
Mrs. M. A. Waldo
L. H. Witter
Alan Dean
Albert Boyd

LOCATION AND FACILITIES:

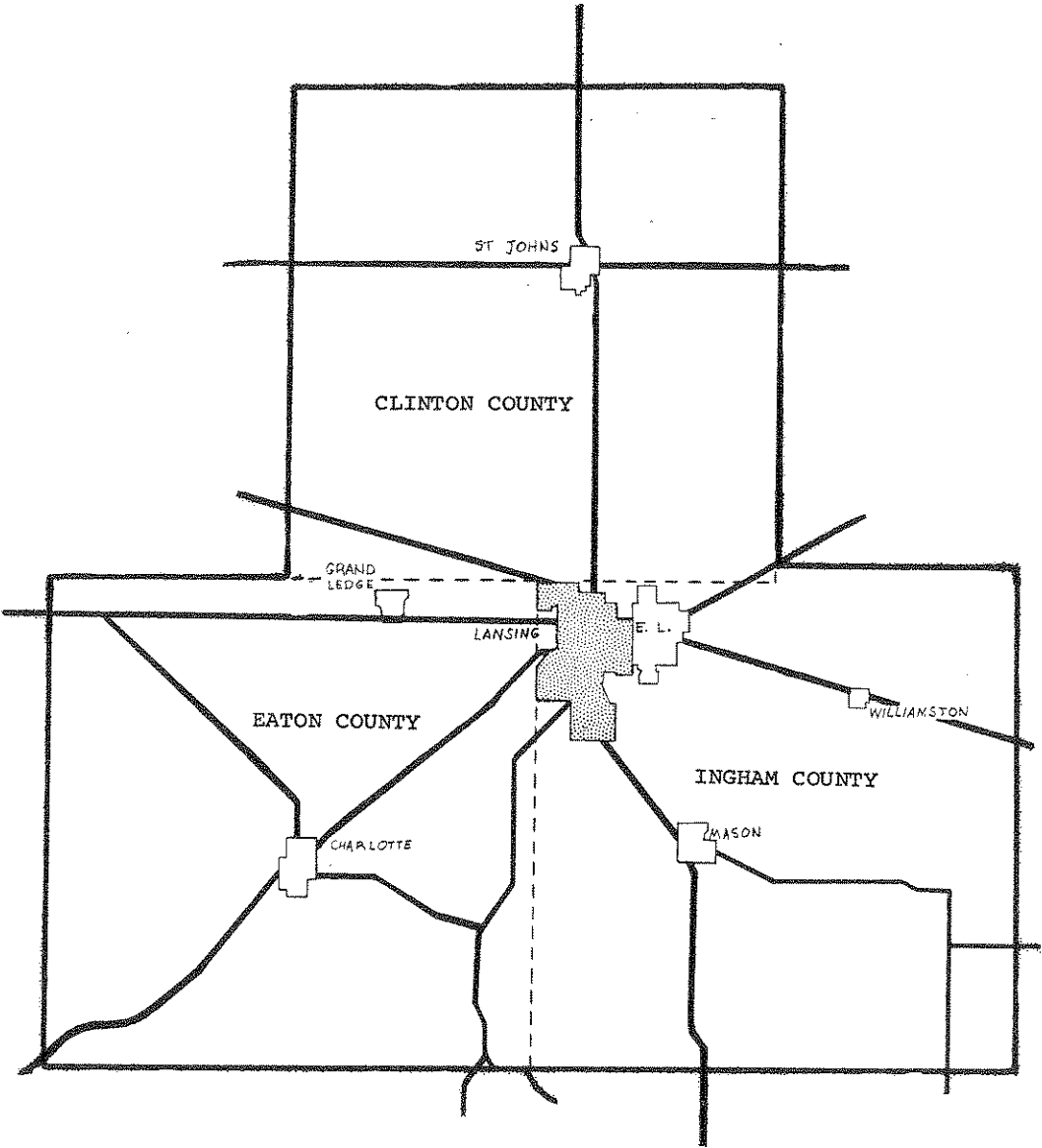
Tarik Ataman
Chairman
Marvin Tableman
Vice Chairman
Dr. Donald J. Drolett
Frank Guerriero
Stephan Kras
Dr. Dwight S. Large
The Rev. Francis Martin
Malcolm Milks
Mrs. Warren Mueller
Glenn E. Oesterle
Robert Underhill

FINANCE, RESOURCES & COSTS:

Richard Beers
Chairman
James Shaffer
Vice Chairman

EX-OFFICIO MEMBER

Thomas C. Walsh



PRESENT COLLEGE
SERVICE AREA

PURPOSES, FUNCTIONS AND OBJECTIVES

The purposes, functions, and objectives of Lansing Community College have quite clearly been 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 science, business, and technology which are not being offered at Michigan State University. It provides a variety of adult and community-service programs along with 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 bigness of the state colleges and universities. In this way it helps to relieve the freshman and sophomore congestion at Michigan State and other 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, government for manpower that is better educated and trained to meet increasing technological changes.

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

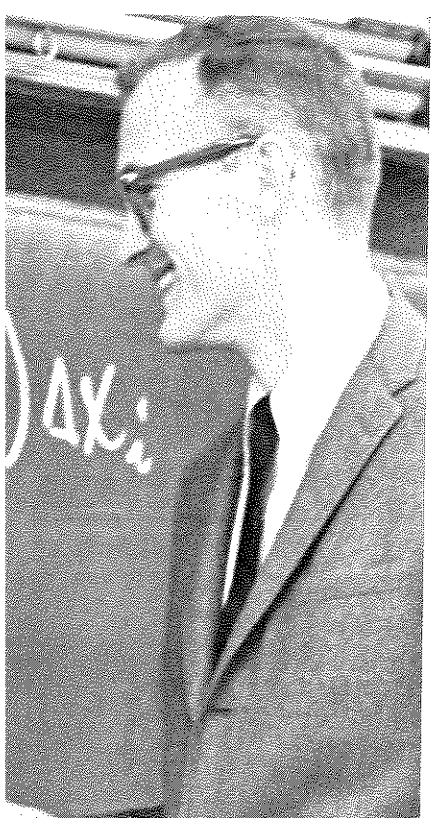
1. The student will be aided in realizing his intellectual potential through an individualized approach to his education. Small classes and personal faculty guidance will aid the student in achieving this objective.
2. The student must be encouraged to bear responsibility for his educational goals and to pursue academic excellence to the limits of his ability.
3. The student and the institution, aware that the world is rapidly changing, culturally and technologically, must search together 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 himself and his fellow man.

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 and 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.

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 attitude of "openness" to 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.

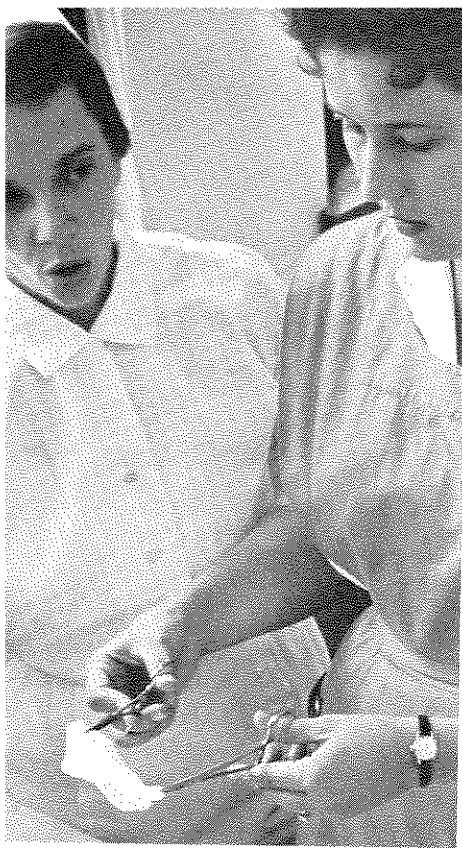


FACULTY

- Amaru, AugustineSocial Science
 A.B., Boston University
 Graduate Study, Michigan State University
- Anderson, RaymondRegistrar
 B.S., University of Michigan
 M.A., University of Michigan
 D.A.G.S., Michigan State University
 Doctoral Candidate, Michigan State University
- Antico, JohnEnglish
 B.A., Wayne State University
 M.A., Michigan State University
 Doctoral Candidate, Michigan State University
- Arganian, DavidChairman, Humanities Department
 B.A., University of Wisconsin
 M.A., University of Wisconsin
 Graduate Study, Michigan State University
- Bailey, PerryGeography
 A.B., Western Michigan University
 M.A., Columbia University
 Ph.D., Ohio State University
- Balmer, HaroldEngineering Drawing
 B.S., Western Michigan University
 M.A., Michigan State University
- Beaty, MaryEnglish
 B.A., William & Mary
 M.A., University of Michigan
- Benedict, FrankAdministrative Assistant
 B.M., Michigan State University
 M.A., University of Michigan
 Graduate Study, Michigan State University
- Bittner, MichaelCivil Technology
 B.S.E., University of Michigan
 M.S.E. (Civil), University of Michigan
 Registered Professional Engineer
- Blanchard, HarryAdministrative Assistant
 B.S., Western Michigan University
 M.A., University of Michigan
 Graduate Study, Michigan State University
- Bouterse, GloriaChairman, Health Sciences Department
 B.A., Michigan State University
 R.N., Edward W. Sparrow Hospital
 Graduate Study, Michigan State University
- Bucklin, WilliamSocial Science
 B.S., Montana State
 M.A., Michigan State University
 Graduate Study, Michigan State University
- Christiansen, KentCounseling
 B.S., Brigham Young University
 M.S., Brigham Young University
 Doctoral Candidate, Michigan State University

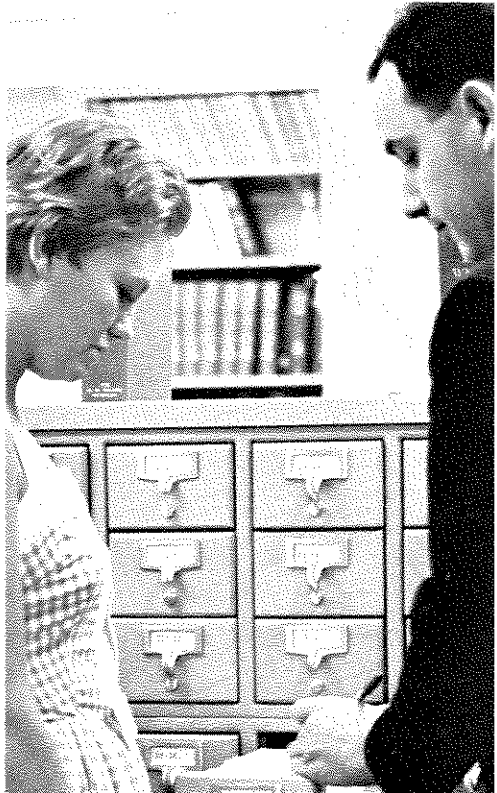
- Church, MarvinChairman,
Engineering Technologies Department
B.S.C.E., Tri-State
M.S.E. (Civil), University of Michigan
- Clark, JamesHistory
B.A., Oberlin College
M.A., Harvard University
Graduate Study, Michigan State
University, University of Michigan
- Cochrane, LillianPractical Nurses
B.S., University of Michigan
R.N., Edward W. Sparrow Hospital
- DeRoo, CarlenePractical Nurses
B.S., Calvin College
R.N., Blodgett Memorial Hospital
- Dixon, EdwardEnglish
B.A., Duquesne University
M.A., University of Detroit
- Edwards, RonaldBusiness
B.S., Ferris Institute
M.S., University of Tennessee
- Elliston, AngelaEnglish
B.A., University of Illinois
M.A., University of Illinois
- Flory, FrankMechanical Technolgy
B.S., Eastern Michigan University
M.S., University of Michigan
- Gannon, PhilipDean
B.A., Albion College
M.A., Michigan State University
Doctoral Candidate, Michigan State
University
- Goodman, MaxinePractical Nurses
R.N., University of Western Ontario
- Graf, EdwinMechanical Technology
B.S., Michigan State University
M.S., Michigan State University
- Greenfield, MaryChairman,
Business Department
B.A., Michigan State University
M.S., University of Michigan
- Hamelin, ArdathPractical Nurses
R.N., Edward W. Sparrow Hospital
- Hinderleider, ArthurApprentice Training
Bricklaying
- Hopkins, GeorgeChairman,
Management and Marketing Department
B.S., Kent State University
M.A., Western Michigan University
- Howell, GracePractical Nurses
L.P.N., Lansing Community College
B.A., Michigan State University
B.S., Michigan State University
R.N., Michigan State University

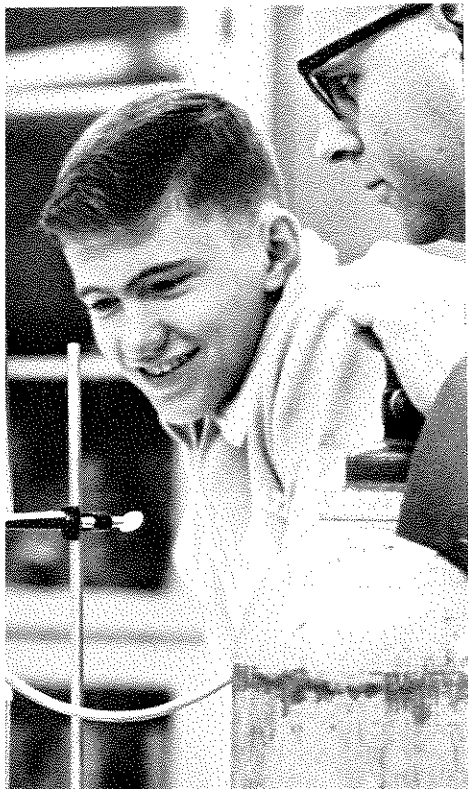
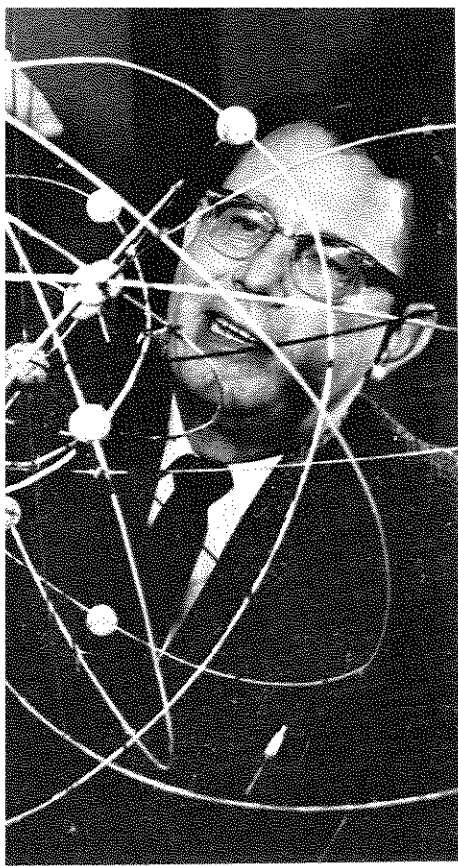




- Huggett, FloydChairman,
Science Department
B.S., Western Michigan University
M.S., Michigan State University
Graduate Study, Michigan State University
- Hunt, Beverly Counseling
B.S., Eastern Illinois State University
M.A., Michigan State University
Doctoral Candidate, Michigan State
University
- Jacobs, AnnetteSpeech & Debate
B.A., University of Wisconsin
M.A., Michigan State University
- Johnson, RalphCivil Technology
B.S.C.E., Michigan State University
Registered Professional Engineer
- Jones, J. HowardMathematics
B.S., Illinois State Normal University
M.A.S., Michigan State University
- Kalenda, LenorePhysical Education
B.S., Western Michigan University
M.A., Michigan State University
- Kelly, RuthMathematics
B.A., Michigan State University
M.A., Michigan State University
- Kinsey, JanicePractical Nurses
R.N., Hackley School of Nursing
B.S., Michigan State University
- Koelzer, PhilipApprentice Training
Sheet Metal
- Kowatch, JohnApprentice Training
Electrical
- Kreider, PaulCounseling
B.D., Nazarene Theological Seminary
M.A., Butler University
Doctoral Candidate, Michigan State
University
- Lehman, FredApprentice Training
Plumbing
- Lidtke, DorisElectronic Data Processing
B.S., University of Oregon
Graduate Study, Michigan State University
- Loomis, TomChemistry
B.S., New Mexico State University
Doctoral Candidate, Michigan State
University
- Lubbers, MargeryPractical Nurses
B.S., Michigan State University
R.N., Michigan State University
- MacClure, ThomasDivisional Chairman,
Applied Arts and Sciences
B.S., Michigan State University
Graduate Study, Michigan State University
- Machtel, DavidMusic
B.M., University of Wisconsin
M.A., University of Wisconsin
Ph.D., Teachers College, Columbia
University

- Manion, JohnEnglish
 B.A., Washington State College
 M.A., Washington State College
 Graduate Study, Michigan State University
- Manley, ThomasNatural Science
 B.S., Wayne University
 M.S., Wayne University
 Ph.D., Michigan State University
- McDonald, JackNatural Science
 B.S., Central Michigan University
 Graduate Study, Michigan State University
- McKinstry, DouglasDirector of Retraining
 B.S., University of Illinois
 Graduate Study, Michigan State University
- Mortimore, ElfriedePhilosophy
 B.A., Michigan State University
 M.A., University of Chicago
- Nevai, JanosPhysical Education
 Diploma—Budapest
 M.A., Magyoor Testnevelési Foiskola
 Graduate Study, Michigan State University
- Nicholson, R. StephenDivisional Chairman,
 Liberal Arts & Sciences
 A.B., Marion College
 M.A., Syracuse University
 Doctoral Candidate, Michigan State
 University
- Noyes, DonnaCafeteria Director
 B.S., Cornell University
 Graduate Study, Cornell University and
 Eastern Michigan University
- Oviatt, CarlaMathematics
 B.S., South Dakota State College
 M.A., Michigan State University
 Graduate Study, Michigan State University
- Pearson, CharlesHotel-Motel & Food
 Service Technology
 B.A., Michigan State University
- Pelkey, DonLibrary
 A.B., Central Michigan University
 M.A.L.S., University of Michigan
- Person, JamesBusiness Internship
 Coordinator
 B.S., Central Michigan University
 M.A., Central Michigan University
 Graduate Study, Michigan State University
- Pipes, AnnaEnglish
 B.A., Kentucky State College
 M.A., Atlanta University
- Platte, JamesEnglish
 Chairman, Faculty Assembly
 B.A., Aquinas College
 M.A., Michigan State University
 Graduate Study, Michigan State University
- Powers, ClarenceChairman, Mathematics
 Department
 B.S., Kansas State University
 Graduate Study, Michigan State University





- Reban, MilanChairman, Social
Science Department
A.B., University of Miami
M.A., Vanderbilt University
- Regenbaum, KennethEnglish
B.A., City College, New York
M.S., Yeshiva University, New York
- Reynolds, GaryEnglish
A.B., University of Detroit
M.A., University of Detroit
- Root, RoscoeNatural Science
B.S., Central Michigan University
M.S., University of Chicago
- Rowe, RogerElectronics Technology
B.S., Michigan State University
Graduate Study, University of Michigan,
Michigan State University
- Sabido, J. PerezSpanish
Masters, Havana University
- Schram, R. HughChairman, Language
Arts Department
B.A., Eastern Michigan University
M.A., University of Texas
Graduate Study, University of Texas
- Schwartz, JackSocial Science
B.A., University of Missouri
M.A., Michigan State University
- Schwartzfisher, RoseMathematics
B.S., Michigan State University
- Sebeson, JohnChemistry
B.S., Wisconsin State University
M.A., Michigan State University
- Shull, DavidEvening College Coordinator
and Natural Science
B.S., Michigan State University
M.S., Michigan State University
Ph.D., Michigan State University
- Spencer, ArmondMathematics
B.S., Michigan State University
M.S., Michigan State University
- Sproull, KennethAssistant Dean
B.S., Indiana University
M.A., Western Michigan University
Doctoral Candidate, Michigan State
University
- Taylor, RonaldNatural Science
B.S., Michigan State University
M.S., Michigan State University
Graduate Study, Western Michigan
University, Michigan State University
- Thomas, NathanHistory
B.A., Andrews University
M.A., Ohio University
Graduate Study, Michigan State University
- VandeBunt, MargaretNatural Science
B.A., Kalamazoo College
M.A., University of Chicago

- Voss, DonaldPsychology
 A.B., Calvin College
 M.S., Northern Illinois College
 Doctoral Candidate, Michigan State University
- Walper, HaroldChairman,
 Apprenticeship Department
 B.S., Eastern Michigan University
 M.A., University of Michigan
 Graduate Study, University of Michigan
 and University of Toledo
- Warbach, LauraPractical Nurses
 R.N., Cumberland Hospital
 School of Nursing
- Warnell, WilbernWelding
- Warner, LouisBusiness
 B.S., Western Michigan University
 M.A., Michigan State University
- Warriner, DavidPhysics
 B.S., Tulane University
 Ph.D., Cornell University
- Watson, ClaudePhysics
 B.S., Michigan State University
 M.S., Michigan State University
 Graduate Study, Michigan State University
- Weinstein, FrancineCounseling
 B.B.A., City College of New York
 M.A., Michigan State University
 Graduate Study, Michigan State University
- Wilder, FrancisApprentice Training
 Carpentry
- Yarger, RichardNatural Science
 B.S., Central Michigan University
 Graduate Study, Michigan State University

SECRETARIES:

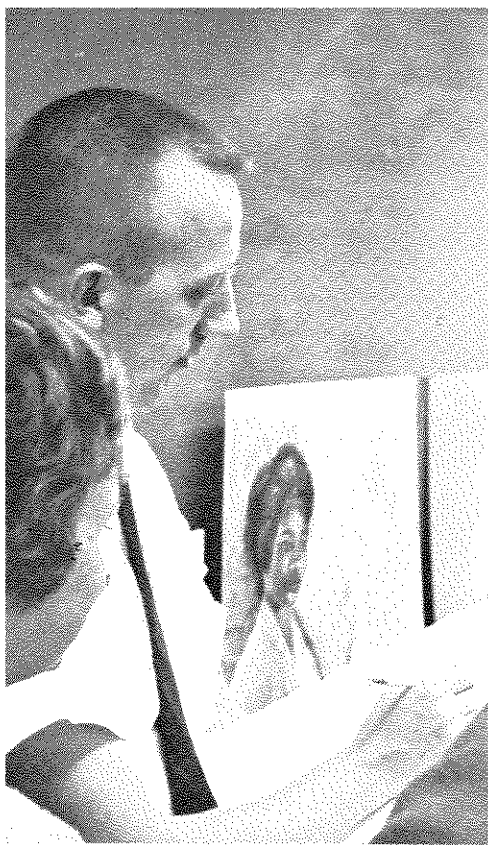
- Applied Arts and Sciences
 Lillian Bertoline
 Erma Richardson
- Dean's Office
 Betty Clegg
 Phyllis Rich
- Liberal Arts and Sciences
 Phoebe Wing
- Library Staff
 Beatrice Huggett
 Gladys Shire
 Ruth Simmons
- Practical Nursing
 Lyla Cavanaugh
- Student Personnel Services
 Judith Byington
 Jane DeRose - Bookkeeper
 Donna McCune
 Betty Neumann
 Carol Odling
 Joan Patton



DIVISION OF LIBERAL ARTS AND SCIENCES

HUMANITIES
LANGUAGE ARTS
MATHEMATICS
SCIENCE
SOCIAL SCIENCE



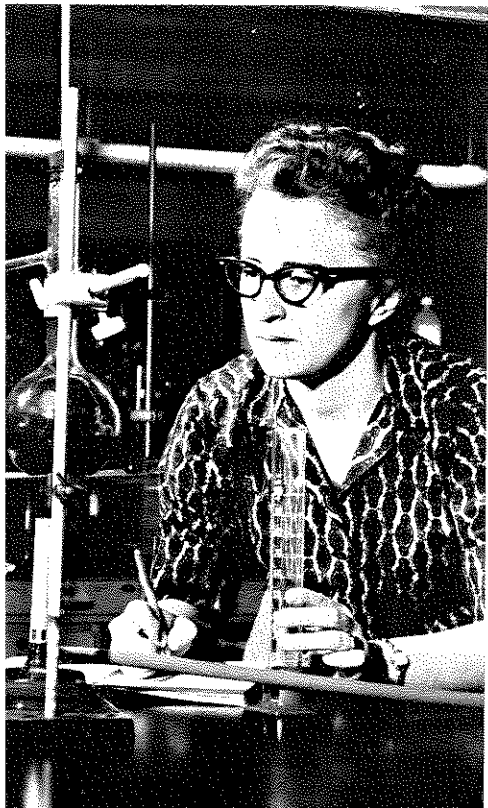


The Arts and Sciences programs at Lansing Community College attempt to lead the student to an enlightened appreciation of his cultural heritage.

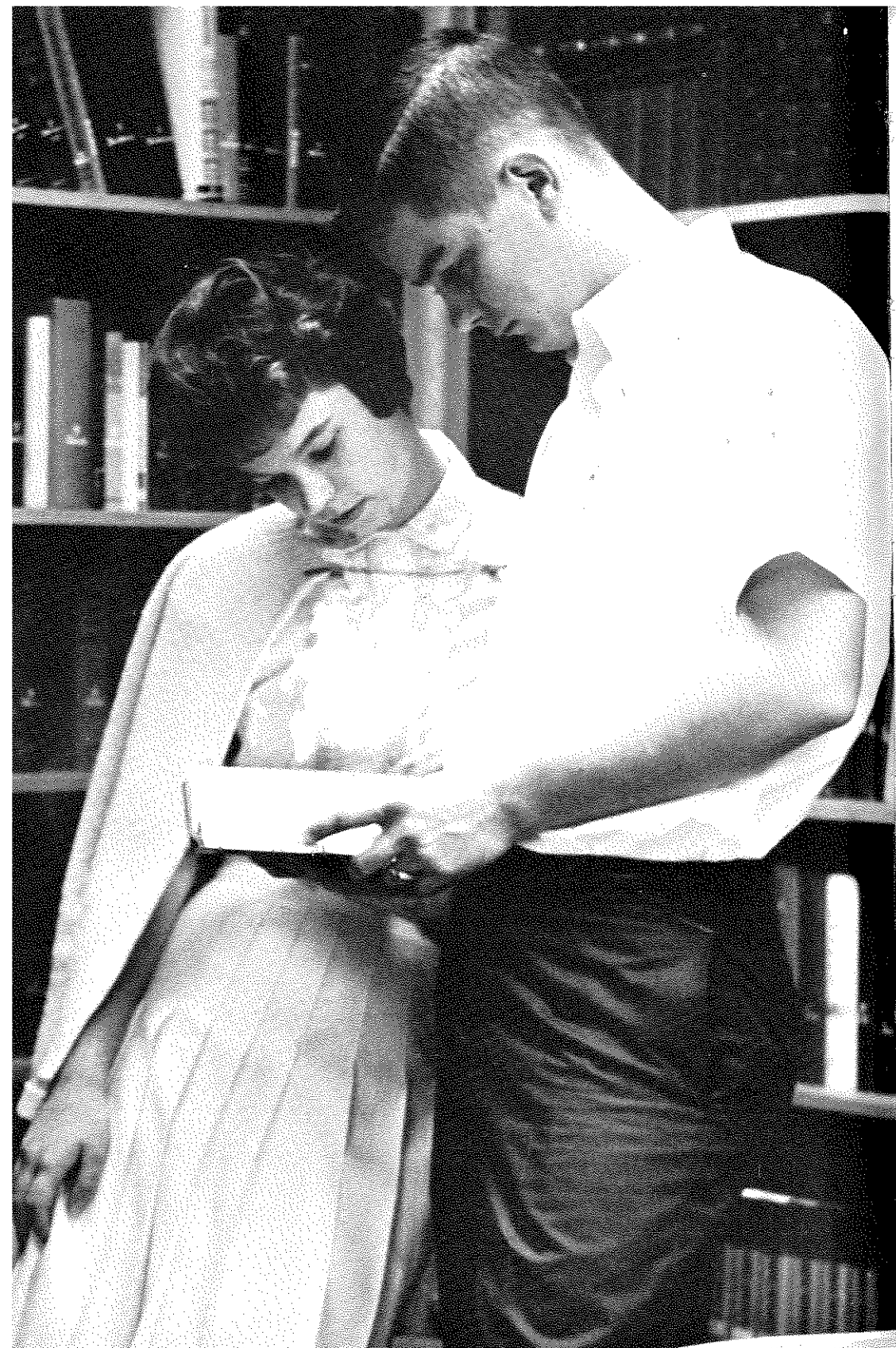
It is assumed that in order to properly understand Western Man in the twentieth century, he must examine how and what Western Man has thought in the past. In order to implement this objective, Lansing Community College offers a wide variety of freshmen and sophomore courses in the Arts and Sciences.

Study within the Arts and Sciences should result in a fundamental knowledge of the physical and cultural world and of the student's personal relationship to such a world. Such understanding should foster the development of a satisfying and meaningful philosophy of life.

On a much more practical level, this program serves as sound foundation for such careers as teaching, law, engineering, science and homemaking. In fact, no better preparation than the arts and sciences programs can be obtained for transfer to a four-year college where one may specialize in a field of his interest.







DIVISION OF APPLIED ARTS AND SCIENCES

APPRENTICESHIP
BUSINESS
ENGINEERING TECHNOLOGIES
HEALTH SCIENCES
MANAGEMENT and MARKETING
RETRAINING
VOCATIONAL-TECHNICAL

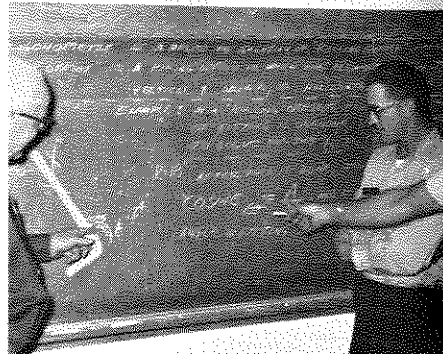
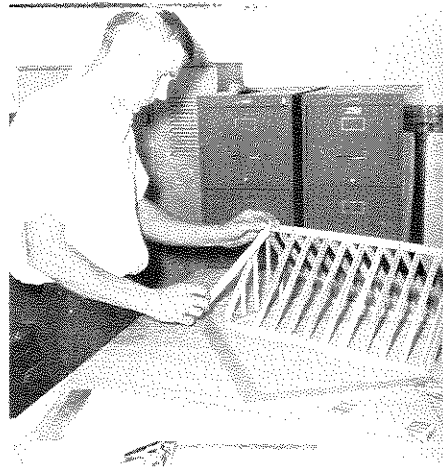
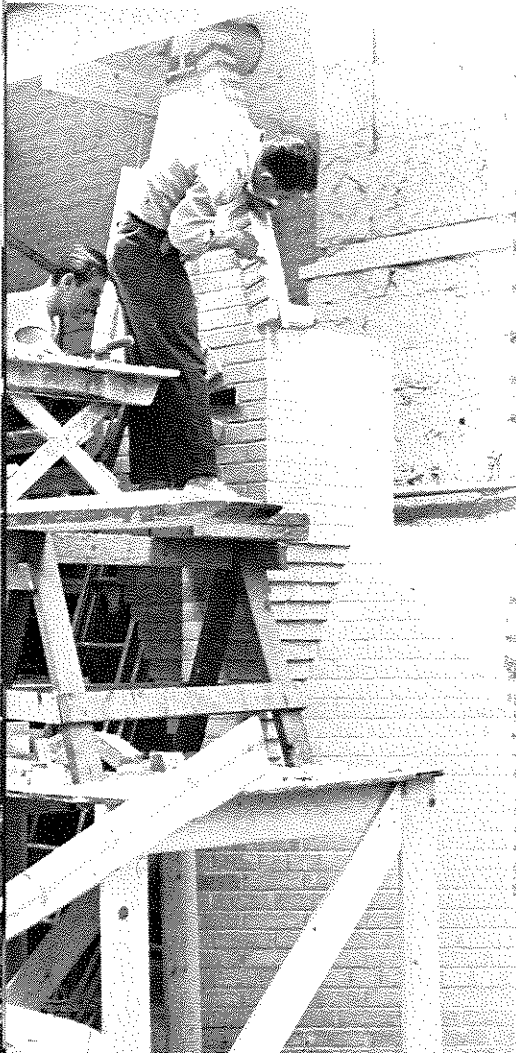


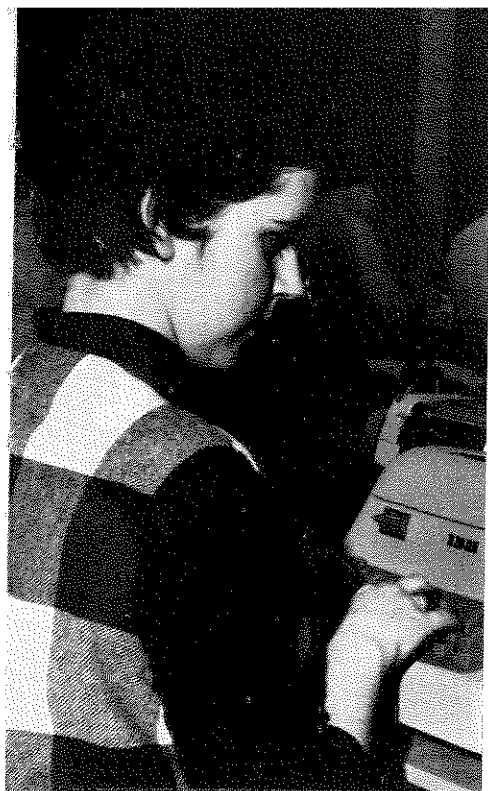
APPRENTICESHIP

The Apprentice Training Department is operated by the Lansing Community College in cooperation with labor and management as part of a joint program consisting of:

1. Practical training on-the-job in a specific skilled trade, and
2. Related training provided at the College for the trade.

The school program is not designed to give complete trade training but is supplemental to the training on the job. Therefore, anyone desiring trade training must be employed as an apprentice before entering class. The College does not provide apprentice placement service, nor does it exercise control over selection of apprentices.





BUSINESS

The Business Department affords young men and women an excellent opportunity for training in many areas of business. The curricula have been developed to give the high school graduate sufficient skill to acquire a position in the highly competitive world of business.

For those who are employed and have some professional experience, courses are planned to give more advanced training and greater proficiency in order to insure job-improvement.

So diverse are the business curricula that virtually any person bent on advancement in office occupations will find much to interest and benefit him.





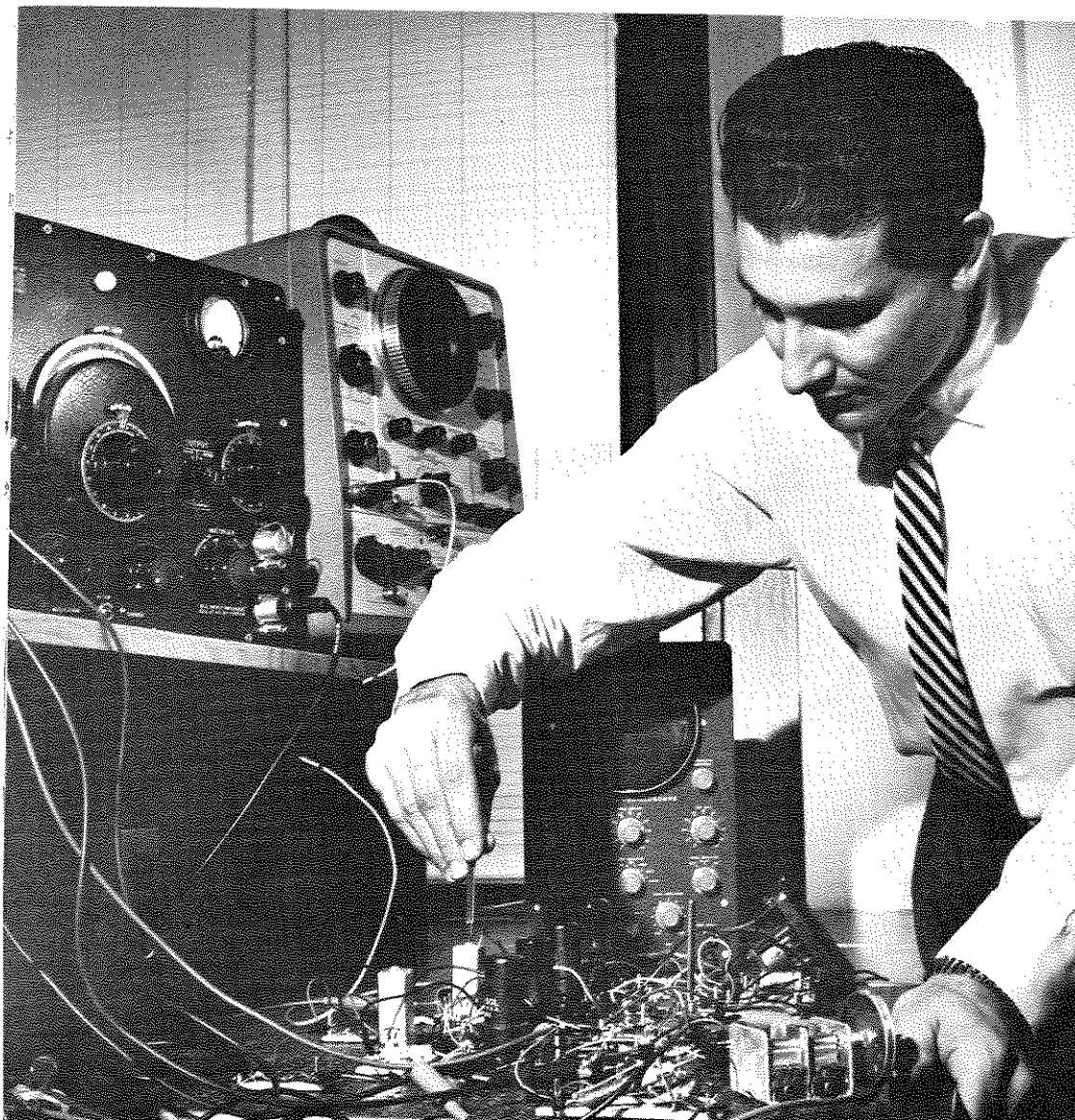
Programs are designed to prepare students to enter positions in clerical work, accounting, and secretarial work.

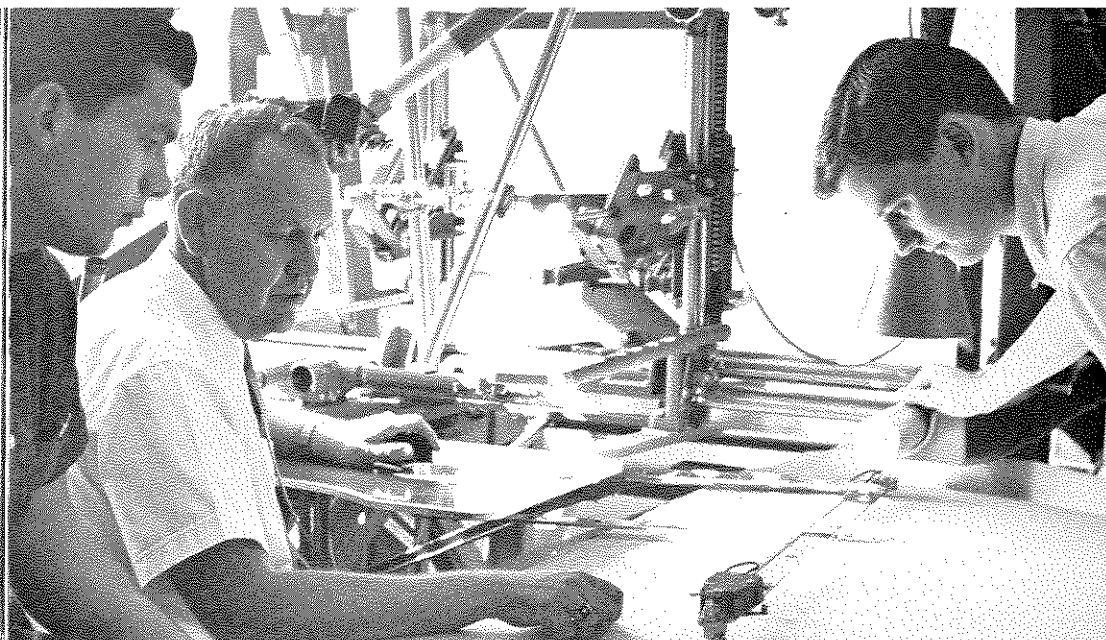
To give students the best possible preparation for peak achievement in business, the College offers an internship training program that enables students to acquire on-the-job training. Enrollees not only gain valuable and necessary work experience, but earn money for their work as well.

During the sophomore year and after successful completion of basic courses, the student may elect internship training in an office. This means provision for (1) placement on a job for half days (2) credits earned for satisfactory work performance (3) money earned for hours of work. To enroll in this program, the student must achieve proficiency in at least one of the following areas: stenography, typewriting, office machines, or accounting.

The Business Department will continue to exert every effort to help its qualified students enter a responsible position in the business world.

ENGINEERING TECHNOLOGIES

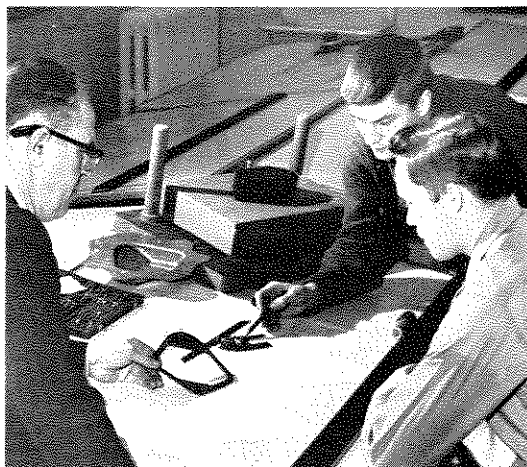
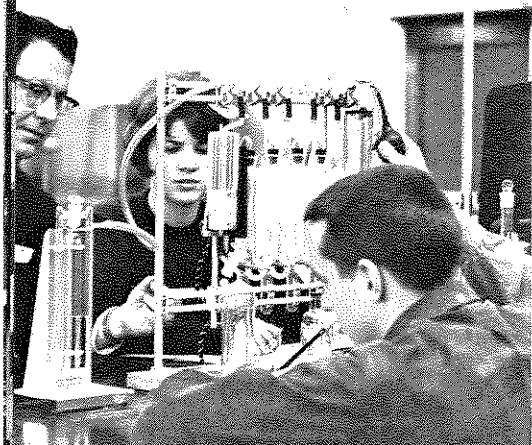




The increased mechanization of American industry, especially in the last ten years, has created a dire need for skilled technicians, young people who have extensive practical and technical training above the high school level, young people who fill the gap between skilled worker and graduate engineer.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

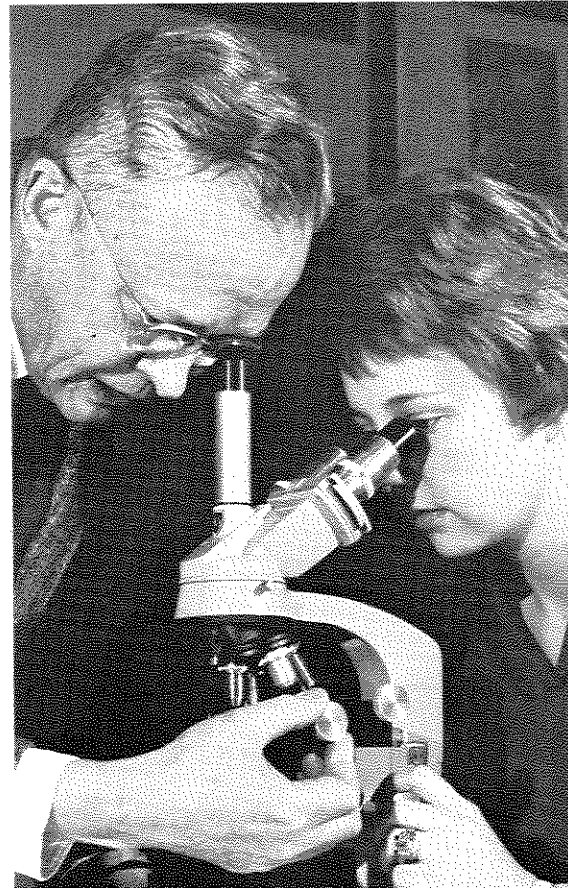
The technicians from each of these programs are concerned with "how to do it" and use their special knowledge to perform operations, make calculations and estimates, and prepare plans in their respective fields of study. They serve as laboratory assistants, draftsmen, testers, research technicians, engineering aides, and in a host of other capacities.

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 "practicalizes" classroom theory.



HEALTH SCIENCES

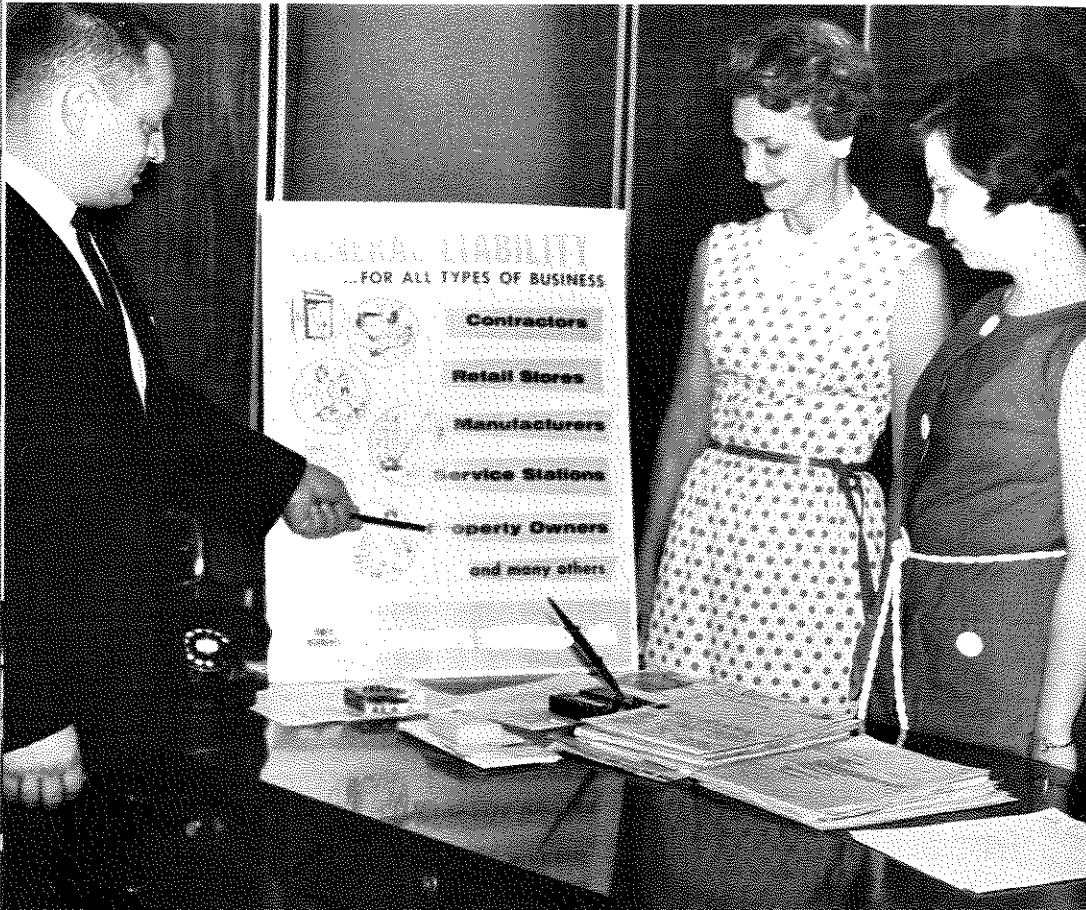
The Department of Health Sciences presents many opportunities for the student to prepare himself for a rewarding career in one of the rapidly expanding areas of health and medicine. Courses available vary in length from one year to two years. Some of the courses are given in affiliation with local hospitals and other medical organizations; others may be completed here at the college; and still others require additional work at a university or professional school. Each one of the curriculums offered enables the student to enter an important area of a health related profession where employment opportunities are good and the working conditions are attractive to those who are interested in serving the public in a professional manner.



MANAGEMENT AND MARKETING

The Department of Management and Marketing at Lansing Community College offers organized programs in many fields leading to positions of mid-management. Many of the curriculums in this area are designed for direct transfer to four-year institutions.

Internship and Community Service Programs are offered by this Department related to present job requirements and anticipated business changes. Special programs are developed for in-service training for management and marketing personnel.



RETRAINING PROGRAMS

Lansing Community College conducts retraining programs under the Manpower Development and Training Act of 1963. This Federal Act provides for vocational training for unemployed and underemployed persons. Training under the Act is designed to provide workers with new skills where needed, to upgrade their present skills, and meet the job needs of workers displaced by automation and technological change, geographic relocation of industry, and shifts in market demands. In the majority of cases, job openings must be available or anticipated in the area before training courses are established. Persons to be trained must have reasonable expectation of employment in such openings or must give reasonable assurance of their willingness to accept employment outside their area of residence.

Retraining programs offered change from time to time, consistent with community needs. Interested persons should contact the office of the Director of Retraining at the College or Michigan Employment Security Commission, Branch Office, for further information.

Retraining programs that have been offered in the college include: Computer programmer, duplicating machine operator, bricklayer (welding), machine operator, screw machine operator, and welder combination.

VOCATIONAL-TECHNICAL

One of the most important functions of a community college is that of service to local business, industry, and government.

Every effort will be made to offer instruction which will permit an employee to upgrade himself through classroom work and related laboratory experience. This instruction may be pertinent to the employee's present job requirements or to anticipated technological changes. The spectrum of courses offered range from those of fundamental content to those requiring considerable preparation and background.

Technological changes have occurred with increasing incidence during the last few years and there is every indication that the rate of change will increase. The College, in cooperation with industrial firms in the Lansing area, has scheduled courses for the man working in industry who wants to improve his understanding of the more technical aspects of the skilled trades. Similarly, the College has offered classes in management techniques, quality control, and project control. The College stands ready to develop, for specific requirements, programs ranging from single session meetings to those requiring hundreds of hours for completion.

If the situation warrants, and the class size permits, parallel classes are conducted in day and evening sessions. This permits employees on any shift, or combination of shifts, to attend without interruption.



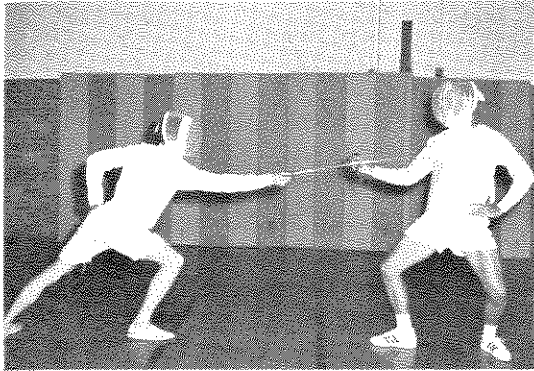
STUDENT PERSONNEL SERVICES



Student Personnel Services at Lansing Community College are supportive of the philosophy, purposes and goals of the College. In our concern with the individual and his progress towards these goals, an organized program of services and activities is provided to assist each student make full use of the educational program. The following practices have been developed to facilitate the accomplishment of the College goals.

- * Informing new students.
- * Advanced registration of students.
- * Helping students make appropriate educational and vocational plans.
- * Orienting new students.
- * Helping students perform at optimal levels in courses.
- * Record keeping.
- * Providing scholarships and loans.
- * Counseling.
- * Helping students with personal problems.
- * Helping students select and transfer to other institutions.
- * Testing and test interpretation.
- * Encouraging student activity.
- * Conducting institutional research on student characteristics.
- * Evaluating personnel practices.

COLLEGE ACTIVITIES



It is the philosophy of Lansing Community College that College Activities are an integral part of the educational program and should contribute to the overall development of the college and its student body.



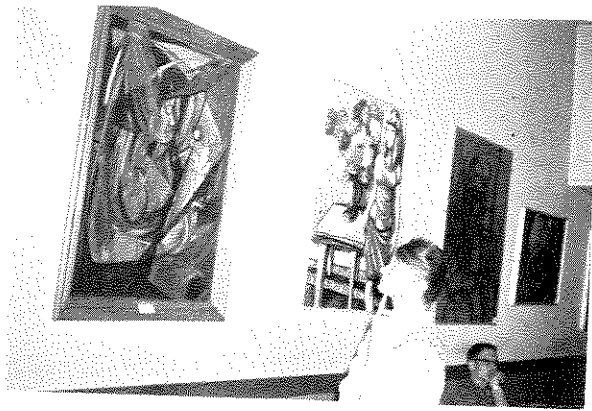
The College Activities program has as its objectives and is designed to provide the greatest possible opportunity for students to develop humanitarian values, effective inter-personal relationships, cultural and social growth, and to gain experience in leadership roles.

The College Activities Board, consisting of faculty advisors and student representatives, assists in the coordination of college activities, meeting regularly for the purpose of reporting advising, and recommending procedure and policy in the total program of College Activities.

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 form a more perfect student, to provide for full student representation in all matters pertinent to student affairs, and to assist in the integration and co-ordination of the activities of all student organizations do hereby ordain and establish this constitution."

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.



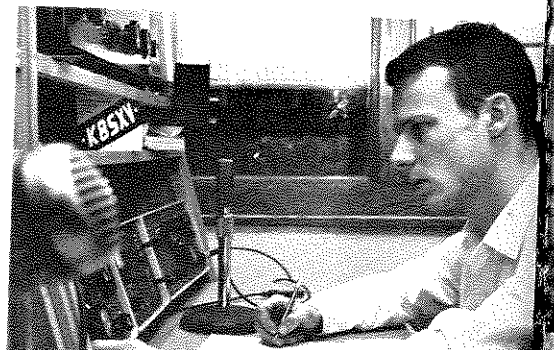
Fine Arts Cultural Program

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 productions 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," Gounod'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.

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

Student Publications

Student publications perform a vital service to the students and the college. Students are offered a vehicle for self-expression and creative endeavor through the process of communication. Like other college activities, student publications afford pleasurable opportunities for group endeavor, social interaction, professional training in journalism, and personal growth.



LIBRARY

The Community College Library provides the printed and recorded resources for the whole program of instruction. It has a rich and up-to-date collection of materials which represents the heritage of the world's civilizations and which represents the most recent advances in scholarship. The library, as an instrument of instruction, fosters an intellectual stimulation for both students and faculty, and encourages a life-long interest and appreciation for the great literature of mankind.

The Community College Library is housed in two separate areas of the College in the east wing of the third floor. The library is open both day and evening during all four quarters of the school year, and can accommodate 110 students for study or research.

The book collection consists of approximately 20,000 volumes selected by the faculty and library staff over the past 4½ years. The staff has attempted to build a quality collection which directly supports the offerings in the college programs. The library has books which present the literature of our common heritage (written in English and other languages), books that present diverse points-of-view on particular subjects, books that present the latest information in a given discipline, and books that challenge the intellectual mind. In addition to the book collection, the library subscribes to 140 general periodicals and academic journals, has a phonorecord collection of 325 albums, has three legal-size, five-drawer files containing reprints, monographs, broadsides, and pamphlets on a multitude of subjects, and receives seven newspapers.

Special features of the modern library's facilities and program are, the conference rooms for group study, the individual carrels for private study, the audio-visual center for listening and viewing of material which is pertinent to the curricula, the arrangement of shelving which promotes easy accessibility to titles in the collection, the nearness of the library to the classrooms and cafeteria, the individual guidance given to the student by the library staff, the co-operation received from the Lansing Public Library and the availability of its collection to college students, and the loaning-of-materials agreement with the State of Michigan Library.



THE EVENING COLLEGE PROGRAM

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.

The 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 or the Evening College Office 489-2471.



A basic concept of community services stems from the philosophy of the Community College and its concern for the individual. The philosophy assumes that the best possible type and level of instruction will be offered and that there is a community need for such offerings.

Community service education includes all courses of study that are not part of a curriculum leading to a degree or certificate. Each course is primarily an end in itself and is not thought of as being a required course in some total program. Each student builds his own course series.

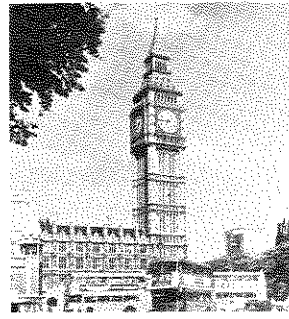
The purposes of these courses are varied and include study for job improvement, courses in avocational interests, and programs in general cultural areas or current events.

Students enrolling in these are of all ages and are often involved with the Community College through service, commercial, or industrial organizations.

Anyone taking courses in this area are and entitled to use all facilities of the college including the use of the library, counseling services, and participation in college sponsored activities.

COMMUNITY SERVICE

A Function of the College



FOREIGN TRAVEL PROGRAM

The administration and faculty of the College have taken steps to expand the Fine Arts program through the development of a broadly conceived Foreign Travel program.

This program was initiated in July of 1964 with a tour to the "Heart of Europe" providing the opportunity to visit the cultural centers of Great Britain, France, Switzerland, Italy, Austria, Germany and the Netherlands.

Plans are presently being developed to provide additional programs in Foreign travel and study which will contribute greatly to international cultural understanding among Lansing Community College students.

HIGH SCHOOL HONORS INSTITUTE

Each summer the Lansing Community College offers to outstanding high school students of the Lansing area an opportunity for advanced study in Chemistry, Physics, Biology, Mathematics, French, Spanish, and Humanities. For further information those students interested in this program should contact the College admissions officer or their high school principal.

INTERNSHIP

Lansing Community College

Internship is an on-the-job work experience program carefully controlled 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, or industry request. The flexibility of developing an individual curriculum for an interested student in any occupational opening is accomplished by utilizing existing course offerings coupled with a practical training program developed between supervisors and the College coordinator. The nature of the occupation will determine prerequisite courses students would select or be expected to have completed before assignment to internship training.

Some advantage of internship include: 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 credits and wages comparable with other workers in like positions.

To qualify for job placement, students must be qualified to secure departmental approval and have completed the application forms available from the College coordinator.

COURSE AND DEPARTMENT CODES

AD	Architectural Drawing	HMR	Hotel-Motel Technology
ANT	Anatomy	HUM	Humanities
ART	Art	LE	Law Enforcement
AST	Astronomy	LT	Library Technician
BIO	Biology	MKT	Marketing
BUS	Business	MT	Mechanical Technology
CEM	Chemistry	MTH	Mathematics
CT	Civil Technology	MIC	Microbiology
DPT	Data Processing Technology	MUS	Music
EC	Economics	NS	Natural Science
ED	Engineering Drawing	PE	Physical Education
ENG	English	PHL	Philosophy
ET	Electronics Technology	PHY	Physics
FBS	Foundations Bio. Science	PSY	Psychology
FPS	Foundations Phys. Science	SPH	Speech
FRN	French	SPN	Spanish
FST	Food Service Technology	SS	Social Science
GEO	Geography	VT	Vocational-Technical
HST	History		

COURSE DESCRIPTIONS

COURSE NUMBERS

- 001-099 and VT courses indicate offerings which are not designed to be used in meeting requirements for an associate degree or for transfer to another college.
- 100-299 Courses are those designed to meet the requirements for an associate degree at Lansing Community College or as freshman and sophomore transfer courses to another college or a university.

COURSE LISTINGS

- I. Course number.
- II. Term credits earned with the number of class hours and laboratory hours within the parenthesis. Variable credit courses are so indicated.
- III. A brief description of the course also includes necessary Prerequisites. Prerequisites may be satisfied by the course or courses listed or by equivalent background. Questions concerning eligibility should be referred to the divisional or departmental office.

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 – Eng. 101, 102, 103 – 9 credits

Humanities (History of Western Civilization) – Hum. 201, 202, 203 – 12 credits

Natural Science – NS 101, 102, 103 – 12 credits

Social Science – SS 101, 102, 103 – 12 credits

**DIVISION OF
APPLIED ARTS
AND SCIENCES**

APPRENTICESHIP

BUSINESS

ENGINEERING TECHNOLOGIES

HEALTH SCIENCES

MANAGEMENT and MARKETING

RETRAINING

VOCATIONAL-TECHNICAL

APPRENTICE TRAINING

The college is anxious to assist employers and apprentices in their training needs in the skilled trades.

Today's industrial worker must have the ability to adjust to changes in production techniques which are taking place and which, undoubtedly, will continue to take place for a long time to come.

Many of the key men in today's industry started as apprentices. Apprentice training offers opportunities to learn a skilled craft or trade while the individual works at the trade for wages and takes related instruction to learn more about the job.

Upon completion of his training program, the apprentice is awarded the status of journeyman which signifies that he is then a skilled craftsman or tradesman.

The Apprentice Training Department is operated by the Lansing Community College in cooperation with labor and management as part of a joint program consisting of:

1. Practical training in a specific skilled trade, and
2. Related training provided at the college for the trade.

The trades currently participating in the joint program are as follows:

Bricklaying	Electrical	Model Making
Carpentry	(Construction)	Painting & Decorating
Die Design	Electrical	Plumbing-Pipefitting
Die Making	(Industrial)	Sheet Metal
Die Sinking	Engraver, Die	Tool Design
Drafting	Machine Repair	Tool Inspection
(Architectural)	Machinist	Tool Making
Drafting	Millwright	Tool & Die Making
(Mechanical)		

The school program is not designed to give complete trade training but is supplemental to the training on the job. Therefore, anyone desiring trade training must be employed as an apprentice before entering class. The college does not provide apprentice placement service, nor does it exercise control over selection of apprentices.

Qualifications

To qualify for an apprenticeship in any of the skilled trades, a young man must have mechanical aptitude and ability. To be successful he must have perseverance, ambition, and initiative. Most trades require high school graduation as a prerequisite; a few do not. In general, age limits are 18 and 25, although exceptions are sometimes made. School records, test results, and personal interviews are used by most committees to determine the qualifications of the applicant. The successful applicant must be in good health, mentally alert, and genuinely interested in the training.

Becoming An Apprentice

Applications for apprenticeship may be secured from a joint apprentice committee member or from the apprentice coordinator in the College 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 trade for which he is making application.

Time Required To Complete Training

The time required to complete training varies from three to eight years, depending on the trade. There is no speed-up of apprentice training, although credit is sometimes granted for previous experience. The apprentice attends classes at the College for a minimum of four hours a week, or 168 hours per year, during the period of his apprenticeship unless otherwise stated.

Earnings

Building Trades Apprentices are usually paid by their employer for their time in school or through an adjustment in hourly pay rate. Other trades and companies vary. The apprentice wage scale is graduated in accordance with training status and usually represents a specific percentage of the journeyman wage rate.

Apprenticeship Agreement

Each apprentice enters into an agreement with the joint apprenticeship committee or its agent to observe the apprenticeship rules and regulations. It then becomes a function of the joint apprenticeship committee or its agent to enforce these rules. It is also the function of the joint apprenticeship committee to review any problems that may arise relative to the apprentice's training program and to endeavor to keep him employed during the term of his apprenticeship. The apprenticeship agreement is registered with the State Board of Control for Vocational Education and with the Federal Committee on Apprenticeship (U.S. Department of Labor). A copy of the registered agreement is required by the Veterans Administration for all veterans who apply for the training benefits.

Entering the School

Applicants approved for apprentice training are assigned a day to report to the College by either the joint apprenticeship committee or the employer. On inquiry at the apprentice coordinator's office, they are referred to the instructor for the trade.

VETERANS

Veterans who are eligible for training benefits under existing laws for veterans' readjustment (PL895, or PL500) should consult the apprentice co-ordinator at the Apprenticeship Department office about benefits in apprenticeship training and the application procedure to be followed for obtaining such benefits.

DEPARTMENT OF BUSINESS

ACCOUNTING

GENERAL CLERICAL

PRE-BUSINESS

SECRETARIAL SCIENCE

SECRETARIAL SCIENCE, LEGAL

SECRETARIAL SCIENCE, MEDICAL

BUSINESS

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 work at the end of the two years.

Qualified students, interested in gaining new skills and acquiring greater proficiency, may elect courses that will total 45 credit hours (equivalent to three terms). This one year of study will provide for the student:

1. Greater potential skill for the initial job
2. A better concept of relationships — cause and effect
3. Increased desire for continued learning

One-year programs are designed for initial job placement, and are not intended for transfer to four-year institutions.

Internship

During the sophomore year, the Business student may elect an Internship program. In addition to scheduled classes, the student will (1) earn money for his employment of 15-20 hours a week (2) receive credit for employment and credit for the Internship-Seminar. To enroll in this phase of education, the student must be proficient in at least one of the following areas: Typewriting, Stenography, Office Machines, or Accounting. The student must request departmental approval.

ACCOUNTING

Freshman Year	Fall Term	Credit Hours	Sophomore Year	Fall Term	Credit Hours
ENG 101	Composition	3	SPH 104	Prin. of Speech	3
BUS 117	Business Mathematics	3	BUS 130	Intro. to Marketing	3
BUS 118	Intro. to Business	3	SS 101	Sociology	4
BUS 110	Prin. of Accounting I	4	BUS 210	Intermediate Acctg.	4
PSY 101	Orientation	1			14
PE 101	Physical Education	1			
		15			
	Winter Term			Winter Term	
ENG 102	Composition	3	SS 102	Economics	4
BUS 107	Business Machines	3	BUS 216	Law & Society II	3
BUS 111	Prin. of Accounting II	4	BUS 211	Survey of Cost Accounting	4
BUS 101	Intermediate Typewriting	3	BUS 220	Office Management	3
EC 101	Applied Economics	3	PE 102	Physical Education	1
		16			15
	Spring Term			Spring Term	
ENG 103	Composition	3	SS 103	Political Science	4
BUS 120	Sales	3	BUS 227	Personal Mgt.	3
GEO 203	Economic Geography	3	BUS 212	Accounting Systems & Procedures	4
BUS 112	Prin. of Accounting III	4	PE 103	Physical Education	1
BUS 215	Law & Society I	3		Elective	4
		16			16

GENERAL CLERICAL

Freshman Year	Fall Term	Credit Hours	Sophomore Year	Fall Term	Credit Hours
PSY 101	Orientation	1	SS 101	Sociology	4
ENG 101	Composition	3	SPH 104	Prin. of Speech	4
BUS 118	Introduction to Bus.	3	BUS 215	Law and Society I	3
BUS 110	Prin. of Accounting I	4	BUS 109	Secretarial Machines	2
BUS 117	Business Mathematics	3		Psychology or	
PE 101	Physical Education	1		Internship-Seminar	3-4
		<hr/>			<hr/>
		15			15-16

Winter Term			Winter Term		
ENG 102	Composition	3	SS 102	Economics	4
BUS 111	Prin. of Accounting II	4	BUS 216	Law and Society II	3
BUS 120	Sales	3	BUS 220	Office Management I	3
BUS 107	Business Machines	3	EC 101	Applied Economics	3
BUS 101	Typewriting II	3		Elective or	
PE 102	Physical Education	1		Internship-Seminar	3
		<hr/>			<hr/>
		17			16

Spring Term			Spring Term		
ENG 103	Composition	3	SS 103	Political Science	4
BUS 112	Prin. of Accounting III	4	BUS 204	Letter Writing	3
BUS 108	Business Machines	3	GEO 203	Economic Geography	3
BUS 102	Typewriting III	3	BUS 203	Secretarial Training	3
PE 103	Physical Education	1		Elective or	
		<hr/>		Internship-Seminar	3
		14			<hr/>
					16

Pre-Business

Freshman Year	Fall Term	Credit Hours	Sophomore Year	Fall Term	Credit Hours
PSY 101	Orientation	1	HUM 201	Western Civilization	4
ENG 101	Composition	3	NS	Natural Science	4
SS 101	Sociology	4	BUS 110	Prin. of Accounting I	4
MTH 102	Inter. Algebra	5	EC 201	Economics	3
BUS 118	Intro. to Business	3		Electives	2
PE 101	Physical Education	1			<hr/>
		17			17

Winter Term			Winter Term		
PSY 201	Intro. to Psychology	4	HUM 202	Western Civilization	4
ENG 102	Composition	3	NS	Natural Science	4
SS 102	Economics	4	BUS 111	Prin. of Accounting II	4
	Elective*	5	EC 202	Economics	3
PE 102	Physical Education	1		Electives	2
		<hr/>			<hr/>
		17			17

Spring Term			Spring Term		
SPH 104	Speech	3	HUM 203	Western Civilization	4
ENG 103	Composition	3	NS	Natural Science	4
SS 103	Political Science	4	BUS 112	Prin. of Accounting III	4
	Elective*	5	EC 203	Economics	3
PE 103	Physical Education	1		Electives	2
		<hr/>			<hr/>
		16			17

ELECTIVES

- | | |
|------------------------|---------------------|
| Office Mach. | Intro. to Marketing |
| Language | Psychology |
| Philosophy | Speech |
| Economic Geography | Office Management I |
| Law & Society I and II | |

*Trigonometry and College Algebra recommended.

SECRETARIAL SCIENCE

Freshman Year	Fall Term	Credit Hours	Sophomore Year	Fall Term	Credit Hours
PSY 101	Orientation	1	BUS 201	Transcription	4
ENG 101	Composition	3	BUS 110	Prin. of Accounting I	4
SS 101	Sociology	4	BUS 215	Law & Society I	3
BUS 117	Business Mathematics	3		Psychology or	
BUS 104	Shorthand	4		Internship-Seminar	3-4
PE 101	Physical Education	1			<u>14-15</u>
		<u>16</u>			
Winter Term			Winter Term		
ENG 102	Composition	3	BUS 202	Shorthand Speed Building	4
SS 102	Economics	4	BUS 220	Office Management I	3
BUS 101	Typewriting II	3	BUS 109	Secretarial Machines	2
BUS 105	Shorthand	4	EC 101	Applied Economics	3
BUS 107	Business Machines	3		Speech or	
		<u>17</u>		Internship-Seminar	3
					<u>15</u>
Spring Term			Spring Term		
ENG 103	Composition	3	BUS 203	Secretarial Training	3
BUS 102	Typewriting III	3	BUS 204	Letter Writing	3
BUS 106	Shorthand	4	GEO 203	Economic Geography	3
BUS 108	Business Machines	3		Elective	3
SS 103	Political Science	4		Elective or Internship-Seminar...	3
		<u>17</u>			<u>15</u>

SECRETARIAL SCIENCE LEGAL

Freshman Year	Fall Term	Credit Hours	Sophomore Year	Fall Term	Credit Hours
PSY 101	Orientation	1	BUS 201	Transcription	4
ENG 101	Composition	3	BUS 110	Prin. of Accounting I	4
SS 101	Sociology	4	BUS 215	Law and Society I	3
BUS 104	Shorthand	4		Psychology or	
BUS 117	Business Mathematics	3		Internship-Seminar	3-4
PE 101	Physical Education	1			<u>14-15</u>
		<u>16</u>			
Winter Term			Winter Term		
ENG 102	Composition	3	BUS 202	Shorthand Speed Building	4
SS 102	Economics	4	BUS 216	Law and Society II	3
BUS 101	Typewriting II	3	BUS 109	Secretarial Machines	2
BUS 105	Shorthand	4	BUS 111	Prin. of Accounting II	4
BUS 107	Business Machines	3	EC 101	Applied Economics or	
		<u>17</u>		Internship-Seminar	3
					<u>16</u>
Spring Term			Spring Term		
ENG 103	Composition	3	BUS 203	Secretarial Training	3
SS 103	Political Science	4	BUS 206	Legal Shorthand	2
BUS 102	Typewriting III	3	BUS 204	Letter Writing	3
BUS 106	Shorthand	4		Elective	3
BUS 108	Business Machines	3		Elective or	
		<u>17</u>		Internship-Seminar	3
					<u>14</u>

SECRETARIAL SCIENCE MEDICAL

Freshman Year	Fall Term	Credit Hours	Sophomore Year	Fall Term	Credit Hours
PSY 101	Orientation	1	BUS 201	Transcription	4
ENG 101	Composition	3	BUS 215	Law and Society I	3
NS	Natural Science	4	BUS 110	Prin. of Accounting I	4
BUS 104	Shorthand	4	PSY 201	Psychology	4
BUS 117	Business Mathematics	3		Elective or	
PE 101	Physical Education	1		Internship-Seminar	3
		16			18
	Winter Term			Winter Term	
ENG 102	Composition	3	BUS 202	Shorthand Speed Building	4
NS	Natural Science	4	BUS 216	Law and Society II	3
BUS 101	Intermediate Typewriting	3	BUS 109	Secretarial Machines	2
BUS 105	Shorthand	4	EC 101	Applied Economics	3
BUS 107	Business Machines	3		Elective or	
PE 102	Physical Education	1		Internship-Seminar	3
		18			15
	Spring Term			Spring Term	
ENG 103	Composition	3	BUS 203	Secretarial Training	3
NS	Natural Science	4	BUS 204	Letter Writing	3
BUS 102	Advanced Typewriting	3	BUS 208	Medical Shorthand	2
BUS 106	Shorthand	4	SPH 104	Speech	3
BUS 108	Business Machines	3		Elective or	
PE 103	Physical Education	1		Internship-Seminar	3
		18			14

DEPARTMENT OF ENGINEERING TECHNOLOGIES

CHEMICAL TECHNOLOGY
CIVIL TECHNOLOGY
COMPUTER TECHNOLOGY
DRAFTING TECHNOLOGY
ELECTRONICS TECHNOLOGY
MECHANICAL TECHNOLOGY
PRE-ENGINEERING
VOCATIONAL-TECHNICAL

ENGINEERING TECHNOLOGY DEPARTMENT

The Community College Engineering Technologies Department serves two broad purposes. One is to train technicians and two-year graduates, the other is to provide a myriad of incidental training functions in the community, including cooperative training, internship training, refresher courses, retraining and specialized technical courses. The faculty in this division will maintain continuous contact with industry and the engineering profession to keep the instruction pertinent and current.

The technician is a person who has concentrated information in a specialized technical field with emphasis on the non-theoretical or applied aspects. He could be working as an assistant to an engineer, or could be practicing a specialized technical operation without direct supervision.

It is not a fundamental purpose of the technology division to prepare students to go into baccalaureate degree engineering colleges. The services and courses of the technology department may, however, be used for this purpose if applicable. The courses and instruction will all be on a college level requiring an ability on the part of the student in college English, college mathematics, and a mature general education. It is recognized that any technician might go on to an engineering degree in the future.

CHEMICAL TECHNOLOGY

Chemical technicians are employed in industrial and research laboratories. These technicians carry out a large part of the actual laboratory work in the discovery, development, and refinement of new products and processes. The cooperative program of study provides the graduate with adequate background, knowledge, and skill for immediate employment and also leads toward a bachelor's degree in chemistry or chemical engineering.

Freshman Year	Fall Term	Credit Hours	Sophomore Year	Fall Term	Credit Hours
MTH 151	Mathematics for Technicians	5	ENG 101	Composition	3
CEM 111	General Chemistry (Inorganic)	5	CEM 201	Organic Chemistry	5
ET 101	D.C. Theory & Application	4	PHY 200	Physics for Technicians	4
PSY 101	Orientation	1	MTH 160	Statistics	5
PE 101	Physical Education	1			<hr/> 18
		<hr/> 16			
	Winter Term			Winter Term	
MTH 152	Mathematics for Technicians	5	ENG 102	Composition	3
CEM 112	General Chemistry (Inorganic)	5	CEM 202	Organic Chemistry	5
ET 102	A.C. Theory & Application	4	CEM 222	Instrumental Methods	3
PE 102	Physical Education	1	SS 250	American Government	4
		<hr/> 15			<hr/> 15
	Spring Term			Spring Term	
MTH 153	Mathematics for Technicians	5	ENG 103e	Composition	3
CEM 113	Qualitative Analysis	5	CEM 203	Organic Chemistry	5
ET 103	Electronics I	4	CEM 221	Quantitative Analysis	4
CEM 223	Chemical Literature	2	ET 214	Laboratory Measurements	3
		<hr/> 16	PE 103	Physical Education	1
					<hr/> 16

CHEMICAL TECHNOLOGY COOPERATIVE

Freshman Year	Fall Term	Credit Hours	Sophomore Year	Fall Term	Credit Hours
MTH 201	College Algebra	5	MTH 215	Analytic Geometry and Calculus III	5
ENG 101	Composition	3	CEM 201	Organic Chemistry	5
CEM 111	Gen. Chemistry (Inorganic)	5	PHY 211	Physics	4
	Elective	4	SS 101	Sociology	4
PSY 101	Orientation	1			18
		18			
	Winter Term			Winter Term	
MTH 213	Analytic Geometry and Calculus I	5	MTH 216	Analytic Geometry and Calculus IV	5
ENG 102	Composition	3	CEM 202	Organic Chemistry	5
CEM 112	Gen. Chemistry (Inorganic)	5	PHY 212	Physics	4
	Elective	4	SS 102	Economics	4
PE 102	Physical Education	1			18
		18			
	Spring Term			Spring Term	
MTH 214	Analytic Geometry and Calculus II	5	CEM 203	Organic Chemistry	5
ENG 103	Composition	3	PHY 213	Physics	4
CEM 113	Qualitative Analysis	5	SS 103	Political Science	4
	Elective	4	PE 203	Physical Education	1
PE 103	Physical Education	1		Elective	3
		18			17
	Summer				
	Cooperative Program with Industry				

A scholarship and a co-op program are available at the Community College with the Dow Chemical Company in Chemical Technology. Other companies also employ Chemical Technicians. These technicians work in a laboratory assisting in the development and refinement of new products and processes. This program of study fits the graduate for immediate employment and also leads directly toward a degree in chemistry or chemical engineering.

CIVIL TECHNOLOGY

The various curricula offered in Civil Technology are planned so that the graduate can join an appropriate Civil Engineering Team as a technician. In this capacity he will aid the Civil Engineers in the planning, design, construction, maintenance, and repair of the facilities which so greatly affect our environment. These facilities include our transportation systems; the structures in which we reside, study, worship, and conduct business; and the structures which enable the generation and conveyance of electrical power. They also include the systems which collect, purify and distribute water in ever increasing amounts; and the systems which collect and treat our industrial and domestic wastes.

The Civil Technicians become members of the various teams which are responsible for these systems of constructed facilities. The College studies will provide the necessary background in the arts and sciences. At the same time the studies will develop the essential skills, both mental and manipulative, so that the technician can immediately become a productive member of his team.

In the Highway Option, the Community College participates with the Michigan State Highway Department in a Coop program. This is available to students who qualify in a competitive Civil Service Examination. Other cooperative and internship programs can be arranged.

CIVIL TECHNOLOGY HIGHWAY OPTION

A two year curriculum designed to provide the background and skills for immediate employment as an Engineering Draftsman, Topographical Draftsman, Structural Draftsman, Structural Detailer, Instrumentman, Traffic Technician, Construction Inspector, Materials Laboratory Technician, Specification Writer, Estimator, or Construction Equipment Salesman.

Freshman Year	Fall Term	Credit Hours	Sophomore Year	Fall Term	Credit Hours
MTH 151	Mathematics for Technicians	5	CT 203	Soils Testing & Classification	3
ED 101	Technical Engineering Drawing ..	3	PHY 201	Physics	4
CT 101	Construction Methods	2	CT 202	Highway Technology	4
CT 102	Construction Materials	4	CT 214	Geodetic Surveying	4
CT 103	Construction Costs	2			
PSY 101	Orientation	1			15
		17			
	Winter Term				
MTH 152	Mathematics for Technicians	5	PHY 202	Physics	4
ED 102c	Technical Engineering Drawing-(Civil)	3	CT 204	Strength of Materials	3
ENG 101	Composition	3	CT 213	Advanced Surveying	4
CT 201	Construction Contracts	3	ENG 102	Composition	3
CT 205	Hydrology	3			14
		17			
	Spring Term				
MTH 153	Mathematics for Technicians	5	PHY 203	Physics	4
ED 103	Descriptive Geometry	3	CT 207	Structural Technology	4
CT 111	Elementary Surveying	5	CT 206	Project Lab	2-3
CT 212	Route Surveying	4	ENG 103e	Composition	3
		17	SS 250	American Government	4
					17-18
	Summer Term				
TEC 208	Internship Seminar	3			

CIVIL TECHNOLOGY HIGHWAY OPTION COOPERATIVE

1st Year	Fall Term	Credit Hours	2nd Year	Fall Term	Credit Hours
	The students will be working on co-op and will not be in school this term.			The students will be working on co-op and will not be in school this term.	
	Winter Term				
MTH 151	Math for Technicians	5	ENG 101	Composition	3
ED 101	Technical Engineering Drawing I	3	MTH 153	Math for Technicians	5
CT 101	Construction Methods	2	CT 201	Construction Contracts	3
CT 102	Construction Materials	4	CT 205	Hydrology	3
CT 103	Construction Costs	2	CT 213	Advanced Surveying	4
PSY 101	Orientation	1			18
		17			
	Spring Term				
ED 102c	Technical Engineering Drawing (Civil)	3	ED 103	Descriptive Geometry	3
MTH 152	Math for Technicians	5	ENG 102	Composition	3
CT 111	Elementary Surveying	5	PHY 201	Physics I	4
CT 212	Route Surveying	4	CT 203	Soil Testing & Classification	3
		17		Electives	3-5
					17-18

3rd Year	Fall Term	Credit Hours
CT 214	Geodetic Surveying	4
CT 202	Highway Technology	4
CT 204	Strength of Materials	3
PHY 202	Physics II	4
		<hr/>
		15
	Winter Term	
ENG 103e	Composition	3
PHY 203	Physics III	4
CT 207	Structural Technology	4
CT 206	Project Lab	2-3
SS 250	American Government	4
		<hr/>
		17-18

Graduation at the End of Winter Term

CIVIL TECHNOLOGY — SANITARY OPTION

A two year curriculum designed to provide 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.

Freshman Year	Fall Term	Credit Hours	Sophomore Year	Fall Term	Credit Hours
MTH 151	Mathematics for Technicians	5	ENG 101	Composition	3
ED 101	Technical Engineering Drawing ..	3	PHY 200	Physics for Technicians	4
CEM 111	General Chemistry	5	CT 101	Construction Methods	2
PSY 101	Orientation	1	CT 104	Construction Materials (without Lab)	2
ET 260	Industrial Electricity		CT 103	Construction Costs	2
or			CT 118	Water Supply & Treatment	4
	Elective	3-4			<hr/>
		<hr/>			17
		17-18			
	Winter Term			Winter Term	
MTH 152	Mathematics for Technicians	5	ENG 102	Composition	3
CEM 112	General Chemistry	5	CT 219	Sewerage & Sewage Treatment ..	4
ED 102c	Technical Engineering Drawing-(Civil)	3	CT 201	Construction Contracts	3
CT 210	Hydraulics	3	CT 205	Hydrology	3
		<hr/>		Elective	3-4
		16			<hr/>
					16-17
	Spring Term			Spring Term	
MTH 153	Mathematics for Technicians	5	MIC 103	Microbiology	4
CEM 113	Chemistry		SS 250	American Government	4
or			ED 103	Descriptive Geometry	3
CEM 201	Chemistry	5	CT 206	Project Lab	2-3
CT 111	Elementary Surveying	5-9	ENG 103e	Composition	3
and	Elective				<hr/>
		<hr/>			16-17
		15-19			
	Summer Term				
TEC 208	Internship-Seminar	3			

CIVIL TECHNOLOGY — STRUCTURAL OPTION

A two-year curriculum designed to prepare 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.

Freshman Year	Fall Term	Credit Hours	Sophomore Year	Fall Term	Credit Hours
MTH 151	Mathematics for Technicians	5	PHY 200	Physics for Technicians	4
ED 101	Technical Engineering Drawing ..	3	CT 203	Soil Testing and Classification ...	3
CT 101	Construction Methods	2	AD 214	Structural Drawing	3
CT 102	Construction Materials	4		Elective	3
CT 103	Construction Costs	2	ENG 103e	Composition	3
PSY 101	Orientation	1			
		<hr/>			<hr/>
		17			16
	Winter Term			Winter Term	
MTH 152	Mathematics for Technicians	5		Elective	5
ED 102c	Technical Engineering Drawing (Civil)	3	PE 102	Physical Education	1
ENG 101	Composition	3	CT 204	Strength of Materials	3
CT 205	Hydrology	3	CT 201	Construction Contracts	3
CEM 110	Industrial Chemistry	3	CT 207	Structural Technology	4
		<hr/>			<hr/>
		17			14-16
	Spring Term			Spring Term	
MTH 153	Mathematics for Technicians	5	SS 250	American Government	4
ED 103	Descriptive Geometry	3		Elective	3-4
ENG 102	Composition	3	CT 111	Elementary Surveying	4
PE 103	Physical Education	1	CT 208	Structural Technology II	4
MT 204	Metallurgy	3			
		<hr/>			<hr/>
		15			15-16
	Summer Term				
TEC 208	Internship Seminar	3			

COMPUTER TECHNOLOGY

Computer technicians are in demand in many diversified fields. Lansing Community College has undertaken the development of various curricula to meet the increasing need for qualified personnel with such training. Persons interested in programming or data processing should examine the Electronic Data Processing Curriculum located elsewhere in this catalog. Those students interested in the design, internal operation, and repair of computers should enroll in Computer Technology.

Freshman Year	Fall Term	Credit Hours	Sophomore Year	Fall Term	Credit Hours
MTH 151	Mathematics for Technicians	5	ET 201	Automation I (Motors & Motor Control)	4
ENG 101	Composition	3	ET 202	Receiver Theory & Circuitry	4
ET 101	D.C. Theory and Applications	4	ET 213	Transmitter Theory & Circuitry..	4
MT 101	Manufacturing Processes	3	PHY 200	Physics for Technicians	4
PSY 101	Orientation	1			
		<hr/>			<hr/>
		16			16
	Winter Term			Winter Term	
MTH 152	Mathematics for Technicians	5	ET 204	Computer Theory & Circuitry	4
ENG 102	Composition	3	MT 102	Manufacturing Processes	3
ET 102	A.C. Theory and Applications	4	ET 210	Printed Circuits	2
PE 102	Physical Education	1	ET 211	Testing Methods and Procedures	3
ED 101	Technical Engineering Drawing .	3	ET 212	Radar & Microwave Principles ...	4
		<hr/>			<hr/>
		16			16

Spring Term			Spring Term		
MTH 153	Mathematics for Technicians	5	ET 203	Automation II (Synchros & Servomechanisms)	4
SS 250	American Government	4	ET 205	Television Theory & Circuitry	5
ET 103	Vacuum Tube Theory & Circuitry	4	MTH 155	Data Processing Mathematics	5
ET 207	Transistor Theory & Circuitry	4	ENG 103e	Composition	3
		17			17

DRAFTING TECHNOLOGY

A two-year program designed, with the use of specific options, to train drafting technicians for employment within the fields of: Architecture and Construction, Electricity and Electronics, and other related industrial fields which require the services of adequately trained draftsmen.

ARCHITECTURAL AND CONSTRUCTION

Freshman Year	Fall Term	Credit Hours	Sophomore Year	Fall Term	Credit Hours
MTH 151	Mathematics for Technicians	5	PHY 200	Physics for Technicians	4
ED 101	Technical Engineering Drawing	3	ENG 101	Composition	3
CT 101	Construction Methods	2	AD 210	Architectural Drawing	3
CT 102	Construction Materials	4	MT 201	Machine Methods & Costs	3
CT 103	Construction Cost	2	MT 101	Manufacturing Processes	3
PSY 101	Orientation	1			16
		17			
	Winter Term			Winter Term	
MTH 152	Mathematics for Technicians	5	ENG 102	Composition	3
ED 102	Technical Engineering Drawing	3	AD 211	Architectural Drawing	6
ART 101	Seminar for Artists & Painters	2	CT 201	Construction Contracts	3
	Elective	3-4	CT 204	Strength of Materials	3
SPH 104	Speech	3			15
		16-17			
	Spring Term			Spring Term	
MTH 153	Mathematics for Technicians	5	ENG 103e	Composition	3
ED 103	Descriptive Geometry	3	AD 212	Architectural Drawing	6
AD 105	Pictorial Illustration	3	SS 250	American Government	4
AD 110	Architectural Drawing I	3	CT 207	Structural Technology	4
	Elective	2-3			17
		16-17			

Suggested Electives:

- Introduction to Business
- Sales I
- Elementary Plane Surveying
- Manufacturing Processes

**DRAFTING TECHNOLOGY
ELECTRICAL AND ELECTRONICS
WITH COMMUNICATIONS OPTION**

Freshman Year	Fall Term	Credit Hours	Sophomore Year	Fall Term	Credit Hours
MTH 151	Math for Technicians	5	ENG 101	Composition	3
ED 101	Technical Engineering Drawing ..	3	ED 205	Elect. and Elect. Drawing	3
ET 101	D.C. Theory and Applications	4	ET 202	Electronics II	4
MT 101	Manufacturing Processes	3	PHY 200	Physics for Tech.	4
PSY 101	Orientation	1	PE 101	Physical Education	1
		16			15
Winter Term			Winter Term		
MTH 152	Math for Technicians	5	ENG 102	Composition	3
ED 102	Technical Engineering Drawing ..	3	ET 204	Electronics III	3
ET 102	A.C. Theory and Applications	6		Approved Elective (Electronics)...	3-4
PE 102	Physical Education	1	ED 218	Elect. & Elect. Drawing	6
		15			16-17
Spring Term			Spring Term		
MTH 153	Math for Technicians	5	ENG 103e	Composition	3
ED 103	Descriptive Geometry	3	SS 250	American Government	4
ET 103	Electronics I	4	ET 205	Electronics IV	5
ET 207	Transistor Theory & Circuitry	4	ER 219	Elect. & Elect. Drawing	6
		16			18

**DRAFTING TECHNOLOGY
ELECTRICAL AND ELECTRONICS
WITH INDUSTRIAL OPTION**

Freshman Year	Fall Term	Credit Hours	Sophomore Year	Fall Term	Credit Hours
MTH 151	Math for Technicians	5	ENG 101	Composition	3
ED 101	Technical Engineering Drawing ..	3	ED 205	Elect. & Elect. Drawing	3
ET 101	D.C. Theory	4	ET 201	Automation I (Motors & Motor Control)	4
MT 101	Manufacturing Processes	3	PHY 200	Physics for Technicians	4
PSY 101	Orientation	1	PE 101	Physical Education	1
		16			15
Winter Term			Winter Term		
MTH 152	Math for Technicians	5	ENG 102	Composition	3
ED 102	Technical Engineering Drawing ..	3	ET 203	Automation II (Synchronos & Servomechanisms)...	4
ET 102	A.C. Theory	6		Approved Elective (Electronics)...	4
PE 102	Physical Education	1	ED 218	Elect. & Elect. Drawing	6
		15			17
Spring Term			Spring Term		
MTH 153	Math for Technicians	5	ENG 103e	Composition	3
ED 103	Descriptive Geometry	3	SS 250	American Government	4
ET 103	Electronics I	4		Approved Elective (Electronics)...	4
ET 207	Transistor Theory & Circuitry	4	ED 219	Elect. & Elect. Drawing	6
		16			17

ELECTRONICS TECHNOLOGY

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.

Freshman Year	Fall Term	Credit Hours	Sophomore Year	Fall Term	Credit Hours
MTH 151	Mathematics for Technicians	5	ET 201	Automation I (Motors & Motor Control)	4
ENG 101	Composition	3	ET 202	Receiver Theory & Circuitry	4
ET 101	D.C. Theory and Applications ...	4	ET 213	Transmitter Theory & Circuitry..	4
MT 101	Manufacturing Processes	3	PHY 200	Physics for Technicians	4
PSY 101	Orientation	1			
		16			16
	Winter Term			Winter Term	
MTH 152	Mathematics for Technicians	5	ET 204	Computer Theory & Circuitry	4
ENG 102	Composition	3	ET 208	Communications I (2nd Class Radio-telephone License Prep.)..	3
ET 102	A.C. Theory and Applications ...	4	ET 210	Printed Circuits	2
PE 102	Physical Education	1	ET 211	Testing Methods and Procedures	3
ED 101	Technical Engineering Drawing	3	ET 212	Radar & Microwave Principles	4
		16			16
	Spring Term			Spring Term	
MTH 153	Mathematics for Technicians	5	ET 203	Automation II (Synchros & Servomechanisms)	4
SS 250	American Government	4	ET 205	Television Theory & Circuitry	5
ET 130	Vacuum Tube Theory & Circuitry	4	ET 206	Project Laboratory	2-3
ET 207	Transistor Theory & Circuitry	4	ET 209	Communications II (1st Class Radio-telephone License Prep.)..	3
		17	ENG 103e	Composition	3
					17-18

MECHANICAL TECHNOLOGY

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 who 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.

Descriptions of Typical Positions

MACHINE DESIGNER

An expert who translates his or someone else's ideas into mechanical drawings and who has a thorough knowledge of mechanisms, materials, and the latest developments in industrial processes.

COST ESTIMATOR

A person who has not only a complete knowledge of manufacturing processes in general, but also a thorough working knowledge of the machines and processes in his own plant so that he can accurately figure the manufacturing cost of any component from a drawing.

Freshman Year	Fall Term	Credit Hours	Sophomore Year	Fall Term	Credit Hours
MTH 151	Mathematics for Technicians	5	PHY 200	Physics for Technicians	4
MT 101	Manufacturing Processes	3	ED 104	Jigs and Fixtures	3
ED 101	Technical Engineering Drawing..	3	MT 209	Machine Design I	4
ENG 101	Composition	3	ET 260	Industrial Electricity	3
PSY 101	Orientation	1	MT 201	Machines Methods & Costs	3
		15			17
	Winter Term			Winter Term	
MTH 152	Mathematics for Technicians	5	CHM 110	Industrial Chemistry	3
MT 102	Manufacturing Processes	3	ET 261	Industrial Electricity	3
ED 102	Technical Engineering Drawing .	1	MT 203	Industrial Management	3
ENG 102	Composition	3	MT 207	Automation Mechanics I	3
PE 102	Physical Education	1	MT 210	Machine Design II	4
		15			16
	Spring Term			Spring Term	
MTH 153	Mathematics for Technicians	5	ENG 103e	Composition	3
MT 103	Manufacturing Processes	2	MT 204	Metallurgy	3
ED 103	Descriptive Geometry	3	MT 208	Automation Mechanics II	3
SS 250	American Government	4	MT 211	Machine Design III	3
PE 103	Physical Education	1	ED 202	Die Design	3
		15			15

PRE-ENGINEERING

Freshman Year	Fall Term	Credit Hours	Sophomore Year	Fall Term	Credit Hours
MTH 201	College Algebra	5	MTH 215	Analytic Geometry and Calculus III	5
ENG 101	Composition	3	PHY 211	Physics	4
CEM 111	Gen. Chemistry (Inorganic)	5	ED 101	Engineering Drawing	3
PSY 101	Orientation	1	SS 101	Sociology	4
PE 101	Physical Education	1			16
		15		Winter Term	
	Winter Term		MTH 216	Analytic Geometry and Calculus IV	5
MTH 213	Analytic Geometry and Calculus I	5	PHY 212	Physics	4
ENG 102	Composition	3	ED 102	Engineering Drawing	3
CEM 112	Gen. Chemistry (Inorganic)	5	SS 102	Economics	4
	Elective	3-4			16
PE 102	Physical Education	1			
		17-18		Spring Term	
	Spring Term		MTH 219	Differential Equations	4
MTH 214	Analytic Geometry and Calculus II	5	PHY 213	Physics	4
ENG 103	Composition	3	ED 103	Descriptive Geometry	3
CEM 113	Qualitative Analysis	5	SS 103	Political Science	4
	Elective	3-4			15
PE 103	Physical Education	1			
		17-18			

CO-OPERATIVE EDUCATION**at the University of Michigan Dearborn Center**

Co-operative education is one of the unique characteristics of the Dearborn Center. In essence, it consists of a carefully controlled and integrated plan for combining class room work with actual experience in business or industry. The student alternates semesters of attendance on the campus with periods of employment at the selected "work assignment."

The Dearborn Center operates the year around with three full semesters each calendar year, registration dates being in September, February, and June. A minimum of three semesters of work assignments, alternated with a minimum of four semesters of classroom work is required for graduation.

One of the greatest assets of the co-operative program is the wealth of appropriate and rewarding work assignments available in the area. The employers have expressed their enthusiastic support of the co-operative program. Student-work assignments in industry are carefully selected from the wide variety of available opportunities in order to yield the greatest educational value.

While the co-op student in engineering is on the work-assignment semester, he will be well compensated by his employer. This compensation recognizes the caliber of the student, his permanent employment potentialities, and the high requirements of the associated classroom program. Consequently, the student's earnings could well make him totally self-supporting.

The student applying for admission at the third year must present 93 term-credit hours including the following courses:

Subject	Term Hours
English Composition	12
Engineering Drawing	9
Mathematics (Including Analytic Geometry and Calculus)	24
Physics	15
Chemistry (General and Inorganic)	12
Engineering Mechanics (Statics)	4.5
Economics	9
Chemical-Metallurgical Engineering and Mechanical Engineering (Engineering Materials and Processes)	7.5
Total Credit Hours	93

DEPARTMENT OF HEALTH SCIENCES

DENTAL ASSISTING

DENTAL HYGIENE

OCCUPATIONAL THERAPY

PRACTICAL NURSING

PROFESSIONAL NURSING, AFFILIATED

X-RAY TECHNICIAN

HEALTH SCIENCES

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.

DENTAL ASSISTING

Information concerning the complete curriculum will be published in a separate brochure.

DENTAL HYGIENE

Students interested in transfer to the University of Michigan in this curriculum must satisfy the distribution requirements of the College of Literature, Science and Arts before being admitted to the School of Dentistry. The applicant who has not completed one year of high school chemistry must take one year in college. Typing and bookkeeping are not required prior to acceptance, but it is suggested that all students acquire these skills either in high school or during the summer term. It is required that the candidate have some experience as an assistant before acceptance by most Schools of Dentistry. Course offered in Michigan at the University of Detroit and the University of Michigan.

Freshman Year	Fall Term	Credit Hours	Sophomore Year	Fall Term	Credit Hours
ENG 101	Composition	3	PSY 201	Introduction to Psychology	4
BIO 201	Zoology	4		Foreign Language	3
	Foreign Language	4	ENG 201	Literature	3
SS 101	Sociology	4	CEM 111	Chemistry (Inorganic)	5
PSY 101	Orientation	1			15
PE 101	Physical Education	1			
		17			
	Winter Term			Winter Term	
ENG 102	Composition	3	ENG 202	Literature	3
BIO 202	Zoology	4	CEM 112	(Inorganic)	5
	Foreign Language	4		Foreign Language	3
SS 102	Economics	4	SPH 104	Speech Fundamentals	3
PE 102	Physical Education	1		Elective	3
		16			17
	Spring Term			Spring Term	
ENG 103	Composition	3	ENG 203	Literature	3
BIO 203	Botany	4	CEM 113	Qualitative Analysis	5
SS 103	Political Science	4		Foreign Language	3
	Foreign Language	4	PSY 203	Human Relations	3
PE 103	Physical Education	1			14
		16			

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	Freshman Year	Winter Term	Credit Hours
ENG	101 Composition	3	ENG	102 Composition	3
BIO	201 Zoology	4	BIO	202 Zoology	4
SS	101 Sociology	4	SS	102 Economics	4
PSY	101 Orientation	1	PE	102 Physical Education	1
PE	101 Physical Education	1	NS	102 Chem-Physics	4
SPH	104 Speech Fundamentals	3			
		16			16

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

PRACTICAL NURSING

Lansing Community College is one of the twenty-seven schools in the state of Michigan sanctioned 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 four months of classroom and laboratory instruction followed by eight months of clinical work in affiliated hospitals.

New classes begin in March and September of each year and are offered on a full-time basis only.

EXPENSES:

Application Fee	\$ 5.00
Tuition	110.00
Uniform	30.00
Books	35.00
Activity	20.00
	200.00

Students receive graduate pins and Certificates of Achievement upon their 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, 210 W. Shiawassee Street, Lansing, Michigan. Telephone 489-2471.

PROFESSIONAL NURSING
Affiliated Nursing Program:

Advances in medical and social sciences have so broadened the field of nursing that the graduate nurse now finds it necessary to plan to include an increasing amount of general education courses to her pre-professional curriculum. The National League of Nursing recommends courses in the areas of English, social and natural sciences, and mathematics.

The nursing program at the Mercy School of Nursing requires attendance at the College for the following courses:

English 101, 102, 103	9	Social Science	4
Anatomy 201, 202	8	Psychology 101	1
Microbiology 203	4		
Physiological Chemistry 106-107-108	9	Term Hours	35

Students wishing to enter this program must apply to the director of the School of Nursing at the Saint Lawrence Hospital, Lansing, Michigan.

X-RAY TECHNICIAN
Affiliated Program

This 24-month course is given in cooperation with the Edward W. Sparrow Hospital. Students selected by the hospital may be enrolled at the College for appropriate class work.

The curriculum follows that recommended by the American Society of X-ray Technicians and students who complete the program are eligible for examination by the American Registry of X-ray Technicians. Students wishing to enter this program must apply to Dr. W. D. Cheney, M.D., Radiologist at the Edward W. Sparrow Hospital, Lansing, Michigan.

DEPARTMENT OF MANAGEMENT AND MARKETING

**ELECTRONIC DATA PROCESSING
FOOD SERVICE MID-MANAGEMENT TECHNOLOGY
HOTEL-MOTEL MID-MANAGEMENT TECHNOLOGY
LAW ENFORCEMENT
LIBRARY TECHNOLOGY
MANAGEMENT TRAINING
MARKETING**

MANAGEMENT AND MARKETING

The Department of Management and Marketing at Lansing Community College offers organized programs in many fields leading to positions of mid-management. Many of the curriculum in this area are designed for direct transfer to four-year institutions.

Internship and Community service Programs are offered by this department related to present job requirements and anticipated business changes. Special programs are developed for in-service training for management and marketing personnel.

ELECTRONIC DATA PROCESSING
FOOD SERVICE MID-MANAGEMENT
TECHNOLOGY
HOTEL-MOTEL MID-MANAGEMENT
TECHNOLOGY

LAW ENFORCEMENT
LIBRARY TECHNOLOGY
MANAGEMENT TRAINING
MARKETING

ELECTRONIC DATA PROCESSING

This curriculum stresses business applications of data processing equipment and systems. The program provides an understanding of the concepts, principles and techniques of data processing. Although the IBM 1620 Data Processing System will be the principle system studied, the graduate will be able to adapt himself readily to other digital computers. He will be employable as a programmer or may apply the knowledge and experience gained here toward a four-year degree, pursuing further study in business.

Today's technological advances and modern business methods require rapid and efficient processing of data and statistical problems concerning production, distribution and personnel which can be handled best by modern high speed data processing machines. This trend has created a demand for trained operators and technicians who have the background and experience necessary to program and operate this new equipment.

Freshman Year	Fall Term	Credit Hours	Sophomore Year	Fall Term	Credit Hours
ENG 101	Composition	3	BUS 110	Principles of Accounting I	4
MTH 102	Intern. Algebra	5	DP 203	Computer Programming III	6
BUS 118	Intro. to Business	3	MTH 160	Statistics	5
PSY 101	Orientation	1			15
DP 103	Intro. to Data Processing	5			
		17		Winter Term	
	Winter Term		BUS 111	Principles of Accounting II	4
ENG 102	Composition	3	DP 204	Programming Systems	6
MTH 103	Trigonometry	5	SS 250	American Government	4
BUS 220	Office Management I	3		*Elective	3
PE 102	Physical Education	1			17
DP 104	Computer Programming I	6		Spring Term	
		18	BUS 112	Principles of Accounting III ...	4
	Spring Term		DP 205	Data Processing Field Project ...	3
ENG 103	Composition	3	DP 206	Systems Development and Design	3
MTH 155	Data Processing Math	5		*Electives	6
BUS 221	Office Management II	3			16
DP 105	Computer Programming II	6			
		17		*Recommended Electives	
			DP 110	Unit Record Equipment	
			MTH 201, 213-216		
			ENG 201-203, 204		
			EC 201-203		
			HST 111-113, 201-203		
			BUS 130-121, 130-131		
			PSY 201-203		

FOOD SERVICE MID-MANAGEMENT TECHNOLOGY

Lansing Community College offers a two-year curriculum designed to prepare the student for employment as a **FOOD AND BEVERAGE MANAGER** in hotels, motels and/or restaurants, or **FOOD SALES REPRESENTATIVE**.

Freshman Year	Fall Term	Credit Hours	Sophomore Year	Fall Term	Credit Hours
BUS	117 Business Mathematics	3	BUS	110 Principles of Accounting I	4
BUS	011 Beginning Typing or Elective	*3	FST	103 Quantity Cookery	3
BUS	118 Introduction to Business	3	HMR	201 Sanitation and Safety	3
ENG	101 Composition	3	FST	202 Food Merchandising Techniques	2
NS	Natural Science	4	BUS	215 Law and Society	3
PSY	101 Orientation	1			<u>15</u>
		17			
	Winter Term			Winter Term	
ENG	102 Composition	3	SS	250 American Government	4
FST	101 Quantity Cookery	3	FST	203 Experimental Cookery	3
	Elective	4	FST	213 Food Establishment Layout	4
FST	111 Institutional Menu Planning	3	MKT	247 Internship-Seminar	3
NS	Natural Science	4			<u>14</u>
		17			
	Spring Term			Spring Term	
ENG	103 Composition	3	FST	211 Concepts of Food Service Industry	3
FST	102 Quantity Cookery	3	FST	212 Catering and Special Services	3
FST	112 Food Cost Control	3	MKT	248 Internship-Seminar	3
BUS	120 Sales	3	BUS	204 Letter Writing	3
NS	Natural Science	4	BUS	227 Personnel Management	3
		16			<u>15</u>

* Denotes non-transferable credit.

HOTEL-MOTEL MID-MANAGEMENT TECHNOLOGY

Lansing Community College offers a two-year curriculum designed to prepare the student for "Front office" positions, including **HOTEL-MOTEL DESK CLERK**, **HOTEL-MOTEL ACCOUNTANT**, **HOTEL-MOTEL NIGHT AUDITOR**, and **HOTEL-MOTEL CASHIER**.

Freshman Year	Fall Term	Credit Hours	Sophomore Year	Fall Term	Credit Hours
BUS	011 Beginning Typing or Elective	*3	BUS	110 Principles of Accounting I	4
BUS	117 Business Mathematics	4	HMR	201 Sanitation and Safety	3
ENG	101 Composition	3	PSY	201 Introduction to Psychology	4
HMR	101 Hotel-Motel Management I	4	BUS	215 Law and Society	3
PE	101 Physical Education	1			<u>14</u>
PSY	101 Orientation	1			
		16			
	Winter Term			Winter Term	
BUS	102 Typewriting II	3	SPH	104 Fundamentals of Speech	3
BUS	107 Business Machines	3	BUS	130 Introduction to Marketing	3
BUS	118 Introduction to Business	3	HMR	220 Hotel-Motel Management II	4
ENG	102 Composition	3	BUS	111 Principles of Accounting II	4
SS	Sociology	4			<u>14</u>
		16			
	Spring Term			Spring Term	
BUS	120 Sales	3	HMR	211 Front Office Procedure	4
BUS	220 Office Management I	3	HMR	221 Hotel-Motel Management III	4
ENG	103 Composition	3	SS	103 Political Science	4
HMR	102 Hotel-Motel Housekeeping	4	BUS	204 Letter Writing	3
PE	103 Physical Education	1	BUS	227 Personnel Management	3
SS	102 Economics	4			<u>18</u>
		18			
	Summer Term				
MKT	249 Internship-Seminar	3			

* Denotes non-transferable credit.

LAW ENFORCEMENT

Modern law enforcement agencies need men and women who have the ability and training to solve the complex problems which they face daily. Police work at local, state and federal levels offers many challenging careers for those who have prepared themselves for the opportunity. As our urban areas become more densely populated and society becomes more complex, so do the problems of policing.

Lansing Community College has developed a program which will prepare the young man or woman for entrance into police work or to assist those now in the field to secure the general and technical information necessary for promotions. Those students who plan to enter police work, should enroll in the entire curriculum listed below. Men and women presently engaged in police work may enroll in the specialized law enforcement courses underlined below.

Freshman		Credit Hours	Sophomore		Credit Hours
Year	Fall Term		Year	Fall Term	
PSY	101 Orientation	1	BUS	110 Principles of Accounting I or elective	4
ENG	101 Composition	3	BUS	215 Law & Society I	3
SS	101 Sociology	4	PE	201 Physical Education	1
BUS	101 Typewriting I	3	LE	104 First Aid	2
PE	101 Physical Education	1	LE	201 Techniques of Criminal Investigation	4
LE	101 Introduction to Law Enforcement	4	SS	220 Juvenile Delinquency & Youth Behavior	3
		<u>16</u>			<u>17</u>
Winter Term			Winter Term		
ENG	102 Composition	3	BUS	111 Principles of Accounting II or elective	4
SS	102 Economics	4	BUS	216 Law & Society II	3
SPH	104 Fundamentals of Speech	3	PE	202 Physical Education	1
PE	102 Physical Education (Judo)	1	NS	102 (Natural Science) Chemistry Physics	4
LE	102 Police Organization and Administration	4	LE	202 Criminal Law and Procedures	4
		<u>15</u>			<u>16</u>
Spring Term			Spring Term		
ENG	103 Composition	3	BUS	112 Accounting III or elective	4
SS	103 Political Science	4	PE	203 Physical Education	1
PSY	201 Introduction to Psychology	4	LE	203 Crime Causation & Prevention	3
PE	103 Physical Education	1	LE	204 Traffic Law & Accident Investigation	3
LE	103 Theory of Patrol	3		Approved Elective	3
		<u>15</u>			<u>14</u>

LIBRARY TECHNOLOGY

A career as a library technician should appeal to those persons who have an interest in people, books, audio-visual materials, and library work or general office work. The 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.

The Lansing Community College is offering a two-year program of training leading to an Associate Degree in Arts (Library Technology). One library technology course will be 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. People interested in taking a single library technology course may do so at the time the course is taught.

Freshman			Credit	Sophomore			Credit
Year		Fall Term	Hours	Year		Fall Term	Hours
LT	101	Intro. to Library	3	LT	201	Technical Services	3
ENG	101	Composition	3	HUM	201	Western Civilization	4
		Natural Science or		BUS	110	Principles of Accounting I	4
		Foreign Language	4			English Elective	4
PE	101	Physical Education	1				15
PSY	101	Orientation	1				
SS	101	Sociology	4				
			16				
Winter Term				Winter Term			
LT	102	Book Selection & Order Procedure	3	LT	202	Circulation, Maintenance, Prep. of Materials	3
ENG	102	Composition	3	HUM	202	Western Civilization	4
		Natural Science or		BUS	220	Office Management I	3
		Foreign Language	4			Elective	3
SS	102	Economics	4			English Elective	4
PE	102	Physical Education	1				17
			15				
Spring Term				Spring Term			
LT	103	Reference	3	LT	205	Library Problems	2
ENG	103	Composition	3	SPH	104	Speech	3
BUS	107	Business Machines	3	BUS	204	Letter Writing	3
		Natural Science or		HUM	203	Western Civilization	4
		Foreign Language	4			English Elective	4
SS	103	Political Science	4	PE	103	Physical Education	1
			17				17

MANAGEMENT

The management program offers training in the various fields of management in accord with the needs of the student and community served.

The courses offered in this area cover administration, the formulation of policy; the organization, putting into effect the determined policies; and the coordination of activities which effect desired objectives. Principles examined include: leadership qualities, how to make decisions, how to communicate, how to delegate work, how to gain administrative skills, human relations, and what makes for good management. A sense of direction and view into the probable future are attempted and career opportunities for all levels of management are explored.

The classic management duties of planning, organization and control are orderly and systematically presented in accord with whatever needs the particular group or class possesses. The approach that every manager is a professional worker in a field with a history, a heritage, and a future is included in all basic courses.

In addition to the basic courses as listed the college facilities and personnel are available for organizing, conducting, and coordinating management programs to meet the needs of interested businesses on either an individual or a group basis.

MARKETING

The Marketing Program offers organized training in the fields of retail distribution, wholesaling, management and other activities related to the marketing of goods and services. The courses offered in this area are those that 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 of this department is to train individuals to participate more efficiently in business activities.

Freshman			Credit	Sophomore			Credit
Year	Fall Term		Hours	Year	Fall Term		Hours
ENG	101	Composition	3	SS	101	Sociology	4
BUS	118	Introduction to Business	3	BUS	215	Law and Society I	3
BUS	110	Principles of Accounting I	4	SPH	104	Speech	3
BUS	117	Business Mathematics	3			Elective or	
PSY	101	Orientation	1			Internship-Seminar	3
PE	101	Physical Education	1				
			15				13
		Winter Term				Winter Term	
ENG	102	Composition	3	SS	102	Economics	4
BUS	130	Introduction to Marketing	3	BUS	218	Law and Society II	3
BUS	111	Principles of Accounting II	4	BUS	220	Office Management I	3
EC	101	Applied Economics	3	BUS	107	Business Machines	3
BUS	121	Retailing	3			Elective or	
PE	101	Physical Education	1			Internship-Seminar	3
			17				16
		Spring Term				Spring Term	
ENG	103	Composition	3	SS	103	Political Science	4
BUS	112	Principles of Accounting III	4	BUS	226	Personnel Management	3
BUS	131	Advertising	3	EC	203	Economy Geography	3
BUS	120	Sales	3			Elective or	
PE	103	Physical Education	1			Internship-Seminar	3
		Elective	4				13
			18				

EVENING COURSES IN TRANSPORTATION TRAFFIC MANAGEMENT

Under the sponsorship of the 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 Lansing Community College. Certificates of satisfactory completion will be issued by the College.

This course deals adequately with the theoretical, historical, and academic aspects of Traffic Management; analyzes practical problems and specific cases; and provides excellent technical training. In short, this course in two years imparts information which might take years to obtain in the normal course of working in an industrial traffic department or a carrier's general office.

CO-OPERATIVE EDUCATION

at the University of Michigan Dearborn Center

Co-operative education is one of the unique characteristics of the Dearborn Center. In essence, it consists of a carefully controlled and integrated plan for combining classroom work with actual experience in business or industry. The student alternates semesters of attendance on the campus with periods of employment at the selected "work assignment."

The Dearborn Center operates the year around with three full semesters each calendar year, registration dates being in September, February, and June. A minimum of three semesters of work assignments, alternated with a minimum of four semesters of classroom work is required for graduation.

One of the greatest assets of the co-operative program is the wealth of appropriate and rewarding work assignments available in the area. The employers have expressed their enthusiastic support of the co-operative program. Student-work assignments in industry are carefully selected from the wide variety of available opportunities in order to yield the greatest educational value.

While the co-op student in marketing is on the work-assignment semester, he will be well compensated by his employer. This compensation recognizes the caliber of the student, his permanent employment potentialities, and the high

requirements of the associated classroom program. Consequently, the student's earnings could well make him totally self-supporting.

The student applying for admission at the third year must present 92 term-credit hours including the following courses:

SUBJECT	TERM HOURS
English Composition	9
Social Science	12
Western Civilization	12
Laboratory Science	12
Principles of Accounting	12
Principles of Economics	9
Introduction to Psychology	4
Speech	3
College Algebra	5
Analytic Geometry and Calculus	5
Business Electives	9
	92

VOCATIONAL - TECHNICAL

One of the most important functions of a community college is that of service to local business, industry, and government.

Every effort will be made to offer instruction which will permit an employee to upgrade himself through classroom work and related laboratory experience. This instruction may be pertinent to the employee's present job requirements or to anticipated technological changes. The spectrum of courses offered range from those of fundamental content to those requiring considerable preparation and background.

Technological changes have occurred with increasing incidence during the last few years and there is every indication that the rate of change will increase. The College, in cooperation with industrial firms in the Lansing area, has scheduled courses for the man working in industry who wants to improve his understanding of the more technical aspects of the skilled trades. Similarly, the College has offered classes in management techniques, quality control, and project control. The College stands ready to develop, for specific requirements, programs ranging from single session meetings to those requiring hundreds of hours for completion.

If the situation warrants, and the class size permits, parallel classes are conducted in day and evening sessions. This permits employees on any shift, or combination of shifts, to attend without interruption.

DIVISION OF LIBERAL ARTS AND SCIENCES

ASSOCIATE DEGREES

ASSOCIATES IN ARTS

ASSOCIATES IN SCIENCE

PRE-PROFESSIONAL

PRE-DENTISTRY

PRE-LAW

PRE-MEDICAL

PRE-MORTUARY SCIENCE

PRE-NURSING

PRE-OPTOMETRY

PRE-PHARMACY

PRE-PHYSICAL THERAPY

PRE-SOCIAL WORK

PRE-TEACHING, ELEMENTARY

PRE-TEACHING, SECONDARY

PRE-THEOLOGICAL

PRE-VETERINARY SCIENCE

GENERAL STUDIES CURRICULUM

COMMUNITY LEADERSHIP PROGRAMS

HONORS and ADVANCED PLACEMENT

INTERNATIONAL STUDIES

Associate in Arts—English Major

Freshman Year	Fall Term	Credit Hours	Sophomore Year	Fall Term	Credit Hours
ENG 101	Composition	3	ENG 201	Intro. to Literature	3*
NS	Natural Science	4	ENG 210	or 211*	3*
SS 101	Sociology	4	HUM 201	Western Civilization	4
PSY 101	Orientation	1		Foreign Language	3
PE 101	Physical Education	1		Electives: Eng. 230, PL. S. 250, S.S. 270, Hst. 111, or Phil. 201	3
	Foreign Language	4			
		<hr/>			<hr/>
		17			16
	Winter Term			Winter Term	
ENG 102	Composition	3	ENG 202	Intro. to Literature	3
NS	Natural Science	4	SPH 104	Speech	3
SS 102	Economics	4	HUM 202	Western Civilization	4
PE 102	Physical Education	1		Foreign Language	3
	Foreign Language	4		Electives: Eng. 231, PLS. 260, PLS. 271, Hst. 112, or Phil. 202	3
		<hr/>			<hr/>
		16			16
	Spring Term			Spring Term	
ENG 103	Composition	3	ENG 203	Intro. to Literature	3
NS	Natural Science	4	ENG 290	or 211 or 212*	3*
SS 103	Political Science	4	HUM 203	Western Civilization	4
PE 103	Physical Education	1		Foreign Language	3
	Foreign Language	4		Electives: Speech 201, Hst. 113, or Phil. 203	3
		<hr/>			<hr/>
		16			16

*In the Fall and Spring terms only one novel course will be offered: Eng. 210 or 211 or 212. The course not offered during the regular school year will be offered in the summer.

Associate in Arts—Humanities Major

Freshman Year	Fall Term	Credit Hours	Sophomore Year	Fall Term	Credit Hours
ENG 101	Composition	3	SS 101	Sociology	4
NS	Natural Science	4	PHIL 201	Philosophy	3
HUM 201	Western Civilization	4	HST 111	American History	3
	Language*	4	ENG 201	Introduction to Lit.	3
PE 101	Physical Education	1		Music or Art	1-2
PSY 101	Orientation	1			
		<hr/>			<hr/>
		17			14-15
	Winter Term			Winter Term	
ENG 102	Composition	3	SS 102	Economics	4
NS	Natural Science	4	PHIL 202	Philosophy	3
HUM 202	Western Civilization	4	HST 112	American History	3
	Language	4	ENG 202	Introduction to Lit.	3
PE 102	Physical Education	1		Music or Art	1-2
		<hr/>			<hr/>
		16			14-15
	Spring Term			Spring Term	
ENG 103	Composition	3	SS 103	Political Science	4
NS	Natural Science	4	PHIL 203	Philosophy	3
HUM 203	Western Civilization	4	HST 113	American History	3
	Language	4	ENG 203	Introduction to Lit.	3
PE 103	Physical Education	1		Music or Art	1-2
		<hr/>			<hr/>
		16			14-15

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

Associate in Arts—Social Science Major

The prospective Social Science 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 prospective social science major is urged to cultivate social interests and perceptions by taking advantage of the many symposia, lectures as well as the applied areas both within the college and the larger community.

Freshman Year	Fall Term	Credit Hours	Sophomore Year	Fall Term	Credit Hours
ENG 101	Composition	3	HST 111	American History	3
SS 101	Sociology	4	NS	Natural Science	4
HUM 201	Western Civilization	4		Electives	8
PSY 101	Orientation	1			15
PE 101	Physical Education	1			
	Elective	3			
		16			
	Winter Term				
ENG 102	Composition	3	HST 112	American History	3
SS 102	Economics	4	NS	Natural Science	4
HUM 202	Western Civilization	4	PLS 250	American Government	4
PE 102	Physical Education	1		Electives	4
	Elective	3			15
		15			
	Spring Term				
ENG 103	Composition	3	HST 113	American History	3
SS 103	Political Science	4	NS	Natural Science	4
HUM 203	Western Civilization	4		Electives	8
PE 103	Physical Education	1			15
	Elective	3			
		15			

If majoring in education, these electives should be selected.

PSY 201	Intro. to Psycho.	4	MTH 160	Statistics	5
PSY 203	Educational Psycho.	3	GEO 201	World Regional Geog.	3

At least 6 hours must be elected in English, from the following; with preference given to the ENG 210, ENG 212 combination:

ENG 210	19th Cent. American Novel	3	ENG 212	20th Cent. American Novel	3
ENG 210	19th Cent. European Novel	3	ENG 213	20th Cent. European Novel	3

Remaining courses to be elected from the following:

SS 270	Anthropology	3	SS 220	Juvenile Delinquency	3
PLS 260	Comparative Government	3	PSY 203	Psychology of Human Relations	3
PLS 271	International Relations	3			

Psychology Majors

Student desiring to major in psychology should follow the Social Science major with several exceptions. Natural Science should be taken during the Freshman year, and as a consequence, Humanities should be left for the sophomore year. Furthermore, the student should take PSY 202, Personality, in addition to all Psychology courses listed in the Social Science curriculum. During the sophomore year the student should gravitate into the biological sciences, with physiology being highly recommended. However, consultation in these matters with psychology instructors and counselors is imperative.

Associate in Arts—Speech Major

Freshman Year	Fall Term	Credit Hours	Sophomore Year	Fall Term	Credit Hours
ENG	101 Composition	3	ENG	230 Intro. to Eng. Linguistics	3
SS	101 Sociology	4	HUM	201 Western Civilization	4
PSY	101 Orientation	1	SP	201, 202, or 220	3
SP	104 Fund. of Speech	3	ENG	201 Intro. to Lit.	3
PE	101 Physical Education	1		Electives	3
NS	Natural Science	4			<hr/> 18
		<hr/> 16			
	Winter Term			Winter Term	
ENG	102 Composition	3	ENG	290 Shakespeare	3
SS	102 Economics	4	HUM	202 Western Civilization	4
SP	105 or 202 Speech	3	SP	201, 202 or 220	3
NS	Natural Science	4	ENG	202 Intro. to Literature	3
PE	102 Physical Education	1		Electives	3
		<hr/> 15			<hr/> 18
	Spring Term			Spring Term	
ENG	103 Composition	3	HST	113 American History	4
SP	105, 201, 220 Public Speaking	3	HUM	203 Western Civilization	4
SS	103 Political Science	4	SP	105, 201 or 220	3
NS	Natural Science	4	ENG	203 Intro. to Literature	3
PE	103 Physical Education	1		Electives	3
		<hr/> 15			<hr/> 17

Electives 3-4 credits from the following area. Philosophy, Language or three courses at 200 level — Psych., PLS or SS

Associate in Science Degree

Freshman Year	Fall Term	Credit Hours	Sophomore Year	Fall Term	Credit Hours
ENG	101 Composition	3	HUM	201 Western Civilization	4
MTH	102 Intermediate Algebra	5	SS	101 Sociology	4
	Science Electives	4-5		Science or Math Elective	8
PSY	101 Orientation	1			<hr/> 18
PE	101 Physical Education	1			
		<hr/> 14-15			
	Winter Term			Winter Term	
ENG	102 Composition	3	HUM	202 Western Civilization	4
MTH	103 Trigonometry	5	SS	102 Economics	4
	Science Electives	4-5		Science or Math Elective	8
PE	102 Physical Education	1			<hr/> 18
	Elective	3			
		<hr/> 16-17			
	Spring Term			Spring Term	
ENG	103 Composition	3	HUM	203 Western Civilization	4
MTH	201 College Algebra	5	SS	103 Political Science	4
	Science Electives	4-5		Science or Math Elective	8
PE	103 Physical Education	1			<hr/> 18
	Elective	3			
		<hr/> 16-17			

Associate in Science — Biology Major

Freshman Year	Fall Term	Credit Hours	Sophomore Year	Fall Term	Credit Hours
ENG 101	Composition	3	HUM 201	Western Civilization	4
MTH 102	Intermediate Algebra	5	SS 101	Sociology	4
	Natural Science or Gen. Chem.	4-5		Elective	4
PSY 101	Orientation	1	BIO 201	Zoology	4
PE 101	Physical Education	1			<u>16</u>
		14-15			
	Winter Term			Winter Term	
ENG 102	Composition	3	HUM 202	Western Civilization	4
MTH 103	Trigonometry	5	SS 102	Economics	4
	Natural Science or Gen. Chem.	4-5		Elective	4
PE 102	Physical Education	1	BIO 202	Zoology	4
	Elective	3			<u>16</u>
		16-17			
	Spring Term			Spring Term	
ENG 103	Composition	3	HUM 203	Western Civilization	4
MTH 201	College Algebra	5	SS 103	Political Science	4
	Natural Science or Gen. Chem.	4-5		Elective	4
PE 103	Physical Education	1	BIO 203	Botany	4
	Elective	3			<u>16</u>
		16-17			16

Associate in Science — Chemistry Major

Freshman Year	Fall Term	Credit Hours	Sophomore Year	Fall Term	Credit Hours
ENG 101	Composition	3	HUM 201	Western Civilization	4
MTH 102	Intermediate Algebra	5	SS 101	Sociology	4
CEM 111	Gen. Chem.	5	CEM 201	Organic Chem.	5
PSY 101	Orientation	1		Elective	4
PE 101	Physical Education	1			<u>17</u>
		15			
	Winter Term			Winter Term	
ENG 102	Composition	3	HUM 202	Western Civilization	4
MTH 103	Trigonometry	5	SS 102	Economics	4
CEM 112	Gen. Chem.	5	CEM 202	Organic Chem.	5
PE 102	Physical Education	1		Elective	4
		14			<u>17</u>
	Spring Term			Spring Term	
ENG 103	Composition	3	HUM 203	Western Civilization	4
MTH 201	College Algebra	5	SS 103	Political Science	4
CEM 113	Gen. Chem.	5	CEM 201	Organic Chem.	5
PE 103	Physical Education	1		Elective	4
		14			<u>17</u>

Associate in Science—Mathematics Major

Freshman Year	Fall Term	Credit Hours	Sophomore Year	Fall Term	Credit Hours
ENG	101 Composition	3	HUM	201 Western Civilization	4
MTH	201 College Algebra	5	MTH	215 Anal. Geom. & Calculus III	5
SS	101 Sociology	4	NS	Natural Science	4
PSY	101 Orientation	1		Elective	3
PE	101 Physical Education	1			<u>16</u>
	Elective	3			
		<u>17</u>			
	Winter Term			Winter Term	
ENG	102 Composition	3	HUM	201 Western Civilization	4
MTH	213 Anal. Geom. & Calculus I	5	MTH	216 Anal. Geom. & Calculus IV	5
SS	102 Economics	4	NS	Natural Science	4
PE	102 Physical Education	1		Elective	3
	Elective	3			<u>16</u>
		<u>16</u>			
	Spring Term			Spring Term	
ENG	103 Composition	3	HUM	201 Western Civilization	4
SS	103 Political Science	4	MTH	219 Differential Equations	4
PE	103 Physical Education	1	NS	Natural Science	4
MTH	214 Anal. Geom. & Calculus II	5		Elective	3
	Elective	3			<u>15</u>
		<u>16</u>			

Associate in Science—Physics Major

Freshman Year	Fall Term	Credit Hours	Sophomore Year	Fall Term	Credit Hours
ENG	101 Composition	3	HUM	201 Western Civilization	4
MTH	201 College Algebra	5	SS	101 Sociology	4
NS	Natural Science	4	PHY	211 Physics	4
PSY	101 Orientation	1	MTH	215 Anal. Geom. & Calculus III	5
PE	101 Physical Education	1			<u>17</u>
		<u>14</u>			
	Winter Term			Winter Term	
ENG	102 Composition	3	HUM	202 Western Civilization	4
MTH	213 Anal. Geom. & Calculus I	5	SS	102 Economics	4
NS	Natural Science	4	PHY	212 Physics	4
PE	102 Physical Education	1	MTH	216 Anal. Geom. & Calculus IV	5
	Elective	3			<u>17</u>
		<u>16</u>			
	Spring Term			Spring Term	
ENG	103 Composition	3	HUM	203 Western Civilization	4
MTH	214 Anal. Geom. & Calculus II	5	SS	103 Political Science	4
NS	Natural Science	4	PHY	213 Physics	4
PE	103 Physical Education	1	MTH	219 Differential Equations	5
	Elective	3			<u>17</u>
		<u>16</u>			

Pre-Professional Program

The pre-professional curriculums offered by the Division 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 which institution he wishes to transfer to and then elect the courses which will allow him to meet the requirements of that institution.

Pre-Dentistry

Freshman Year	Fall Term	Credit Hours	Sophomore Year	Fall Term	Credit Hours
PSY 101	Orientation	1	HUM 201	Western Civilization	4
ENG 101	Composition	3	CEM 201	Organic Chemistry	5
BIO 201	Zoology	4	PHY 201	Physics	4
SS 101	Sociology	4		Elective	3
CEM 111	Inorganic Chemistry	5			
PE 101	Physical Education	1			16
		<hr/>			
		18			
	Winter Term			Winter Term	
ENG 102	Composition	3	HUM 202	Western Civilization	4
BIO 202	Zoology	4	CEM 202	Organic Chemistry	5
SS 102	Economics	4	PSY 202	Physics	4
CEM 112	Inorganic Chemistry	5		Elective	3
PE 102	Physical Education	1			
		<hr/>			16
		17			
	Spring Term			Spring Term	
ENG 103	Composition	3	HUM 203	Western Civilization	4
BIO 203	Botany	4	CEM 221	Quantitative Analysis	5
SS 103	Political Science	4	PHY 203	Physics	4
CEM 113	Qualitative Analysis	5		Elective	3
PE 103	Physical Education	1			
		<hr/>			16
		17			

Pre-Law

Freshman Year	Fall Term	Credit Hours	Sophomore Year	Fall Term	Credit Hours
ENG 101	Composition	3	PHL 201	Philosophy	3
HST 111	American History	3	EC 201	Economics	3
SS 101	Sociology	4	HUM 201	Western Civilization	4
	Foreign Language	4	NS	Natural Science	4
PSY 101	Orientation	1		Elective	3
PE 101	Physical Education	1			
		<hr/>			17
		16			
	Winter Term			Winter Term	
ENG 102	Composition	3	PHL 202	Philosophy	3
HST 112	American History	3	EC 202	Economics	3
SS 102	Economics	4	HUM 202	Western Civilization	4
	Foreign Language	4	NS	Natural Science	4
PE 102	Physical Education	1		Elective	3
		<hr/>			17
		15			

Pre-Mortuary Science

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

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	Sophomore Year	Fall Term	Credit Hours
PSY	101 Orientation	1	PSY	201 Psychology	4
SS	101 Sociology	4	CEM	111 Inorganic Chemistry	5
ENG	101 Composition	1		Electives	6
BIO	201 Zoology	4			15
PE	101 Physical Education	1			
	Elective	3			
		16			
	Winter Term			Winter Term	
ENG	102 Composition	3	PSY	202 Psychology of Personality	3
SS	102 Economics	4	CEM	112 Inorganic Chemistry	5
MTH	102 Intermediate Algebra	5		Electives	7
BIO	202 Zoology	4			15
PE	102 Physical Education	1			
		17			
	Spring Term			Spring Term	
ENG	103 Composition	3	ENG	104 Speech	3
SS	103 Political Science	4	PSY	203 Human Relations	3
BIO	203 Botany	4	CEM	113 Qualitative Analysis	5
PE	103 Physical Education	1		Elective	4
	Elective	4			15
		16			

Recommended Electives:
Accounting and Philosophy

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	Freshman Year	Winter Term	Credit Hours
ENG	101 Composition	3	ENG	102 Composition	3
CEM	111 Inorganic Chemistry	5	CEM	112 Inorganic Chemistry	5
SS	101 Sociology	4	SS	102 Economics	4
PSY	201 Intro. to Psychology	4		Social Science Elective	4
PSY	101 Orientation	1	PE	102 Physical Education	1
PE	101 Physical Education	1			17
		18			
	Freshman Year			Spring Term	
	ENG	103 Composition			3
	CEM	113 Qualitative Analysis			5
	SS	103 Political Science			4
		Electives			4
	PE	103 Physical Education			1
					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	Freshman Year	Winter Term	Credit Hours
ENG 101	Composition	3	ENG 102	Composition	3
CEM 111	Inorganic Chemistry	5	CEM 112	Inorganic Chemistry	5
SS 101	Sociology	4	SS 102	Economics	4
NS	Natural Science	4	NS	Natural Science	4
PSY 101	Orientation	1	PE 102	Physical Education	1
PE 101	Physical Education	1			17
		<u>18</u>			

Freshman Year	Spring Term	Credit Hours
ENG 103	Composition	3
CEM 113	Qualitative Analysis	5
SS 103	Political Science	4
NS	Natural Science	4
PE 103	Physical Education	1
		<u>17</u>

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 3 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	Freshman Year	Winter Term	Credit Hours
PSY 101	Orientation	1	ENG 102	Composition	3
ENG 101	Composition	3	CEM 112	Inorganic Chemistry	5
CEM 111	Inorganic Chemistry	5	SS 102	Economics	4
SS 101	Sociology	4	PSY 202	Psychology of Personality	3
PSY 201	Psychology	4	PE 102	Physical Education	1
PE 101	Physical Education	1			16
		<u>18</u>			

Freshman Year	Spring Term	Credit Hours
ENG 103	Composition	3
CEM 113	Qualitative Analysis	5
SS 103	Political Science	4
PSY 203	Human Relations	3
PE 103	Physical Education	1
		<u>16</u>

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	Sophomore Year	Fall Term	Credit Hours
ENG 101	Composition	3	CEM 201	Organic Chemistry	5
BIO 201	Zoology	4	PHY 201	Physics	4
CEM 111	Inorganic Chemistry	5	EC 201	Economics	3
PE 101	Physical Education	1	MTH 201	College Algebra	5
PSY 101	Orientation	1			17
		14			
	Winter Term			Winter Term	
ENG 102	Composition	3	CEM 202	Organic Chemistry	5
BIO 202	Zoology	4	PHY 202	Physics	4
CEM 112	Inorganic Chemistry	5	EC 202	Economics	3
PE 102	Physical Education	1	MTH 213	Anal. & Calculus I	5
SS 101	Sociology	4			17
		16			
	Spring Term			Spring Term	
ENG 103	Composition	3	CEM 203	Organic Chemistry	5
BIO 203	Botany	4	PHY 203	Physics	4
CEM 113	Qualitative Analysis	5	EC 203	Economics	3
PE 103	Physical Education	1	SS 103	Political Science	4
	Elective	3			16
		16			

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	Sophomore Year	Fall Term	Credit Hours
ENG 101	Composition	3	SS 101	Sociology	4
CEM 111	Inorganic Chemistry	5	CEM 201	Organic Chemistry	5
BIO 201	Zoology	4	PSY 201	Intro. to Psychology	4
	Foreign Language	4	MTH 102	Intermediate Algebra	5
PE 101	Physical Education	1			18
PSY 101	Orientation	1			
		18			
	Winter Term			Winter Term	
ENG 102	Composition	3	SS 102	Economics	4
CEM 112	Inorganic Chemistry	5	CEM 202	Organic Chemistry	5
BIO 202	Zoology	4	MTH 103	Trigonometry	5
	Foreign Language	4		Elective	3
PE 102	Physical Education	1			17
		17			

Spring Term		
ENG 103	Composition	3
CEM 113	Qualitative Analysis	5
BIO 203	Botany	4
	Foreign Language	4
PE 103	Physical Education	1
		<hr/>
		17

Spring Term		
SS 103	Political Science	4
CEM 203	Quantitative Analysis Organic Chem.	5
MTH 201	College Algebra	5
PSY 203	Human Relations	3
		<hr/>
		17

Social Work Curriculum

The growing complexity of community problems which are distinctly social concerns creates 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 tensions is apparent in most of our communities.

Professional career opportunities in both government and private social welfare continues to expand. Openings in most areas far exceed the supply of trained workers in the field. The suggested curriculum for social work follows, but the students should check the specific requirements of the school of Social Work he intends to enter and adjust the curriculum to meet their transfer requirements.

Freshman Year	Fall Term	Credit Hours	Sophomore Year	Fall Term	Credit Hours
ENG 101	Composition	3	HUM 201	Western Civilization I	4
SS 101	Sociology	4	EC 201	Prin. of Economics	3
NS	Natural Science	4	SS 220	Juvenile Delinquency	3
PSY 101	Orientation	1		Electives	6
PE 101	Physical Education	1	<hr/>		
		13	16		
Winter Term					
ENG 102	Composition	3	HUM 202	Western Civilization II	4
SS 102	Economics	4	EC 202	Prin. of Economics	3
NS	Natural Science	4		Electives	9
PSY 201	Intro. to Psychology	4	<hr/>		
PE 102	Physical Education	1	16		
		16	Spring Term		
ENG 103	Composition	3	HUM 203	Western Civilization III	4
SS 103	Political Science	4	SS 270	Intro. to Anthropology	3
NS	Natural Science	4	SS 250	American Government	4
PSY 202	Psychology of Personality	3		Electives	6
PE 103	Physical Education	1	<hr/>		
		15	17		
RECOMMENDED ELECTIVES:					
Biological Science					
Psychology					
Social Science					

Pre-Teaching

ELEMENTARY

Freshman Year	Fall Term	Credit Hours	Sophomore Year	Fall Term	Credit Hours
ENG 101	Composition	3	HUM 201	Western Civilization	4
SS 101	Sociology	4	PSY 201	Intro. to Psychology	4
NS	Natural Science	4	ENG 201	Intro. to Literature	3
GEO 201	World Reg. Geo.	3	ENG 230	Intro. to Eng. Linguist.	3
PSY 101	Orientation	1		Elective	3
PE 101	Physical Education	1	<hr/>		
		16	17		

LIBERAL ARTS AND SCIENCES

Winter Term			Winter Term			
ENG	102	Composition	3	HUM	202 Western Civilization	4
SS	102	Economics	4	PSY	204 Educational Psychology	3
NS		Natural Science	4	ENG	250 Masterpieces of Amer. Lit.	3
SPH	104	Fund. of Speech	3	PS	212 Foundation of Physical Science ..	4
PE	102	Physical Education	1			
			15			14
Spring Term			Spring Term			
ENG	103	Composition	3	HUM	203 Western Civilization	4
SS	103	Political Science	4	BIO	211 Foundations of Bio. Science ...	4
NS		Natural Science	4		Electives	6
MTH	200	Arith. Foundations	4			14
PE	103	Physical Education	1			
			16			

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

Social Sciences
Humanities
Language Arts

Pre-Teaching
SECONDARY

Freshman Year	Fall Term	Credit Hours	Sophomore Year	Fall Term	Credit Hours	
ENG	101	Composition	3	HUM	201 Western Civilization	4
SS	101	Sociology	4	NS	Natural Science	4
PE	101	Physical Education	1	PSY	201 Introduction to Psychology	4
		Electives	8		Electives	4
			16			16
Winter Term			Winter Term			
ENG	102	Composition	3	HUM	202 Western Civilization	4
SS	102	Economics	4	NS	Natural Science	4
PE	102	Physical Education	1	PSY	204 Educational Psychology	3
		Electives	8		Electives	5
			16			18
Spring Term			Spring Term			
ENG	103	Composition	3	HUM	203 Western Civilization	4
SS	103	Political Science	4	NS	Natural Science	4
PE	103	Physical Education	1		Electives	8
		Electives	8			16
			16			

ELECTIVES

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. The electives should be selected from the following disciplines:

Biology
Chemistry
Economics
English Language
Foreign Language
Geography

Literature
Mathematics
Music
Philosophy
Physics
Psychology

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	Sophomore Year	Fall Term	Credit Hours
ENG	101 Composition	3	HUM	201 Western Civilization	4
NS	Natural Science	4	PHL	201 Philosophy	3
SS	101 Social Science	4	SPH	104 Fundamentals of Speech	3
HST	111 American History	3	GEO	201 World Regional Geog.	3
PSY	101 Orientation	1	PSY	201 Introduction to Psychology	4
PE	101 Physical Education	1			<hr/> 17
		16			
	Winter Term			Winter Term	
ENG	102 Composition	3	HUM	202 Western Civilization	4
NS	Natural Science	4	PHL	202 Philosophy	3
SS	102 Economics	4	SPH	105 Public Speaking	3
HST	112 American History	3	SS	220 Juvenile Delinquency	3
PE	102 Physical Education	1	PSY	202 Psychology of Personality	3
		15			<hr/> 16
	Spring Term			Spring Term	
ENG	103 Composition	3	HUM	203 Western Civilization	4
NS	Natural Science	4	PHL	203 Philosophy	3
SS	103 Political Science	4	SPH	201 Public Speaking	3
HST	113 American History	3	SS	270 Intro. to Anthro.	3
PE	103 Physical Education	1	PSY	203 Psy. of Human Relations.....	3
		15			<hr/> 16

Pre-Veterinary Science

Freshman Year	Fall Term	Credit Hours	Sophomore Year	Fall Term	Credit Hours
ENG	103 Composition	3	HUM	201 Western Civilization	4
SS	101 Sociology	4	CEM	201 Organic Chemistry	5
CEM	111 Inorganic Chemistry	5	PHY	201 Physics	4
NS	Natural Science	4	BIO	201 Zoology	4
PE	101 Physical Education	1			<hr/> 17
PSY	101 Orientation	1			
		18			
	Winter Term			Winter Term	
ENG	102 Composition	3	HUM	202 Western Civilization	4
CEM	112 Inorganic Chemistry	5	CEM	202 Organic Chemistry	5
NS	Natural Science	4	PHY	202 Physics	4
PE	102 Physical Education	1	BIO	202 Zoology	4
MTH	201 College Algebra	5			<hr/> 17
		18			
	Spring Term			Spring Term	
ENG	103 Composition	3	HUM	203 Western Civilization	4
CEM	113 Qualitative Analysis	5	PHY	203 Physics	4
NS	Natural Science	4	SS	102 Economics	4
SS	103 Political Science	4		Electives	3
PE	103 Physical Education	1			<hr/> 15
		17			

General Studies Program

This is a one year program which affords students several alternatives in vocational and educational progress. Upon completion of the program they may either enter the Associate Degree programs of the College, the Technical or Apprentice programs, or immediately enter a vocation.

Students in this limited program are selected only after careful testing and a series of interviews with the college counselors. Students enrolled in the program are expected to complete the program within one academic year. Part-time participation in this program is not practical or encouraged. Credit earned in the course is non-transferable, but qualifies the student otherwise unqualified for acceptance in an Associate degree program. Exceptional students in the program may upon the recommendation of their Instructor and Counselor enroll in the Liberal Arts or Applied Arts programs while still completing some portions of the General Studies Program.

General Studies Curriculum

1st Term		2nd Term		
ENG 009	General English	3	ENG 010 General English	3
MTH 009	General Math.	4	MTH 010 General Math.	4
SS 098	General Readings	5	SS 099 General Readings	5
PSY 101	Orientation	1	PSY 101 Orientation	1
		<hr/>		<hr/>
		13		13
3rd Term				
ENG 011	English Review	3		
MTH 011-012	Beginning Algebra	5		
SS 101	Sociology	4		
PSY 101	Orientation	1		
		<hr/>		
		13		

International Studies

Three programs are being developed to allow each student a variety of alternatives from which to select the experience which will be most meaningful for him. These may be combined with a number of courses offered by the department to meet any set of interests or needs.

Summer Abroad Programs

Summer programs in various areas are planned for the student who only has time for a summer experience. Language, History, Social Sciences, or Natural Science field trips may be used as the focal point around which these brief experiences develop. Language Institutes in Puerto Rico, European and South American tours are all included in this division of International studies.

Half Year or Year Abroad

Arrangements are being made for students who are interested in deeper involvement in other national cultures to spend more than one term in directed studies which will enable them to build a unique yet fully accredited series of experiences.

These programs are designed for those students who have completed their freshman year and are ready for a wider view of their world. A number of contacts with West European centers allows each student adequate alternatives for his own program.

Transcripts for the University of the Seven Seas courses are accepted in partial fulfillment of Associate degrees. This program of shipboard study allows the student to go around the world in six months with research and class work built around the countries visited.

COMMUNITY LEADERSHIP

This curriculum is built by selecting from the offerings of the Division those which are of importance or particular interest to students. Many who have already completed their formal education and entered a vocation find this meets their needs as they advance in their profession. The explosion of knowledge in our time makes it difficult for adult members of the community to acquire the information they need to continue to exercise leadership without some formal assistance.

The pace of this program is individually determined. Some student will enroll for only one course each term while others will enroll far less often. The needs of the individual are the determining factor in setting his pace. Life-long learning is an adventure which increasing numbers of citizens find practical through the Community Leadership program of the Community College.

Executives, engineers, retired persons, homemakers and a variety of community members are enrolled in art, speech, and science classes or Associate degree programs.

Executive skills are as diverse as our social and business life. New techniques and new discoveries are constantly changing the established business and social patterns. For those who desire to more effectively integrate these into their daily activities the college offers ample opportunity to choose the skills one desires and acquire competence in their utilization.

Newly promoted young executives often find they need wider skills than those originally acquired. This curriculum affords them opportunity to supplement their past educational experiences with current courses which qualify them for higher levels of performance. All courses offered in the college are available to those who are interested in this type of learning experience.

Business and Industry Seminars will incorporate in short programs the available information in specific fields or problem areas for those who have highly specialized interests and less time available for formal classroom offerings. Concentration and specialization are the key advantages of these learning experiences.

Personal Development affords anyone an opportunity to attend college. Afternoon sessions may be especially helpful for these students. A number of ladies are gaining credits toward a degree in teaching and a future career in full time teaching when their youngsters are out of school. Older members of the community find time in retirement to investigate an interest which they have not had time for during their years of employment.

Cultural Programs are integrated with the community cultural affairs so that the formal and informal aspects of education are combined into meaningful wholes. Art and Music, the performing arts, and a growing variety of programs enroll students for all ages and vocations.

Honors and Advanced Placement*Honors***High School Honors Institute**

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

Advanced Placement

Younger students who have demonstrated academic ability may upon the recommendation of the High School Principal be admitted during their Junior year to the advance placement program of the College. Students are accepted prior to their 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 classes or evening sessions. They enroll in regular sections of the courses for which they are registered and their credits are fully transferable to other colleges and universities.

COURSE DESCRIPTIONS

DIVISION OF APPLIED ARTS AND SCIENCES

APPRENTICESHIP

BUSINESS

ENGINEERING TECHNOLOGIES

HEALTH SCIENCES

MANAGEMENT and MARKETING

RETRAINING

VOCATIONAL-TECHNICAL

APPLIED ARTS AND SCIENCES

COURSE DESCRIPTIONS — J.A.C. APPRENTICESHIPS

VT 400 Apprentice — Bricklaying

For apprentice bricklayers on registered programs with the Lansing Bricklaying and Stonemasonry Joint Apprenticeship Committee. Includes manipulative practices, related theory, mathematics, estimating, blue print reading and drawing.

VT 401 Apprentice — Carpentry

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.

VT 402 Apprentice — Electrical

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.

VT 404 Apprentice — Plumbing

For apprentice plumbers and pipefitters indentured to the Lansing Joint Plumbing and Pipefitting Apprenticeship and Training Committee. Includes mathematics, manipulative practices, theory, blue print reading and drawing, job analysis, physics and other science, and supplementary courses from the regular college offerings approved by the J.A.C.

VT 405 Apprentice — Sheet Metal

Open to apprentices indentured to the Lansing Sheet Metal Joint Apprenticeship Committee. Covers manipulative practices, layout, mathematics and drafting.

BUSINESS

BUS 020 Smaller Business Management 0(3-0)

A 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.

BUS 011 Beginning Typewriting I 0(0-3)

An introduction to and mastery of the keyboard to build accuracy and speed.

BUS 101 Intermediate Typewriting II 3(0-4)

A continuation of Typewriting I. Improves speed, accuracy and manipulation. Covers typing of business letters, reports and tabulations.

BUS 102 Advanced Typewriting III 3(0-4)

A continuation of Typewriting II. Improves judgment skill and efficiency. Prerequisite: Bus. 101 or departmental approval.

BUS 104 Beginning Shorthand I 4(4-1)

A course designed to teach the basic principles of shorthand and build an elementary vocabulary.

BUS 104a Beginning Shorthand 2(2-0)

A course designed to teach the basic principles of shorthand and build an elementary vocabulary. (Evening College only.)

BUS 104b Continuation of 104a 2(2-0)

(Evening College only.)

BUS 105 Intermediate Shorthand II 4(4-1)

A course that completes theory begun in Bus. 104. Develops speed and accuracy in reading from plates, and in limited dictation. Prerequisite: Bus. 104 or departmental approval.

BUS 105a Intermediate Shorthand 2(2-0)

A course that completes theory begun in Bus. 104b. Develops dictation. Prerequisite: BUS 104 or 104a and 104b. (Evening College only.)

BUS 105b Continuation of 105a 2(2-0) (Evening College only.)**BUS 106 Advanced Shorthand III 4(4-1)**

A continuation of Bus. 105. Develops high speed in dictation. Prerequisite: BUS 105 or 105a and 105b.

BUS 107 Business Machines I 3(1-2)

A course designed to teach the basic operations and manipulation of calculating machines. Includes the study of the operation of the ten-key, key-driven, rotary calculators. Prerequisite: Bus. 117 or College mathematic substitute.

BUS 108 Business Machines II 3(1-2)

A continuation of Bus. 107. Develops higher speed and problem-solving ability. Prerequisite: Bus. 107.

BUS 109 Secretarial Machines 2(1-1)

A course designed to teach the operation and manipulation of the stencil and fluid duplicating processes. Includes study of machine transcription and filing procedure.

BUS 110 Principles of Accounting I 4(4-0)

A course designed to explain the basic principles of accounting by means of the balance sheet and income statement approach. Deals with such topics as: accounting for merchandise, adjustments to accounts, business documents and procedure, and negotiable instruments.

BUS 111 Principles of Accounting II 4(4-0)

A continuation of Bus. 110 involving the study of controlling accounts, subsidiary ledgers, special journals, the voucher system, and bonds. Prerequisite: Bus. 110.

BUS 112 Principles of Accounting III 4(4-0)

A continuation of Bus. 111 involving the study of income and valuation determination, analysis and comparison of financial statements, and overview of cost. Deals also with accounting principles and their relation to mercantile businesses and manufacturing companies. Prerequisite: Bus. 111.

BUS 117 Business Mathematics 3(3-0)

A course designed to develop skill and accuracy in mathematics. Includes study of decimals, fractions, aliquot parts, percentages, discounts, inventory, payroll, interest.

BUS 201 Transcription 4(4-0)

A course designed to teach how to type mailable transcripts from shorthand notes. Prerequisite: Bus. 106 and Bus. 102.

BUS 202 Shorthand Speed Building 4(4-0)

A continuation of Bus. 201. Attention given to specialized vocabulary and high speed writing. Prerequisite: Bus. 201.

BUS 203 Secretarial Training 3(3-0)

A course designed for the instruction of office procedures and responsibilities. Emphasizes the importance of pleasant, sincere personality and effective secretarial traits. Prerequisites: Bus. 103 and Bus. 106.

BUS 204 Letter Writing 3(3-0)

The most effective techniques of formulating the various types of letters are emphasized.

BUS 205 Legal Shorthand 2(2-0)

A course designed to develop skill in writing and transcribing the numerous words and phrases commonly recurring in the spoken and written language of the law. Prerequisite: Bus. 106.

BUS 207 Medical Shorthand 2(2-0)

A course designed to develop skill in writing and transcribing the many words and phrases recurring in the spoken and written language of medicine. Prerequisite: Bus. 106 or departmental approval.

BUS 210 Intermediate Accounting 4(4-0)

The purpose of the course is to offer additional education beyond the basic courses. Attention is directed toward deeper understanding of the asset, liability, and stockholders equity sections of the balance sheet accounts. An analytical approach to accounting is used involving problem-solving illustrations. The "why" of the theory is stressed along with logical illustrations of the "how" of accounting. Specific exercises included for advanced working sheets and financial statement preparation. Research references to American Accounting Association and the American Institute of Certified Public Accountants are used. The effect of errors on financial statements and the correction of them is applied. Prerequisite: Principles of Accounting III.

BUS 211 Survey of Cost Accounting 4(4-0)

A survey course of cost accounting including job cost system, process cost accounting, standard cost accounting and other cost procedures and factors. Prerequisite: Intermediate Accounting, or departmental approval.

BUS 212 Accounting Systems and Procedures 4(4-0)

The course provides a thorough understanding of the practical aspects of data processing, systems and procedures and also develops skills in flow charting, in forms design, in developing methods of coding and condensing information, in punched card design, and in applying these techniques to the designed system. Prerequisite: Survey of Cost Accounting, or departmental approval.

BUS 215 Law and Society I 3(3-0)

A course to provide an 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. The course contents include a study of the nature and sources of law, a study of courts, and court procedures, 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.

BUS 216 Law and Society II 3(3-0)

The course includes 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: Bus. 215.

BUS 220 Office Management I 3(3-0)

The 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; automation trends.

BUS 221 Office Management II 3(3-0)

Deals with automation and trends in the problem areas of social, economic, organization, management, feasibility, and automated service centers.

BUS 240, 241, 242 and 243 3(Arranged) Internship – Seminar

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.

EC 101 Applied Economics 3(3-0)

An introductory course for students who have had no economics courses in high school. Purpose: to focus attention on the major economic problems and issues within our American economy. It provides the overview and some tools of economic analysis to assist the student to make thoughtful and logical interpretations.

EC 201 Principles of Economics I 3(3-0)

The first of three courses about the American Economy designed to provide training for the development of objective, reasoned consideration of economic issues as a basis for thorough understanding and wise choice. This course concentrates on vital economic problems; business organization including cooperatives; individual and family income; personal finance; national income and product; the economic role of government; labor and industrial relations; saving, consumption and investment; and the theory of income determination. Prerequisite: Sophomore standing or departmental approval.

EC 202 Principles of Economics II 3(3-0)

A continuation of EC 201 that includes: business cycles; prices and money; the banking system; monetary and fiscal policy; supply and demand; demand and utility; cost and supply; equilibrium of the firm and imperfect competition. Prerequisite: EC 201.

EC 203 Principles of Economics III 3(3-0)

A continuation of EC 202 relating to theory of production and marginal products; rent; wages and collective bargaining; interest and capital; profits and incentives; international trade; technology; problems of economic growth and development; and alternative economic systems. Prerequisite: EC 202.

ENGINEERING TECHNOLOGIES

CIVIL TECHNOLOGY

CT 011 Fundamentals of Surveying (Variable Non-Transfer Credit)

A course specifically designed for those engaged in surveying, who do not possess the prerequisites for CT 111; or for those not directly engaged in surveying, who nevertheless need to acquire a background in the theory, methods, procedures, terminology, and equipment involved. The subject matter consists of the 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 fieldwork assignments if the needs of the participants so dictate.

CT 101 Construction Methods 2(2-0)

A course designed for the study of techniques and equipment used in constructing highway structures, pipelines, and buildings. Also undertakes the study of earth-moving projects.

CT 102 Construction Materials 4(2-4)

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.

CT 103 Construction Costs 2(2-0)

A course 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: CT 101, CT 102.

CT 104 Construction Materials 2(2-0)

Same course content as CT 102 but without the laboratory.

CT 111 Elementary Plane Surveying 5(2-6)

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: Math. 103.

CT 201 Construction Contracts 3(3-0)

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: CT 103.

CT 202 Highway Technology 4(2-6)

A course designed to cover: 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. Prerequisites: CT 203, CT 205, CT 212.

CT 203 Soil Testing & Classification 3(2-3)

A course designed to teach the 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 they are related to soils. Prerequisite: CT 101, CT 102. Recommended requirement: Math 201.

CT 204 Strength of Materials 3(2-3)

A course dealing with the 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: CT 102, Phys 201. Recommended requirement: Math 103.

CT 205 Hydrology 3(2-3)

A course dealing with the analysis of run-off and the study of designs of devices to control it. Includes a discussion of drainage and culverts, stream flow, open channel flow, Bernoulli's Theorem, rainfall, storm-water studies, ground water, and water tables. No prerequisite. Recommended requirement: Math. 201.

CT 206 Project Lab (Variable credit)

A course which affords the student the opportunity to undertake and complete an independent study or project under the supervision of the staff. Prerequisite: Graduation term.

CT 207 Structural Technology 4(2-6)

A course designed to cover 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. Prerequisites: CT 204, Math. 201.

CT 208 Structural Technology I 4(2-4-6)

A course designed to cover 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.

CT 209 Structural Technology II 4(2-4-6)

A continuation of Structural Technology I which emphasizes the application of the technical knowledge as it pertains to foundations and structural members of low and high rise buildings.

CT 210 Hydraulics 3(2-3)

A course dealing with 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.

CT 212 Route Surveying 4(2-4)

A course devoted to the study of profiles, horizontal curves, vertical curves, surveying and computations, superelevation, spirals, and compound and reversed curve. Prerequisite: CT 111.

CT 213 Advanced Surveying 4(3-2)

A course devoted to the study of the theory of modern and advanced surveying methods: photogrammetry, ground and aerial; astronomy: stellar and solar observations and calculations; and precise surveying principles. Prerequisite: Math. 201, CT 212.

CT 214 Geodetic Surveying 4(2-4)

A course dealing with the study of precise first and second order measuring methods, base lines, level circuits, triangulation, barometric leveling, least squares, the theory of probable errors, three wire leveling, the use of tilting levels, and theodolites. Prerequisite: CT 213.

CT 218 Water Supply and Treatment 4(2-6)

A course dealing with sources of water supply; quality and quantity measurements; process and structural devices to accomplish sedimentation, coagulation, filtration, softening, iron removal, and sterilization; distribution systems.

CT 219 Sewerage and Sewage Treatment 4(2-6)

A course dealing with design, construction, and functioning of sewerage and sewage treatment facilities; including sedimentation, coagulation, filtration, aeration, digestion, sludge processing, and sterilization; quality of effluent.

CT 250 This is the first in a series of three courses which provide a theoretical background in the engineering sciences for people who have limited academic background or desire an extended review to prepare for engineering registration. A student may enroll for any or all of the courses. The topics to be included are mathematics, physics, statics, and dynamics.

CT 251 A continuation of CT 250 including fluid mechanics, hydraulics, thermodynamics, and mechanics of materials.

CT 252 A continuation of CT 251 including chemistry, electricity, electronics, engineering economics, contract law, and professional ethics.

CT 260 Radiation Shielding Design 5(5-0)

This course is intended for architects and engineers involved with building design. It will prepare the student for examination by the Federal Government and licensing on nuclear radiation shielding. The latest information on the resistance of the effects of nuclear warfare and on the design of buildings to provide proper protection will be available from the Department of Defense, Office of Civil Defense.

DRAFTING TECHNOLOGIES

AD 101 Residential Planning 3(2-4)

This course is for persons who desire to learn home design. Topics include construction details as well as architectural style and planning concepts. Some reading of blueprints and training in drawing house plans are skills to be developed by the student.

AD 105 Pictorial Illustration 3(0-6)

A fundamental course designed for those interested in becoming or who are working as draftsman or illustrators. Course covers the principles of axiometric projection perspective shading, and shadows with experience offered in the use of various rendering medias.

AD 110 Architectural Drawing 3(0-6)

The first in a series of architectural drawing courses designed to serve the basic needs of individuals presently employed or wishing to find employment as architectural draftsmen, estimators, salesmen, or other allied fields of employment within the construction industry. Course deals primarily with the graphic representation of construction details, materials, and practices in residential construction. Some emphasis of building codes and government specifications are included. Prerequisites: ED 101, ED 102, ED 103. For drafting technology majors; others, approval of department.

AD 210 Architectural Drawing 3(0-6)

A continuation of AD 110 with primary emphasis placed upon commercial and industrial construction. Course covers both low-rise and high-rise buildings. Prerequisite: AD 110 for drafting technology majors; others, approval of department.

AD 211 Architectural Drawing 6(0-12)

The first of a series of two seminar courses designed to allow the student, with the guidance of the instructor, to exemplify his present skills and knowledge as they pertain to the construction industry. The student would, during this term, select an architectural project, design same, render design drawings, select proper materials, and prepare preliminary working drawings in accordance with the needs of a mythical customer and as dictated by local building codes. Prerequisite: AD 210.

AD 212 Architectural Drawing 6(0-12)

The conclusion of 211 where the student prepares final working drawings and completes a set of specifications covering the project designed in 211. The final result of 211 and 212 should be a well prepared resume of the student's architectural drafting abilities and his general knowledge of the construction industry.

AD 214 Structural Drawing 3(0-6-6)

A course designed to acquaint the student with the standard graphic representation of various structural designs using concrete, steel, and wood; of structural components, and of structural details.

ED 101 Technical Engineering Drawing 3(0-6)

A basic course in drafting designed to cover beginning work in the engineering and technical fields. Enables the student to develop skill in the use of drawing instruments and gain a thorough understanding of orthographic projection, sketching, auxiliary views, and sections. Introduces principles of dimensioning and techniques of lettering.

ED 102 Technical Engineering Drawing 3(0-6)

A continuation of ED 101 in which further work is given in the principles of dimensioning. Emphasizes practice in perspectives to help students develop skill in technical sketching. Includes development and detailing of assembly drawings. Prerequisite: ED 101.

ED 102c Technical Engineering Drawing (Civil) 3(0-6)

A course offering further study in pictorial drawing and practice in the techniques of transferring field survey notes on to paper, to include Traverse Plotting, Contour Plotting and the preparation of profiles; also included is study in structural drawing and engineering graphics. Prerequisite: ED 101.

ED 103 Descriptive Geometry 3(0-6)

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: ED 102 or ED 102c.

ED 104 Jig and Fixture Design 3(0-6)

A course which presents the structure of fixtures to hold work being machined or welded. Prerequisites: ED 101, ED 102, and MT 101.

ED 202 Die Design 3(0-6)

A course intended to teach the student to design the many types of sheet metal dies used in industry. Prerequisites: ED 101, ED 102, ED 103, and MT 101.

ED 203 Advanced Jig & Fixture Design 3(0-6)

A continuation of ED 104 providing the student with the opportunity to design fixtures more complex in nature, and in accordance with the practices of various industries. Prerequisite: ED 104; MT 102; and ET 260.

ED 204 Advanced Die Design 3(0-6)

An advanced course in die design further acquainting the student with various types of dies used in casting, forming, forging and extruding operations. Course places emphasis on advantages and disadvantages of the various die operations including reactions of certain materials to the various operations. Prerequisite: ED 202.

ED 205 Electrical and Electronics Drawing 3(0-6)

A course 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: ED 101.

ED 218 Electrical and Electronics Drawing 6(0-12)

The first of a series of two seminar 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.

ED 219 Electrical and Electronics Drawing 6(0-12)

A concluding course, of a two part seminar, allowing the student to complete a resume exhibiting his drafting skills and his general knowledge of his selected field. Course shall involve refinement of design, technical data, detail drawings, and assembly drawings. Prerequisite: ED 218.

ELECTRONICS TECHNOLOGY**ET 101 D.C. Theory and Applications 4(2-4)**

An introduction to electrical technology through a study of direct current and the application of its basic laws. Applies Ohm's and Kirchhoff's laws in the analysis of series and parallel circuits, network theorems, electric power unit and batteries; and investigates problems of both electrical and electronic circuits. Concurrent with Math. 151.

ET 102 A.C. Theory and Applications 4(2-4)

An introduction to the study of alternating current and the basic concepts of magnetic phenomena. Deals with sine wave voltages and currents, reactance, impedance, and A.C. circuits in series, parallel and series parallel. Including the use of the V.O.M., the V.T.V.M., oscilloscope, the capacity checker, and signal generators in the analysis of circuits. Prerequisite: E.T. 101. Concurrent with Math. 152.

ET 103 Vacuum Tube Theory and Circuitry 4(2-4)

An introduction to basic electronics, concerned with the study of various types of vacuum tubes and their use in rectifiers, oscillators and amplifiers. Prerequisite: E.T. 102. Concurrent with Math. 153.

ET 201 Automation I (Motors and Motor Control) 4(3-3)

Construction, testing, and measurement of D.C. and A.C. control circuits, the analysis of both electrical and electronic methods of motor control, and the regulation and control of motor speed by the application of the amplitude and phase shift methods. Emphasizes the use of the oscilloscope as a servicing instrument. Prerequisite: E.T. 103.

ET 202 Receiver Theory and Circuitry 4(3-3)

A course designed to familiarize the student technician with A.M. and F.M. receivers and amplitude modulation and frequency modulation phenomena. Provides for the construction and analysis of circuits and familiarization with servicing procedures. Prerequisite: E.T. 103.

ET 203 Automation II (Synchros and Servomechanisms) 4(3-3)

A further study of the principles and operation of electronic, electrical, and magnetic circuits and devices used in automatic control systems. Includes the study, construction, and testing of circuits, using saturable core reactors, magnetic amplifiers, peaking transformers, synchros, and servomechanisms. Principles of numerical and static control introduced. Prerequisite: E.T. 201.

ET 204 Computer Theory and Circuitry 4(3-3)

A course emphasizing the use of semiconductor devices in digital computer circuitry. Includes the study of pulse phenomena, basic computer circuits, computer binary arithmetic, calculation circuits, storage systems, and computer maintenance. Prerequisite: E.T. 207.

ET 205 Television Theory and Circuitry 5(3-4)

An introduction to the study of television receivers. Includes the study of television receiver fundamentals, video detectors and amplifiers, synchronization circuits, vertical and horizontal sweep systems, picture tube control circuits, and color television circuitry. Stresses servicing procedures in the laboratory. Prerequisite: E.T. 202 and E.T. 204.

ET 206 Project Laboratory (Variable credit)

A course in which the student selects a project compatible with his chosen field of work. Encourages the student, under the guidance of the instructor and through research, to design, construct, and test an electric or electronic device. Prerequisite: E.T. 204.

ET 207 Transistor Theory and Circuitry 4(3-3)

A course dealing with the electron theory of matter as it applies to semiconductors. Provides for the construction and study of typical transistor circuits, which include rectifiers, oscillators, and amplifiers. Prerequisite: E.T. 103.

ET 208 Communications I (2nd Class Radiotelephone License Requirements) 3(3-0)

A course covering the preparation for Radiotelephone 3rd and 2nd class operator license, based on the Federal Communications Commission study guide. Prerequisites: E.T. 201 and E.T. 202 or approval of department.

ET 209 Communications II (1st Class Radiotelephone License Requirements) 3(3-0)

A course based on the material contained in Element IV (Advanced Radio Telephone) of the Federal Communications Commission study guide providing the necessary training to obtain a 1st class radio telephone license. Prerequisite: E.T. 208 or 2nd class radio telephone license.

ET 210 Printed Circuits 2(1-2)

A course designed to provide training in the development and etching of printed circuits and study of the etched foil, silk screen, and photographic processes. Prerequisites: ET 103, ET 204 and ET 207 or approval of department.

ET 211 Testing Methods and Practices 3(2-2)

A course designed to teach the methods necessary to obtain the required degree of accuracy in electrical and electronic measurements. Includes the study of the design and operation of the various measuring devices and instruments used. Prerequisite: ET 103.

ET 212 Radar and Microwave 4(3-3)

An introduction to microwaves. Includes a study of transmission lines, waveguides, line and cavity resonators, klystron, magnetron, and traveling wave tubes. Applications are taken from radar systems. Prerequisite: ET 202, 204.

ET 213 Transmitter Theory and Circuitry 4(3-3)

A course dealing with continuous wave and amplitude modulated transmitter theory and circuitry. Various types of transmitters are constructed and studied in the laboratory. Prerequisite: ET 103.

ET 214 Laboratory Measurements 3(2-2)

A course designed to provide the student with a basic working knowledge of the fundamentals of electronic measuring devices used in chemical analysis and in research. Typical laboratory instrumentation devices are studied in detail and many are constructed in the laboratory. Prerequisite: ET 103.

ET 220, 221, and 222 International Morse Code 1(0-2½)

A course in which the principles of International Morse Code transmission, reception and speed building are taught. The course may be continued under the course numbers indicated in successive terms.

ET 250 National Electric Code I 3*(3-0)

This will be the first in a series of three courses covering the National Electric Code. The first course is a study of the code from the beginning to Article 430. General wiring provisions are studied in this course. Students who have the appropriate experience should be able to pass the licensing examination upon completion of the three classes.

ET 251 National Electric Code II 3*(3-0)

A continuation of ET 250.

This is the second in a series of three courses covering the National Electric Code. This is a study of the Code from Article 430 to the end of the Code.

ET 252 National Electric Code III 3*(3-0)

A continuation of ET 251.

This is the third in the series of courses covering the 1962 Code. These are the amendments to the Code as they are accepted by the State.

ET 260 Industrial Electricity 3(2-1)

A course designed to cover electrical control systems employed on industrial machinery. It will include a discussion of basic direct and alternating current theory and application and a study of typical industrial control circuitry and devices.

ET 261 Industrial Electricity 3(2-1)

A continuation of ET 260 with emphasis on circuit diagram reading, sequencing and maintenance of industrial electrical controls.

MECHANICAL TECHNOLOGY**MT 101 Manufacturing Processes (Machine Tools and Sheet Metal) 3(2-4)**

A course designed to teach the theory and practice in the operation and set up of machine tools: lathe, milling machine, shaper, drill press, grinder, metal sawing, bench work and measuring instruments, including discussion of sheet metal and plastics forming methods.

MT 102 Manufacturing Processes (Welding and Foundry) 3(2-4)

A continuation of MT 101 designed to teach all types of gas and arc welding on both AC and DC machines. Includes study of patternmaking, sand molding, melting of metals, and pouring castings. Prerequisite: MT 101.

MT 103 Manufacturing Processes 2(1-3)

A continuation of 102. Course content varies to suit the individual need of the student. Prerequisite: MT 102.

MT 201 Machine Methods and Cost (Applied Time and Motion Study) 3(2-4)

A course designed to teach elemental costs in machine work. Demonstrates the effect on cost of various alterations in method. Includes study of time and motion as they are employed in actual shop situations. Investigates methods of eliminating idle machine time in production cycles. Prerequisite: MT 101.

MT 203 Industrial Management (Processing, plant layout, investment program) 3(2-4)

A course that features a lecture section in management problems. Employs the use of machine laboratory. Includes actual processing and cost analysis of an assembly item of production and develops the results to meet a proposed production schedule from which a determination of manufacturing facilities is made. Includes the designing of a plant for optimum production and investment economy under simulated realistic circumstances. Prerequisite: MT 102 and MT 201.

MT 204 Metallurgy 3(2-2)

A study of the crystalline state of metals; the phase diagram theory of alloys; the process of iron and steel manufacture; the iron-carbon diagram; the lever principle, the heat treatment of steel, hardness tests, microscopic study of grain structure under the metallograph. Prerequisite: MT 101, and Chem. 110.

MT 207 Automation Mechanics I (Fluid Mechanics, Servo Principles) 3(3-0)

A course designed to teach the elements of hydraulics, fluid power, the pitot tube, Bernoulli's theorem, viscosity, Reynold's number. Includes study of the servo-mechanical principles available for exploitation in hydraulic systems; combination of air, electric, and hydraulic controls. Prerequisite: Phys. 200.

MT 208 Automation Mechanics II (Labor Saving and Feed Back Devices) 3(3-0)

A course intended to teach economic implications and ultimate use of labor-saving machinery; mathematical and structural study of dies, power processes, production turning, boring, transfer machines. Investigates solution of cost problems in production by the use of fixtures, dials, and devices auxiliary to machines that enable unit operations to be combined into continuous automatic production. Examines some mechanical structures and applications of the feed-back principle used in machinery to replace manual operation. Prerequisite: Math. 153, E.D. 102, MT 102, MT 207.

MT 209 Machine Design I (Kinematics, Linkages and Machine Elements) 3(3-3)

A course involving the study of movement direction, velocity and acceleration in linkages, cams and gears. Requires students to complete a set of drawing plates. Employs machine laboratory to help construct models and to study existing mechanisms. Endeavors to develop ability to analyze and comprehend the interaction of parts in ingenious mechanisms. Prerequisite: MT 102, Math. 103.

MT 210 Machine Design II (Strength of Materials) 4(4-1)

A course designed to teach principles of stress and strain, equilibrium of forces, center of gravity, moment of inertia, section modulus; tension, compression, shear bending, torsion, combined stress, and Mohr's circle. Includes the drawing of diagrams of shear bending, and deflection in beams. Considers factors of safety, column formulas and fatigue stresses. Prerequisites: Math. 153, Phys. 200.

MT 211 Machine Design III (Design origination, Strength, Rigidity, Functional Worth) 3(3-0)

A course analyzing, by the use of principles involved in statics, dynamics, kinematics, and strength of materials, the shafts, gear, bearings, and structural parts of a machine unit like an overhead traveling crane or a hydraulic lift truck. Emphasizes practice on selection of parts of proper size to meet safety factors. Prerequisite: MT 209, MT 210.

TEC 205, 206, 207 and 208 3 (Arranged) Internship - Seminar

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.

ELECTRONIC DATA PROCESSING**DP 103 Introduction to Data Processing 5(4-2)**

This course is an introduction to the fundamental concepts and operating principles common to all data processing operations and provides the basis for future detailed study of specific systems.

DP 104 Computer Programming I 6(4-4)

Building on the foundation established in the Introduction to Data Processing course, the course begins a detailed study of computer programming, utilizing a specific data processing system and providing hand-on training in addition to regular classroom work. Primary emphasis is given to programming business data processing applications using symbolic and machine language. Prerequisite: DP 103 Introduction to Data Processing.

DP 105 Computer Programming II 6(4-4)

A continuation of DP 104 including more advanced concepts of looping, indexing, and the use of subroutines, and involving more detailed program-sessions using the computer system. Prerequisite: DP 104 Computer Programming I.

***DP 109 Fortran 3(3-0)**

This course is an introduction to general purpose digital computers. Programming concepts are taught the use of Fortran language and the IBM 1620 computer. Prerequisite: MTH 102 Intermediate Algebra, and MTH 103 Trigonometry or consent of instructor.

DP 110 Unit Record Equipment 4(3-3)

Unit record equipment as an independent system is studied, as well as its use in support of computer systems. Laboratory exercises, typical of operations performed in actual computer installations, are executed, involving planning and wiring a variety of unit record equipment. Prerequisite: DP 103 Introduction to Data Processing.

DP 203 Computer Programming III 6(4-4)

A continuation of DP 105 involving repeated use of principles presented in the previous programming courses and including a study of magnetic tape and random access data processing. Prerequisite: DP 105 Computer Programming II.

***DP 204 Programming Systems 6(4-4)**

A course designed to familiarize the student with the purpose and function of various types of programming systems and to make him aware that programming systems are as important as the machines themselves. The basic concepts of such programming systems as assemblers, compilers, report generators, monitors, sort-merges, and others, including high-level languages, are included. This course should provide the student with sufficient knowledge of programming systems concepts to enable him to learn a specific system with a minimum of instruction. Prerequisite: DP 203 Computer Programming III.

DP 205 Data Processing Field Project 3(0-6)

A comprehensive individual assignment, involving the application of principles, skills, and techniques learned in earlier data processing courses. Prerequisite: Final term, Sophomore status.

DP 206 Systems Development and Design 3(3-0)

A course designed to guide the student through the stages of the evolution of business data processing systems, including analyses of present information flow, system specifications and equipment selection, and implementation of the system, with the objective of giving him an understanding of the skill and knowledge needed for the effective use of data processing equipment in meeting the information needs of business. Prerequisite: DP 204 Programming Systems and DP 203 Computer Programming III.

*Note: Students will not receive credit for both DP 109 and DP 204.

FOOD SERVICE MID-MANAGEMENT TECHNOLOGY**FST 101 Quantity Cookery 3(2-3)**

Principles of cookery as applied to quantity production of foods in the bake-shop area.

FST 102 Quantity Cookery 3(2-3)

Principles of cookery as applied to quantity production of foods in the salad area.

FST 103 Quantity Cookery 3(2-3)

Principles of Cookery as applied to quantity production of foods in the range area.

FST 111 Institutional Menu Planning 3(3-0)

A study of the basic nutritional concepts in menu planning and the implementation of these factors in menu planning and food preparation for food service institutions.

FST 112 Food Cost Control 3(3-0)

Principles and methods of controlling food costs as related to purchasing, budgeting, precosting, and other techniques.

FST 202 Food Merchandising Techniques 2(1-2)

Building an institutional image. Customer relations and attitude of workers, advertising and display, community and public relations, analysis of internal and external methods of merchandizing. Outside consultants and field trips. Physical, educational and vocational skill qualifications for effective food service sales personnel. Includes job description and job breakdown approach to duties relating to meeting and serving in public. Prerequisite: FST 101, 102, & 103.

FST 203 Experimental Cookery 3(1-4)

A study and identification of factors which affect product quality when adjusting large quantity recipes for the institutional kitchen with laboratory practice in recipe formulation. Prerequisite: FST 101, 102, & 103.

FST 211 Concepts of Food Service Industry 3(3-0)

Management principles applicable to the problems of supervising employees in the various types and sizes of food service establishments with application in direction of work of different kinds of people.

FST 212 Catering and Special Services 3(0-6)

Experience in preparation and service of meals for banquets, luncheons and other special services with special attention given to cost control and patron satisfaction. Prerequisite: FST 101, 102, & 103.

FST 213 Food Establishment Layout 3(2-2)

Planning and designing layout of food establishments including formulation of specifications. Course includes practice, individual assignments and field trips as well as conferences with food service design consultants. To include student problems. Prerequisite: 101, 102, & 103.

HOTEL-MOTEL MID-MANAGEMENT TECHNOLOGY**HMR 101 Hotel-Motel Management I 4(4-0)**

Introduction to the Hotel-Motel organization. Survey of types, size and specialization, including planning and design. Scheduled field trips to supplement class work.

HMR 102 Hotel-Motel Housekeeping 4(4-0)

Administration and organization involved in maintaining cleanliness and sanitation in public places. A study of equipment and furniture used in the Housekeeping Department.

HMR 201 Sanitation and Safety 3(3-0)

A study of the responsibilities of the Hotel-Motel operator and restaurateur for understanding and enforcing recommended sanitation and safety practices to protect the health and physical well-being of employees and guests, Liability and Innkeepers' Law.

HMR 211 Front Office Procedure 4(2-2)

Organization, control and operation of the front office as applied in the reservation and sale of rooms, front office service, the keeping of guest accounts, presenting bills and receipt of payment. Prerequisite: BUS 110 and BUS 111 and HMR I.

HMR 220 Hotel-Motel Management II 4(4-0)

Maintenance and engineering problems in hotels and motels. A study of the electrical and mechanical equipment, including air-conditioning, refrigeration and plumbing systems found in hotels, motels and restaurants. Prerequisite: HMR 101.

HMR 221 Hotel-Motel Management III 4(4-0)

The use of food, furnishings, art appreciation and music in the operation of hotels, motels and restaurants. Up to 40 trades and 10 professions are required to operate a modern unit. A working knowledge of these occupations as applied to management is presented. Prerequisite: HMR 101 and 220.

LAW ENFORCEMENT**LE 101 Introduction to Law Enforcement 4(4-0)**

An orientation course designed to acquaint the student with the fields of law enforcement. Municipal, county, state and federal police organizations will be studied. The course will include the history, philosophy and administration of justice.

LE 102 Police Organization and Administration 4(4-0)

Course covers an analysis and study of the 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: LE 101.

LE 103 Theory of Patrol 3(3-0)

A 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. Determination of patrol strength layout, beats, areas and deployment will be covered. Prerequisite: LE 101.

LE 201 Techniques of Criminal Investigation 4(4-0)

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: LE 101.

LE 202 Criminal Law and Procedures 4(4-0)

A study of the 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 will include sources of criminal law, criminal responsibility and general court procedure. Prerequisite: LE 101.

LE 203 Crime Prevention 3(3-0)

An analysis of the causes and control of crime. Causes of crime and methods of dealing with criminal and potential criminal are emphasized. Statistics of crime, problems of the juvenile offender, theories of punishment, problems of probation and parole and the police officer as an agent for the prevention of crime are examined. Prerequisite: LE 101.

LE 204 Traffic Law and Accident Investigation 3(3-0)

A course covering the Uniform Traffic Code, effective traffic control procedures, elements of "selective" enforcement, parking and intersection control, the procedures and policies for vehicle accident investigation, investigation of fatalities, causes, prevention and the scope of accident investigation. Prerequisite: LE 101.

SS 220 Juvenile Delinquency and Youth Behavior 3(3-0)

Early attention will be given to the problems of defining juvenile delinquency and a survey of its present status in major industrial nations. The main concentration of the course will be on theories which attempt to account for juvenile delinquency and the evidence supporting such theories. Brief attention will be given to control and correction as a concluding topic.

LIBRARY TECHNOLOGY**LT 101 Introduction to Library, and Use of the Library 3(2-3)**

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

LT 102 Book Selection and Order Procedure 3(3-0)

Principles of book selection with emphasis on the sources of guidance in book selection, the evaluation of these sources which include book review, book lists, trade bibliographies, publishers' annotations, etc. The policy and practice of buying books and techniques of ordering and accessioning with an introduction to elementary budget techniques and simple financial records.

LT 103 Reference 3(3-0)

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.

LT 201 Technical Services 3(2-3)

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. Study of the principles of dictionary cataloging, using, perhaps, *Simple Library Cataloging*, by Susan Grey Akers. 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.

LT 202 Circulation, Maintenance, Preparation of Materials 3(3-0)

Mechanical preparation, physical arrangement, circulation and maintenance 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.

LT 205 Library Problems 2(2-0)

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.

MANAGEMENT**BUS 225 Principles of Management 3(3-0)**

A 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.

BUS 226 Personnel Management 3(3-0)

A 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 will be stressed on the use of the appropriate practices in keeping with the type and size of organization. Prerequisite: BUS 118, or equivalent.

BUS 227 Management Training for Supervisors 3(3-0)

Management principles oriented to the supervisory levels of responsibilities in business, government, and other activities. Emphasis is placed on the management functions of planning, organizing, directing, coordinating, and controlling; on the relationship of policies and procedures; and on the responsibilities of supervisory persons for work performance, employee development and evaluation, and leadership of workers.

MARKETING**BUS 118 Introduction to Business 3(3-0)**

A 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.

BUS 120 Sales 3(3-0)

A course designed to familiarize the student with the fundamentals of sales. Deals with such topics as consumer buying habits, the salesman's job, the sales transaction, retail store methods, housekeeping, inventory, use of sales media, product demonstration techniques, and customer service problems.

BUS 121 Retailing 3(3-0)

A comprehensive consideration of the activities involved by Retailers in selling goods to ultimate consumers. Emphasis is placed on areas relating to the needs and interests of the class.

BUS 130 Introduction to Marketing 3(3-0)

The problems and policies of manufacturers, wholesalers, and retailers in the marketing of goods and services are studied. Channels of marketing, customer relations, functions of sales departments and price policies are included.

BUS 131 Advertising 3(3-0)

Presents the 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.

MKT 246, 247, 248 and 249 Internship-Seminar 3 (arranged)

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.

VOCATIONAL - TECHNICAL**VT 099 Sheet Metal I 3*(1-2½)**

A course which includes mathematics and pattern drafting related to sheet metal. Also covers straight line, parallel line, radial line and triangulation pattern development. Shop work includes the layout of fittings with hand and machine tools. Current techniques of fabrication are emphasized.

VT 100 Sheet Metal II 3*(1-2½)

A continuation of Sheet Metal I with more advanced problems. Prerequisite: VT 099 or permission of instructor.

VT 101 Blue Print Reading for Plumbers 3*(0-4)

Covers orthographic projection, linear and angular measurement and the reading of prints whose three views are given in the three principal planes of projection. Examples apply to the plumbing trades.

• Non-Transfer Credit.

VT 102 Welding for Plumbers I 4°(0-6)

Students who enter this class should be Journeymen Plumbers or Steamfitters. Apprentices to the plumbing or fitting trades will be admitted when the degree of training they have achieved meets the approval of the Joint Apprenticeship Committee on Plumbing.

Training will begin with a review of welding fundamentals and proceed rapidly into the more advanced skills according to the need of the individual student. Particular skills in welding of all kinds of pipe including stainless steel by the Heliarc method will be taught. \$10.00 laboratory fee.

VT 103 Welding for Plumbers II 4°(0-6)

A continuation of VT 102. Prerequisite: VT 102. \$10.00 laboratory fee.

VT 104 Welding for Plumbers III 4°(0-6)

A continuation of VT 103. Prerequisite: VT 103. \$10.00 laboratory fee.

VT 105 General Welding I 4°(0-6)

Fundamentals of arc welding. Safety precautions essential in welding. Basic skills in use of welding equipment. Flat and Vee-bead downhand welding. \$5.00 laboratory fee.

VT 106 General Welding II 4°(0-6)

Fundamentals of Oxyacetylene welding and cutting. Safety precautions in use of equipment. Flat and Vee-bead downhand welding. Use of cutting torch and introduction to brazing. Prerequisite: VT 105. \$5.00 laboratory fee.

VT 107 General Welding III 4°(0-6)

The meaning of welding symbols, vertical and overhead welding on various kinds of steel and shapes. Use of carbon arc. Prerequisite: VT 105. \$5.00 laboratory fee.

VT 110 Advanced Welding I 4°(0-6)

Specialized instruction on various types of welding jobs such as structural steel, sheet metal, steel pipe, tool steel welding. Introduction to heliarc. Welds made in all positions. Prerequisite: VT 107. \$10.00 laboratory fee.

VT 111 Advanced Welding II 4°(0-6)

Specialized welding by use of oxyacetylene on steel pipe, aluminum, sheet metal, cast iron, brazing, silver soldering, free hand and machine flame cutting welds in all positions. Prerequisite: VT 110. \$10.00 laboratory fee.

VT 112 Advanced Welding III 4°(0-6)

Techniques of welding by the inert gas shielded arc process on a variety of work shapes in all positions. Instruction will be given on mild steel, stainless steel, aluminum and certain alloys. Prerequisite: VT 110. \$10.00 laboratory fee.

VT 113 Blueprint Reading for Plumbers II 3°(0-4)

A continuation of VT 101 with emphasis on more complex prints. Actual construction prints will be used whenever possible. Prerequisite: VT 101 or permission of instructor.

*Non-transfer credit.

†VT 114 Blue Print Reading for Machine Operators 4*(2-8)

In this course the student will study orthographic projection. He will be able to convert the 2 and 3 view drawings into single 3 dimensional drawings.

Through the use of Blue-print reading, work books, he will prove that he can see the relationship between views. The various abbreviations, symbols, and terminology of the many branches of the metal working trade will be studied throughout the work books. The student will also become familiar with proper decimal dimensioning and tolerances having to do with various classes of fits.

VT 115 Blue Print Reading I 3*(0-4)

Covers orthographic projection, linear and angular measurement and the reading of prints whose three views are given in the three principal planes of projection.

VT 116 Blue Print Reading II 3*(0-4)

Covers the application of orthographic projection principles in more detailed blueprints than above.

†VT 117 Blue Print Reading for Welders 3(0-5)

The course consists of instruction in free hand sketching and simple orthographic projection techniques. Instruction will be given on the preparation of an assembly drawing to include the bill of materials and extracting information found on such a set of drawings. Particular attention is given to the interpretation of welded joint specifications with a third of this course devoted to practice in interpreting the average type shop blue print.

VT 118 Die Design Blue Print Reading 3*(0-4)

Die designers customarily use specialized techniques in making drawings of dies. This course is intended to acquaint the student with these techniques and is accomplished by interpreting many drawings, some of which are actual drawings from which dies have been produced.

†VT 120 Structural Proportioning 2*(2-0)

Included in the course are methods of testing tensile strength of metals, a concept of simple stress in structural members to include the calculation of stresses and strengths for various types of fastenings, including welded joints. Also covered is a basic concept of bending and loading of structural pieces and rigging techniques required for holding components in position while being welded. This course will be closely coordinated with the course in Blue Print Reading as pertains to extracting material properties information from the blue print.

VT 121 Sheet Metal III 3*(1-2½)

A continuation of Sheet Metal II with specialty work. Prerequisite: V.T. 100.

VT 122 Template and Model Checking 3*(0-4)

Mathematics relative to sine bar and height gage will be reviewed. Function of templates and models in die construction will be explored. Methods of determining and dimensioning warped surfaces, change in angle of reference, and manner of use, testing and inspection will be examined.

†Special course. MDTA only.

*Non-transfer credit.

VT 123 Die Construction I 3*(0-4)

The reasons why dies are made the way they are will be the subject of this course. Theory of cutting, forming and drawing sheet metal and the limitations on accuracy or finish to be expected will be explored. The design and operation of various presses, toggles, secondary actions, air cushions and so on will be examined. Various types of die construction will be covered. Prerequisite: VT 118 or equivalent.

VT 124 Die Construction II 3*(0-4)

A continuation of VT 123. A complete program of dies will be studied to make one piece-part from draw dies, restrike dies, pierce and trim to flange sheet metal parts for each type die, templates, plaster casts, etc., will be used to simulate actual machining and building conditions. In addition, auxiliary equipment to dies such as lifters, loaders, unloaders, kickers, stackers, hoppers, dial feeds and checking equipment will be covered. Repair and maintenance of dies will be considered as well as how dies should be built to make maintenance possible and provide long die life. Prerequisite: VT 123.

†VT 125 Industrial Welding 10*(10-10)

This course includes general information concerning safety, welding terms, material used and the operation and adjustment of various types of welding machines. In actual welding techniques the student obtains instruction and practice to the point of acceptable industrial proficiency in arc welding, oxy-acetylene welding, and heliarc welding. In addition he learns to operate certain types of semi-automatic welding machines.

†VT 130 Employer-Employee Relations, Counseling, Evaluation and Recitation (Machine-Operator Course) 4*(2-8)

The course covers twenty hours devoted to employee-employer relations, including ten guest speakers from labor and industry, on the subject of job qualifications, selection, application and interviews. The remaining seventy hours is spent in interviewing and counseling each student a minimum of twice each period and giving special tutoring in any of the subject fields in which a student may be having difficulties.

†VT 130a Employer-Employee Relations, Counseling, Evaluation and Recitation (Welder, Entry Course) 1*(2-0)

The course covers twenty hours devoted to employee-employer relations, including ten guest speakers, from labor and industry on the subject of job qualifications, selection, application and interviews. The remaining thirty hours is spent in interviewing and counseling each student a minimum of twice each term and giving special tutoring in any of the subject fields in which a student may be having difficulties.

VT 130b Employer-Employee Relations 2*(2-0)

Emphasizes the interdependence of capital, labor and management. Also includes personal and physical qualities essential to success.

†Special course. MDTA only.

*Non-transfer credit.

VT 140 Properties of Metals and Testing 5*(5-0)

Course will include an examination of various metals and metal forms to include a study of temperature effect in welding and tempering of metals with particular emphasis on the hardening of steel. Considerable time will be spent in the preparation of samples and examination of the crystal structure of welds and weld deficiencies. Over half of the course will be spent in actual practice in testing, using the metallograph, and Rockwell and Brinnell testing machines. This course will be closely tied in with the course on Structural Proportioning and Strength of Junctures.

VT 141 Strength and Workability of Metals 4*(4-0)

A course in metals for machine operators. Explores how and why steels harden. The makeup and performance quality of various metals, alloys or other materials used in cutting or grinding tools, such as water, oil, or air hardening steels; high alloy steels; carbide compounds; ceramics; carborundum or aluminum oxide grit materials and bonds for grinding wheels. Machinability of various metals. Problem of chip clearance and control; lubricants and coolants; hardness testing. Precautions necessary to preserve cutting edges as related to control of size and finish of work pieces.

†VT 150 Electricity for Welders 2*(3-0)

In order to have a basic understanding of electric welding the student must have a fundamental knowledge of what electrical current is, what causes it to flow, the units of electrical measurement and their relation to each other, and be able to solve simple series and parallel circuit problems. The student must also be made aware of the various electrical ratings of welding machines, components thereof, and circuits supplying power to them as well as the protection which must be provided to prevent overload. Other points to be discussed will be control circuits, the ignition tube control circuit, comparison of AC and DC, rectifiers as applied to welding, the motor generator set, the welding duty cycle, and high frequency welding equipment.

VT 160 Precision Inspection I 3*(0-4)

Advanced techniques of the art of tool and gage inspection: micrometers, verniers, gage blocks, fixed dial and thread gages, test indicators, gear and comparator measurement, hardness testing. Prerequisite: MT 101, VT 116, and VT 204 (or equivalent).

VT 161 Precision Inspection II 3*(0-4)

Precision layout work related to gages and inspection problems. Prerequisite: VT 160.

VT 201 Basic Mathematics 3*(4-0)

A 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.

VT 202 Applied Algebra 4*(5-0)

Applications of algebraic equations to shop work.

†Special course. MDTA only.

*Non-transfer credit.

VT 203 Applied Plane Geometry 3*(4-0)

Application of geometric functions to the solution of practical shop problems. Introduction to trigonometry. Prerequisite: VT 202.

VT 204 Applied Plane Trigonometry 3*(4-0)

Emphasis is placed on analysis of industrial problems utilizing trigonometric solutions by logarithms. Prerequisite: VT 203.

VT 205 Advanced Trigonometry Applications 3*(4-0)

A continuation of VT 204 providing broad experience in the solution of problems taken directly from industry. Prerequisite: VT 204 or Mth 103.

VT 206 Compound Angles I 3*(4-0)

A combination of solid geometry and advanced (solid) trigonometry enabling the student to solve setup problems involving angles and tilted work. Prerequisite: VT 205.

VT 207 Compound Angles II 3*(4-0)

A continuation of VT 206, Compound Angles I, with emphasis on application of actual tooling setups for complex machining operations. Prerequisite: VT 206.

†VT 210 Industrial Mathematics for Machine Operators 5*(5-0)

This course consists of a review of addition, subtraction, multiplication, and division of whole numbers, fractions and decimal fractions. Also covered is the Geometry concerned with the calculations of areas and volumes of regular shapes found in machining. Trigonometry taught deals with calculations of angles and angular speeds concerned with setting machine tools and gear fabrication. Finally, throughout the course, algebra is introduced as an aid to the solution of formulas and setting up word problems and manipulating the resulting equation to arrive at a solution. Instruction will be closely coordinated with other courses to assure that mathematics taught will precede requirements in those courses.

†VT 215 Applied Mathematics for Welders 4*(4-0)

The course consists of a review of addition, subtraction, multiplication and division of whole numbers, fractions, and decimal fractions. Also covered is the geometry of areas and volumes as applies to material density and the strength, size and type of welds. Algebra taught includes the use of formulas and word problems and manipulation of resulting equations to arrive at a solution. Instruction will be closely coordinated with other courses to assure that math taught will precede requirements in those courses.

VT 220 Machinery Handbook I 3*(4-0)

Designed to familiarize the student with the effective utilization of information contained in the handbook.

VT 221 Machinery Handbook II 3*(4-0)

A continuation of VT 220.

VT 224 Die Design Handbook I 3*(4-0)

A course designed to cover the effective utilization of information contained in the handbook. It will emphasize actual die design, drawing, and working from part prints. Prerequisites: ED 102, VT 124 or approval of instructor.

†Special course. MDTA only.

VT 225 Die Design Handbook II 3*(4-0)

A continuation of VT 224.

VT 226 Die Design Handbook III 3*(4-0)

A continuation of VT 225.

VT 234 Metallurgical Testing of Welds I 4*(0-6)

Welding of low carbon steel in various ways and testing of all welds to determine the quality and characteristics of the weld metal. Study of internal strains, cracking, shrinkage and warping, and the reasons therefore. Prerequisite: MT 204 Metallurgy; VT 111 and VT 112 Welding. \$15.00 laboratory fee.

VT 235 Metallurgical Testing of Welds II 4*(0-6)

Welding of various metals and brazing by oxyacetylene gas and the testing of all welds for quality. Sections of welds will be polished and examined under the Metallograph. Reasons for defects in welds to be explored. Prerequisite: MT 204 Metallurgy and VT 111 and VT 112 Welding. \$15.00 laboratory fee.

VT 236 Metallurgical Testing of Welds III 4*(0-6)

Shielded arc welds are to be made and tested for quality and defects. Welds will be examined under the metallograph. Problem of intergranular corrosion to be explored. Prerequisite: VT 234. \$15.00 laboratory fee.

VT 240 Welding for Certification I 4*(0-6)

This course is designed to give the student intensified practice in all types of welding for those who wish to pass certification tests according to the A.S.M.E. codes for welding. Students desiring only to attain an equivalent level of competence may also take the course. Course I covers General Arc Welding. Prerequisite: VT 235, VT 236. \$15.00 laboratory fee.

VT 241 Welding for Certification II 4*(0-6)

This course is a continuation of VT 240 and covers oxy acetylene welds. Prerequisite: VT 240. \$15.00 laboratory fee.

VT 242 Welding for Certification III 4*(0-6)

This course is a continuation of VT 241 and covers Heliarc welds. Prerequisite: VT 241. \$15.00 laboratory fee.

†VT 250 Industrial Machine Operation and Set-up 10*(5-10)

Industrial Machine Tool Operation and Set-up is designed to give the student the basic trade theory and principles governing machine shop operations in the basic machine tools, namely, measuring instruments, bench work, drill press, lathes, milling machine, shaper work and grinding.

†VT 251 Machine Operation for Welders 2*(0-3)

A course dealing with the use of various types of measuring instruments and the operation of simple machines. Bench operations such as filing and chisel work will be covered. The types of machines considered are the band and reciprocating power hack saw, drill press, arbor press, and lathe.

†Special course. MDTA only.

*Non-transfer credit.

VT 260 Estimating for Painting Trades 3*(0-6)

Principles of estimating materials and labor. Includes mathematics and blueprint reading essential to the above. Specifications and contracts, estimating take off procedures, forms and usage will be covered. Construction prints are used. Open to painting tradesmen only.

VT 300 Critical Path Method 2*(1-2)

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.

VT 325 Statistical Quality Control 2(2-0)

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.

VT 500 Power Controls for Journeymen 2*(1-2)

Power control wiring and associated power control theory for electrical journeymen.

VT 501 Transformer Connections & Circuit Characteristics 2*(1-2)

Theoretical analysis and basic hook-up of transformers. Currents, voltages and unbalances involved in the following sequence:

220-110, 3 wire single phase, Delta-Delta, open Delta, Y, six phase Y and Scott connections.

* Non-Transfer Credit.

COURSE DESCRIPTIONS

DIVISION OF LIBERAL ARTS AND SCIENCES

HUMANITIES
LANGUAGE ARTS
MATHEMATICS
SCIENCE
SOCIAL SCIENCES

DIVISION OF ARTS AND SCIENCES

The curriculum offers two years of college study in the humanities and sciences which prepare the student for transfer to a senior college or university as well as offer additional training in developing a personal philosophy of life. The strength and purposes of this curriculum, along with the other curricula in the Community College, are that it allows the student to evaluate the heritage of recorded ideas and actions of societies both past and present through his own reading and under the guidance of his instructors.

The Community College student who desires to transfer to another college or university should study the requirements for course work demanded by that institution. Advisors will help each student analyze the courses he must take to make certain that his work will be fully transferable to the institution of his choice. It is possible for the student to receive credit applicable to programs in most areas of academic endeavor.

HUMANITIES

ART

ART 101 Drawing I 2(0-6)

Basic painting with watercolor and oils. Occasional lectures and demonstration by guest artists. Work preparatory to the fine or commercial art fields. Occasional lectures or demonstrations by guests artists. Instruction is on an individual basis according to the progress of each student.

ART 102 Drawing II 2(0-6)

A continuation of Art 101.

ART 103 Painting I 2(0-6)

A continuation of Art 102.

ART 201 Painting II 2(0-6)

Advanced development in fundamental painting. New techniques and artistic license explored in water color and oils. Work preparatory to the fine or commercial art fields. Occasional lectures and demonstrations by guests artists.

ART 202 Painting III 2(0-6)

A continuation of Art 201.

ART 203 Drawing III 2(0-6)

Advanced development in fundamental drawing. New techniques and artistic license explored in water color and oils.

ART 220 Sculpture I 1(0-3)

Basic work in three dimension, including an introduction to the various tools, techniques and methods of the sculptor. Original projects will be done in both modeling and carving, using several materials.

ART 221 Sculpture II 1(0-3)

A continuation of Art 220 with individual projects which further explore sculpture possibilities. A major emphasis will be on the human figure and anatomy.

ART 222 Sculpture III 1(0-3)

Advanced projects in special interests, and in larger sculptures using professional techniques. This may proceed along realistic or modern lines, and may include experimentation with new materials or advanced work with the human figure.

HISTORY**HST 104 Recent European History 3(3-0)**

A course designed for the study of contemporary European history in its world setting, especially stressing the most recent political, military, and diplomatic events of international significance. Summer only.

HST 111 American History I 3(3-0)

The first of a series of three courses designed for the study of the growth and development of the United States. The first term's work will trace the extension of European civilization to America, severance of European ties and the beginning of American nationalism.

HST 112 American History II 3(3-0)

A continuation of History 111. The term's work will deal with the strengthening of United States nationalism, slavery and Manifest Destiny, the preservation of the Union, and the rise of agrarian and urban conflicts. Prerequisites: History 111 or approval of department.

HST 113 American History III 3(3-0)

A continuation of History 112. The term's work will deal with the United States as a world power, the experiment with imperialism, the progressive era, world conflict, the growing regulation of domestic economy, and the global war. Prerequisite: History 111 and 112 or approval of department.

HUM 201 Western Civilization I (Humanities) 4(4-0)

The first of a series of three courses designed for the study of the cultural foundations of Western man. Traces the political, economic, legal, religious, philosophic, and artistic patterns of the Mesopotamian, Egyptian, Hellenic, and Roman civilizations. Surveys the Christian foundations, Byzantine and Saracenic influences, and early feudal culture of medieval Europe.

HUM 202 Western Civilization II (Humanities) 4(4-0)

A continuation of History 201, dealing with the history of Europe from the late medieval period, through the Renaissance and Reformation, through the Napoleonic era. Concerned primarily with the development of ideas and ideals, the commercial and intellectual revolutions of early modern times, the effects of absolutism upon modern man, and the beginnings of modern forces in economics, philosophy, literature, and art. Prerequisite: History 201 or approval of department.

HUM 203 Western Civilization III (Humanities) 4(4-0)

A continuation of History 202, dealing specifically with the modern and contemporary developments in the civilization of Western man; the effects of democracy, nationalism, and industrialism upon his culture; the World Wars; and the contemporary culture in relation to science, philosophy, literature, art, and music. Prerequisite: History 202 or approval of department.

HUM 290 Seminar: Foreign Studies (Variable Credit)

A program of study and travel designed to markedly enrich a student's academic experience by direct contact with other cultures.

MUSIC**MUS 101, 102, 103, 201, 202, 203 Choir (The Lansingers A cappella choir) 1(0-3)**

A class for Men and Women designed to interest those students who would enjoy the pleasure of singing the best in A cappella literature, as well as music in the lighter vein with piano accompaniment. The ability to sing a familiar melody in tune satisfactorily with a pleasing tone is the only prerequisite for the course. The number in the ensemble is limited to a balance of 60 voices.

MUS 104, 105, 106, 204, 205, 206 Glee Club – Men 1(0-2)

This course is offered basically for those who love to sing. It is 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.

MUS 114, 115, 116, 214, 215, 216 Glee Club – Women 1(0-2)

Course description same as Glee Club – Men.

MUS 120, 121, 122 Tudor Singers 1(0-2)

The Tudor Singers are a select group of musically and vocally talented students who are interested in singing Madrigal Music of the 14th through the 18th centuries. Enrollment is accepted by invitation only. Members must also be enrolled in the Lansingers.

MUS 130, 131, 132, 230, 231, 232 Class Voice 2(2-0)

This course will provide 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 is required. Soloists for major music programs given by the Music Department will be obtained from this class. The limit in this class is 20.

MUS 140, 141, 142, 240, 241, 242 The LanSing "Steinmen" 1(1-1)

This group is limited to 12 members; its 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 Romberg's "Student Price." Bawdy Ballads, Drinking Songs, College Songs, amid festive atmosphere and narration furnish the continuity of the appearances of this choice group of singers.

MUS 150, 151, 152, 250, 251, 252 The LanSing TroubaDears (Girls' Barber-shop Quartet) 1(1-1)

Membership in this girls' quartet is by invitation. Its members adhere to the qualities of the National Barbershop Organization of S.P.E.B.S.Q.S.A. The repertoire of the close harmony nature, requiring excellent hearing and rhythmic perception.

MUS 160, 161, 162, 260, 261, 262 LanSymphonic Choir 1(0-3)

This Civic choir is the official choir of the Lansing Civic Symphony, performing with it in at least two performances each season. It is sponsored by the Lansing Symphony Association and Community College.

Its purpose is to learn and perform the great choral works of the masters, which have been composed specifically for chorus and orchestra.

Its membership is limited to a balanced 80 mixed voices.

Entrance to the choir is by audition and invitation.

The course is run on a 3-term basis and offers one credit per term for those who qualify.

There is a \$5.00 per year music fee to cover the cost of the music performed.

Within the 80 voice chorus is a 40 voice chorus chosen groups of singers who qualify both as soloists and have the ability to pass a standard musical theory examination. From this group will be chosen the soloists for the various productions given.

MUS 170, 171, 172, 270, 271, 272 The LanSing Lads (Men's Barbershop Quartet)

An invitational group of four men whose efforts are given to top flight barbershop harmonies. Also fostering the spirit of S.P.F.B.S.Q.S.A., they promote all that is good in this different type of song.

APPLIED MUSIC

Voice—Dr. David Machtel

Elective—Open to all students of the College who desire to take vocal training to improve their singing or speaking voices. The student will be examined at the end of each semester. The instructor will outline the students work according to his needs and aims.

Secondary—This classification will include those students 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.

Major—For voice students who show evidence of an outstanding voice, a good ear, musical intelligence and a 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.

Repertoire Requirements for all Voice Students

In general, the amount of required repertoire for each semester will depend upon the amount of credit taken.

For 2 credits in **Elective voice**—6 new songs to be learned with musical accuracy. 3 of these songs to be sung from memory.

For 2 credits in **Secondary voice**—8 new songs learned with musical accuracy. 4 of these songs memorized, 1 of the 4 sung in Italian.

For 4 credits in **Major voice**—12 new songs sung with musical accuracy, 8 of these songs memorized. Memory songs will be 2 French, 2 Italian, 2 German and 2 English.

Piano—Wanda Richards

Elective—This course is open to all students—both beginners and those more advanced. The requirements are necessarily flexible and designed to the needs and aims of the student.

Secondary—This course is designed to give the student a greater proficiency in piano. Major and minor scales, major and minor arpeggios, dominant and diminished sevenths, selections from the classic, romantic and modern masters will be covered.

Major—For students who show talent for solo performance. Repertoire will include more advanced selections from the classic, romantic, and modern masters. Technic will involve scales in rhythms, contrary motion, tenths, sixths, and thirds.

All Music Lessons

Students are registered for the entire semester (Students should consult teachers for a conference before registering for lessons). Lessons consist of two half hour sessions per week; the time to be mutually agreed by the student and teacher.

Note: Voice students who intend to continue concentrated vocal study should be advised that some piano knowledge is needed for all major Music School courses.

Fees:

The student will pay the regular course fee per credit hour taken to the College Business Office.

Applied music fees for music lessons are paid directly to the Instructor. The following fee scheduled is applicable:

Dr. David Machtel — \$6.00 per ½ hr. lesson, \$132.00 per term.

Mrs. Wanda Richards — \$3.50 per ½ hr. lesson, \$77.00 per term.

PHILOSOPHY

PHL 201 Survey of Western Philosophy I 3(3-0)

The first of a 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 the philosophies of Greece and Rome.

PHL 202 Survey of Western Philosophy II 3(3-0)

A continuation of Philosophy 201. Devotes special attention to the philosophies of the Medieval, Renaissance, and Early Modern Periods. Prerequisite: Philosophy 201.

PHL 203 Survey of Western Philosophy III 3(3-0)

A continuation of Philosophy 202. Devotes special attention to the philosophies of the 18th, 19th, and 20th centuries. Prerequisite: Philosophy 202.

LANGUAGE ARTS

ENGLISH

ENGLISH REQUIREMENTS. All entering students will be required to take an entrance examination in English. Students who fail to make a satisfactory score on the examination will be expected to take English Review as a prerequisite to entrance into the standard freshman English course.

ENG 009 General Studies English 0(3-0)

A course designed for students whose previous academic performance makes admission to college credit courses inadvisable. The course is concerned with grammar, sentence structure, vocabulary building, and short writing assignments. Upon completion of this course, the student may take English 101 only on the recommendation of his instructor.

ENG 010 General Studies English 0(3-0)

A continuation of English 009 for students requiring additional work before entering college credit courses. Special attention is given to the problems of individual students. Having completed the English 009-010 sequence, the student may take English 011, 012, or 101, depending on the recommendation of his instructor.

ENG 011 English Review 0(3-0)

A course designed for students who fail to make a satisfactory score on the English placement test. Concerned with a review of grammar and concentration on sentence structure, vocabulary building, paragraph organization, short writing assignments, and selected readings. Special attention is given to the problems of individual students. Upon completion of this course, the student may take English 101 only on the recommendation of his instructor.

ENG 012 English Review 0(3-0)

A continuation of English 011 for students requiring additional review work. The emphasis of this course is on reading and writing assignments of greater length than those in English 011. Special attention is given to the problems of individual students.

ENG 101 Composition 3(3-0)

A course designed to develop skill in reading, analyzing, and evaluating expository prose and to teach the student to organize ideas and communicate those ideas clearly and cogently in weekly papers. The student is introduced to the resources of the library through various reading and writing assignments. Prerequisite: a satisfactory score on the English placement test.

ENG 102 Composition 3(3-0)

A continuation of English 101. Special attention is given to the careful reading of works in prose fiction, especially the short story, upon which the writing of weekly essays is based; the writing of one student essay each week. Prerequisite: English 101.

ENG 103 Composition 3(3-0)

A course devoted to the research or term paper. Includes an introduction to principles of argumentation and various research techniques, such as note-taking, use of library resources, and the organization and documentation of an argumentative paper of approximately 3,000 words. Prerequisite: English 101 and 102.

ENG 103e Technical Composition 3(3-0)

A course for technology students. Similar to English 103, except that the subject of the research paper will be technically oriented. Emphasis will be on the special principles involved in writing technical reports in business and industry. Prerequisites: English 101 and 102.

ENG 201 Introduction to Literature 3(3-0)

A course designed to introduce the student to the various sub-genres of prose—*i.e.*, the short story, the novel, and satire. The student will read some of the most representative selections of literature of the western world, including, in addition to the short story and novel, such works as Swift's *Gulliver's Travels* and Voltaire's *Candide*. This course prepares the student for advance literary study by acquainting him with the conventions of the literary forms, providing him with a critical vocabulary, and introducing him to the experience of writing analytical and critical papers on literature from all historical periods. Required for English majors and minors, and recommended for most students in pre-teaching. Open to freshmen.

ENG 202 Introduction to Literature 3(3-0)

An introduction to the drama as a literary form, this course acquaints the student with six to nine plays representative of major dramatists of the western world. Some attention is 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. The student is expected to write analytical and critical papers and scheduled examinations. Required for English majors and minors. Prerequisite: English 101.

ENG 203 Introduction to Literature 3(3-0)

A course designed to help the student to understand and appreciate the form and content of narrative and lyric poetry. Includes discussion of the nature, language, and content of poetry, with emphasis on learning to read this literary form intelligently. Readings are selected from the works of various American and English writers. The student is expected to write analytical and critical papers and scheduled examinations. Required for English majors and minors. Prerequisite: English 101.

ENG 210 The 19th Century American Novel 3(3-0)

An intensive study of some of the major 19th century American novels from James Fenimore Cooper to Theodore Dreiser and Jack London. The general orientation is on the historical development of the novel form in America and on 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 101 and 102, or approval by the department.

ENG 211 The 20th Century American Novel 3(3-0)

An intensive study of some of the major American novels of this century and of the environments (general or specific) which influenced their writing. The 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 101 and 102, or approval by the department.

ENG 212 The European Novel 3(3-0)

An intensive study of some of the major 19th or 20th century European novels, with attention given to their reflection of and influence upon the European scene and their contribution to the development of the genre. The writings of such authors as Dostoevski, Flaubert, Stendahl, Conrad, Joyce, and Camus will be read. In addition to the reading of six to eight novels, critical and analytical papers are required. Prerequisite: English 101 and 102, or approval by the Department.

ENG 230 Introduction to English Linguistics 3(3-0)

A course designed to introduce the student to various aspects of the English language, such as grammatical structure, significant sounds, historical change, borrowing, and meaning. Prerequisite: English 101, 102, and 103. Recommended for most students in pre-elementary teaching.

ENG 231 Introduction to English Linguistics 3(3-0)

A continuation of English 230. The student will study problems in linguistic analysis and the historical development of the English language. Prerequisite: English 230.

ENG 250 Masterpieces of American Literature 3(3-0)

A course designed to acquaint the student with some of the masterpieces of great American writers. Emphasis is on the essays of such writers as Emerson and Thoreau, the poetry of such artists as Whitman, Sandburg, Dickinson, and Frost, and the short stories and novels of such masters as Hawthorne, Melville, James, Steinbeck, and Hemingway. The student is expected to write analytical and critical papers and scheduled examinations. Required for most students in pre-elementary teaching. Prerequisite: English 101.

ENG 290 Shakespeare 3(3-0)

An introductory course in the dramatic works of William Shakespeare. The 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 is given to the social and literary background of the Elizabethan world, but primary emphasis is on the plays. The student is expected to write analytical and critical papers and scheduled examinations. Prerequisite: English 202 or approval of the department.

FOREIGN LANGUAGES

FOREIGN LANGUAGE REQUIREMENTS. 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 one 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. Students who have completed one year may enroll in the second term of the elementary course and those who have completed two years may enroll in the first term of the second year course.

Students who have had three or more years of one language in high school should consult with a language department instructor concerning his status.

FRN 101, 102, 103 Elementary French 4(5-1)

A 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 is given equal importance. Practice in mastery of the sound system, the linguistic patterns, and the 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.

FRN 201, 202, 203 Intermediate French 3(3-0)

A 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: French 101, 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.

SPN 101, 102, 103 Elementary Spanish 4(5-1)

A 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.

SPN 201, 202, 203 Intermediate Spanish 3(3-1)

A three-term sequence emphasizing oral-aural skills as well as reading and writing. Students will be expected to converse in Spanish on assigned topics or informally and spontaneously. Laboratory work will be assigned as needed. Prerequisites: Students with a "C" average in the 101-102-103 sequence will be eligible; students with two years of high-school Spanish and a grade of "B" from an accredited high school may be permitted to enter Spanish 201. Completion of the elementary and intermediate sequences will fulfill the basic language requirements for liberal arts and associated curricula.

SPEECH**SPH 104 Principles of Speech 3(3-0)**

An introductory course in speech which will concern the study and application of basic principles underlying effective oral communication. Open to freshmen.

SPH 105 Voice and Articulation 3(3-1)

A course in the theory and practice of effective voice production and precise diction. Emphasis will be 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 will be devoted to work in a speech laboratory. Prerequisite: Speech 104.

SPH 201 Public Speaking 3(3-0)

An advanced speech course. Addresses for different occasions are considered; emphasis is placed on adjusting the approach to the specific audience. Careful attention is given to effective organization and delivery. Prerequisite: Speech 104.

SPH 202 Discussion and Debate 3(3-0)

A study of principles and methods of group discussion and debate in their various forms. Practice is given in applying these principles to a consideration of questions of current interest and importance. This course is offered in conjunction with the annual discussion and debate tournaments. Prerequisite: Speech 104.

SPH 220 Play Production 3(3-0)

A course designed to teach the student the theoretical principles and practical problems of producing a play for an audience. Lecture-discussion sessions are focused on four major units of study: (1) script analysis, (2) problems of directing, (3) stagecraft, and (4) producing the play. Student activities include study and discussion of text materials, stagecraft projects coordinated with productions, direction of ten-minute scenes from plays, and preparation of a complete prompt book. Open to freshmen.

MATHEMATICS

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.

Math 009 Basic Arithmetic 0(4-0)

Designed for students whose arithmetic skills are deficient. This course emphasizes the fundamental process of addition, subtraction, multiplication, and division of whole numbers, fractions, and decimal; weights and measures; percentages; approximate numbers; elementary Algebra; perimeters, area and volumes of geometric figures.

Math 010

Is a continuation of Math 009.

MTH 011 - 012 Beginning Algebra Laboratory 0(0-5)

A combined course in elementary algebra using programmed learning materials. Designed to meet college entrance requirements or to provide necessary review and up-grading of previous preparation in mathematics. Each student progresses at his own rate and completes course on an individual basis. May re-register as needed. Four hours (Algebra) non-transfer credit.

MTH 013 Geometry 0(5-0)

An elementary course of plane geometry with some of the concepts also related to 3-dimensional figures. Included in the course are nature of proof and mensuration principles and formulas. Prerequisite: One unit of high school algebra or MTH 011 and 012. Four hours non-transfer credit.

MTH 102 Intermediate Algebra 5(5-0)

A course in linear and quadratic equations, systems of equations with graphs; factor and remainder theorems, and synthetic division; exponents, radicals, logarithms, and imaginary numbers; ratio proportion, and variation. Prerequisite: One entrance unit in high school algebra and one entrance unit in geometry or MTH 011, 012, 013.

MTH 103 Trigonometry 5(5-0)

A course in trigonometric functions, radian measure, graphs of trigonometric functions; fundamental identities, trigonometric formulae, simple trigonometric equations, logarithms, solution of plane triangles, inverse functions. Prerequisite: MTH 102 or equivalent.

MTH 151 Mathematics for Technicians I 5(5-0)

A course designed specifically for the technician, stressing the applied aspects of topics considered. These include a brief review of algebra and geometry; linear equations of one or more unknowns; algebraic fractions; exponents, roots and radicals; quadratic equations; roots of algebraic equations; determinants; word problems; solving formulas for any unknown; ratio, proportion, and variation; logarithms; introduction to slide rule. Prerequisite: One year each of high school algebra and geometry. Concurrent with E.T. 101.

MTH 152 Mathematics for Technicians II 5(5-0)

A continuation of Math. 151 including a study of trigonometry; vectors, representation of positive and negative quantities, angular motion in the four quadrants; vector algebra, graphic trigonometric solutions, averages of sine and sine squared waves; complex notation; conversion of complex to polar forms; the "j" operator, Eulers equation and Demoiivre's theorem; trigonometric identities and equations, mathematical addition of sine waves, harmonically related sine waves, analysis of curves and Lissajous figures. Prerequisites: MTH 151 or MTH 103. Concurrent with E.T. 102.

MTH 153 Mathematics for Technicians III 5(5-0)

A continuation of Math. 152 including the study of graphical methods of problem solution relating to slope and rate of slope change; the derivative graphically determined; maxima and minima, inflection points, and areas graphically determined. Basic calculus consisting of a study of limits, derivations, integrations; trigonometric, logarithmic, exponential, and hyperbolic functions; mathematical series. Prerequisite: MTH 152. Concurrent with ET 103.

MTH 155 Data Processing Mathematics 5(5-0)

The language of business has numerical bases. This course provides the necessary foundation in numerical concepts for the introductory study of accounting and machine processes. The principles presented in this course will be applied, and therefore reinforced, in the Computer Programming and in the Statistics courses. Includes topics in Logic, Boolean Algebra, iterative processes, binary and other number systems, determinants and matrices, methods of numerical computation and classification of errors. Prerequisite: MTH 151 and 152.

MTH 160 Statistics 5(5-0)

The objectives of this course are to acquaint the student with the theory of probability applications to statistical theory. The student will gain an understanding of the kinds of regularity that exist among random fluctuations. He will gain 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. There will be 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 is emphasized throughout the course. Prerequisite: MTH 102 or 152 or 155.

MTH 200 Arithmetical Foundations 4(4-0)

A refresher course in the fundamental processes with whole numbers, fractions, and decimals. The course will present new concepts of arithmetic such as work with sets, bases other than 10, repeating decimals as rational numbers, and the properties of addition and multiplication of real numbers. New concepts of algebra and geometry appropriate for teaching in the elementary grades will also be presented, as well as the historical background of mathematics. This course, though designed for pre-teaching students, is also open to others. No prerequisite except a reasonable skill with the fundamental processes of arithmetic.

MTH 201 College Algebra 5(5-0)

A course which attempts to instill in the student an appreciation of algebra as a logical subject. Topics in the course include the real number system, the function concept, the order axioms, the complex plane, polynomials, mathematical induction, and determinants. Prerequisite: MTH 102 and MTH 103.

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

A unified course in analytic geometry and calculus. Topics in the course include equations and graphs, functions, limits, the derivative, and differentiation of algebraic functions with applications. Prerequisite: MTH 201.

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

A continuation of MTH 213 which introduces the definite integral with applications, parametric equations, vectors, and differentiation of transcendental functions. Prerequisite: MTH 213.

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

A continuation of MTH 214 which includes such topics as the application of integration techniques and solid analytic geometry. Prerequisite: MTH 214.

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

A continuation of MTH 215 which introduces functions of 2 or 3 variables, partial derivatives, multiple integrals, and infinite series. Prerequisite: MTH 215.

MTH 219 Differential Equations 4(4-0)

A course dealing with the solution of ordinary differential equations; series solutions; Bessel and Legendre equations with applications. Prerequisite: MTH 205 or MTH 215.

MTH 299 Modern Math. Seminar 2 to 4 (variable credit)

A course in sets, logic, and axiomatic theory. The emphasis is on newer concepts in mathematics. Prerequisite: MTH 201 and departmental approval. Class hours are arranged.

SCIENCES**NATURAL SCIENCE (Basic)**

A 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 courses may be taken in any order.

NS 101 Natural Science (Botany-Zoology) 4(2-4)

This course begins with the principles common to both plants and animals. The survey of the plant and animal kingdoms which follows includes a study of their relationships to each other and to their physical environment.

NS 102 Natural Science (Chemistry-Physics) 4(2-4)

A course which introduces the fundamental laws, theories, and principles of chemistry. The course includes such topics as atomic and molecular theory, the periodic system, the laws of chemical combinations, gas laws, etc. Some modern applications of electronics, mechanics, heat, sound and light will be studied.

NS 103 Natural Science (Astronomy-Geology) 4(2-4)

A course which concerns the physical world, the story of rocks and minerals, and how man's ideas about the universe have developed. The course presents such topics as the sun and its family, the interpretation of the rock record, and the earth's geological history.

BIOLOGICAL SCIENCES**ANT 201 Anatomy and Physiology I 4(2-4)**

The first part of a two-term course devoted to the study of the machinery of the human body. The course 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 physiology of the skeletal, muscular, nervous, and special sensory systems.

ANT 202 Anatomy and Physiology II 4(4-4)

The continuation of ANT 201. Emphasis will be upon the study of the circulatory, respiratory, digestive, excretory, endocrine, and reproductive systems. Prerequisite: ANT 201 or approval of department.

MIC 203 Microbiology 4(2-4)

A course designed as an introduction to medical bacteriology, with emphasis on the most important communicable disease agents. A study of yeasts, fungi, and protozoa of medical importance, and also of culture media, isolation of pure culture, staining methods, practical sterilization, and the collection and handling of specimens.

BIO 201 Zoology I 4(2-4)

The 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 the order of advancing complexity.

BIO 202 Zoology II 4(2-4)

A continuation of Zoology 201 covering the higher animal groups. Deals principally with echinoderms and chordates with emphasis on vertebrate animals. Includes principles of anatomy, physiology, taxonomy, ecology and evolution.

BIO 203 Botany 4(2-4)

A course designed to explain the plant kingdom. Deals with general structure and physiology of plants, from simplest to most advanced forms. Special attention given to the seed plants and their ecology and value to man.

PHYSICAL SCIENCES**AST 201 Astronomy 4(3-2)**

A course designed to acquaint the student with the physical universe in which he lives and of which he is a part, using the descriptive rather than the mathematical approach. A survey of the solar system including the motions of the earth and other bodies, study of planets, comets, meteors, and the sun. A study of the stellar system including double stars, motions of the stars, variable stars, the Milky Way and other galaxies, together with an introduction to the methods employed by astronomers in gathering information. Prerequisite: Natural Science 102 and 103 or permission of the instructor.

CHEMISTRY**CEM 106 Physiological Chemistry I 3(2-2)**

The first of a series of three courses designed specifically for students of nursing and may not ordinarily serve as prerequisites for more advanced courses in chemistry. Constitutes a short but concise review of the principles of General Chemistry, including atomic and molecular structure, the periodic nature of the elements, the laws of chemical combination, the kinds and states of matter, and descriptive inorganic chemistry. Prerequisite: A course in high school chemistry.

CEM 107 Physiological Chemistry II 3(2-2)

A continuation of Chemistry 106. A concise course in introductory organic chemistry, both aliphatic and aromatic, with special emphasis on representative substances and their relation to life processes, lipids, carbohydrates and proteins. Prerequisite: Chemistry 106, or approval of department.

CEM 108 Physiological Chemistry III 3(2-2)

A continuation of Chemistry 106 and 107 designed to integrate the study of the chemistry of the processes of life in health and in disease with the general study of physiology. Covers the chemistry of enzymes, hormones, and vitamins, the chemistry of digestion and metabolism, and the chemistry of the blood and urine, together with the alterations in bodily chemistry as the result of certain diseases and pathological conditions. Prerequisite: Chemistry 107, or approval of department.

CEM 110 Industrial Chemistry (Inorganic) 4(4-0)

A basic course in general chemistry designed for the technician as a prerequisite for Metallurgy MT 204. Topics include atomic and molecular theory, bonding, properties of the elements. Also discussed are oxidation-reduction reactions, kinetic-molecular theory, phase diagrams, solutions and electrochemistry. Open only to technology students.

CEM 111 General Chemistry (Inorganic) 5(2-6)

The first of a series of three courses designed to give a 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.

CEM 112 General Chemistry (Inorganic) 5(2-6)

A 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. Prerequisite: Chemistry 111, or approval of department.

CEM 113 Qualitative Analysis 5(2-6)

A continuation of the general principles of chemistry introduced in Chem. 111 and Chemistry 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. Prerequisites: Chemistry 111 and 112, or approval of department.

CEM 201 Organic Chemistry I 5(2-6)

The 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.

CEM 202 Organic Chemistry II 5(2-6)

A 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.

CEM 203 Organic Chemistry 5(2-6)

Continuation of Chemistry 202.

CEM 221 Quantitative Analysis 5(1-9)

Principally a 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.

FOUNDATIONS COURSES**FPS 211 Foundations of Physical Science 4(2-4)**

A course primarily for students seeking an elementary education certificate. The course will survey theoretical and practical aspects of physics, inorganic and organic chemistry, and earth and space sciences. Prerequisite: Sophomore status and NS 102 or equivalent college chemistry and physics.

FBS 212 Foundations of Biological Science 4(2-4)

A course primarily for students seeking an elementary education certificate. The emphasis is on modern biology, and the student will study such fundamental processes as photosynthesis, energy transfer, nutrition, metabolism, and heredity in the light of current knowledge. Laboratory activities involve the students directly with natural phenomena, their relationships, and application of principles studied. Prerequisites: Sophomore status and NS 101 or equivalent college biology. FPS 211 recommended but not required.

PHYSICS**PHY 200 Physics for Technicians 4(5-0)**

The over-all purpose of this course is to provide a foundation in physics which will be invaluable to the technical student. Topics will be developed with special emphasis on the requirements of the technical student. Prerequisite: Math. 153 or Math. 103, or approval of department.

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

The first of a series of three courses designed to give the student an understanding of the fundamental principles of physics. Considers the principles of mechanics, (the laws of motion and equilibrium and their relation to work, energy, power, etc.) as they are applied principally to solids and fluids. Also covers principles of Heat and Thermodynamics and their relationship to the operation of engines. Prerequisite: Trigonometry or approval of department.

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

A course designed to investigate the fundamental electrostatic and electromagnetic properties, to explain the electrical nature of matter, and to present the basic relationships underlying their engineering applications. Considers also the properties of waves and their application to sound. Prerequisite: Physics 201 or approval of department.

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

A course designed to study wave properties in the area of geometric and physical optics which include the phenomena of mirrors, lenses and optical instruments, interference and diffraction. Includes a study of the modern physical notions of the theory of relativity, and atomic and nuclear physics. Examines atomic structure and the way atoms combine to give the properties associated with specific solids, liquids and gases. Emphasizes the study of crystal structure, particularly transistors, radioactivity, and nuclear reactions. Prerequisite: Physics 202 or approval of department.

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

A course 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.

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

A course designed to teach the basic principles of electricity and sound. Similar to 202 but uses Calculus extensively. Prerequisite: Physics 211, or approval of department.

PHY 213 (Optics and Modern Physics) 4(4-2)

A course designed to teach the principles of geometric and physical optics as well as developments in modern physics such as atomic and nuclear phenomena, relativity, solid state physics, quantum physics phenomena. Prerequisite: Physics 212, or approval of department.

PHYSICAL EDUCATION

Knowledge of human physiology and psychology in its relation to exercise and relaxation is the basic foundation of the Physical Education Course. Physical fitness as it applies to adult members of society is stressed in the form of circuit training. Program offers to the student an opportunity to achieve and maintain an optimum level of physical fitness and to also be able to continue exercise habits for a life time not limited to gymnasium use.

Instruction in certain activities will be offered as an added elective feature of the course. Some of these activities are: Gymnastics, Weight Training, Judo, Fencing, Golf, Tennis, Badminton and Skiing.

Class participation in PE 101, 102, 103 and 104 requires attendance in an hour of co-educational lecture plus two additional half hours in the gymnasium each week.

Courses 201, 202, 203 and 204 are open for students who have completed the 100 series. Students will select a topic to read and report on in writing. They also will arrange three half hour periods in the Gymnasium each week.

Students not enrolled in P.E. but interested in the various activities offered each term should register as auditors.

MEN'S PHYSICAL EDUCATION**P.E. 101 Fall**

Lectures on the muscle and nervous system with emphasis on the effect of regular exercise. Review of the different types of training methods.
Circuit Training.

P.E. 102 Winter

Lectures on the circulatory system. Types of heart diseases. Review of heart research. Nutrition and metabolism with emphasis on weight control.
Circuit Training.

P.E. 103 Spring

Problems of different environments. Principles of mouth to mouth respiration. Reading assignments in health related areas.
Circuit Training or individual conditioning.

P.E. 104 Summer

This course could be substituted for 101, 102 or 103. Lectures and assignments from the course for which it will be substituted.
Circuit Training or individual conditioning.

P.E. 201, 202, 203 and 204

Open for students completed three terms of the 100 series. Limited reading on selected topics. Conditioning and physical fitness instruction. Weekly three half hour periods in the gymnasium.

P.E. 221, 222, 223 and 224

Special projects involving experiments or reading in a selected area by the students.

WOMEN'S PHYSICAL EDUCATION**P.E. 101 Fall**

Lectures on the muscle and nervous system with emphasis on the effect of regular exercise. Review of the different types of training methods.
Figure Training.

P.E. 102 Winter

Lectures on the circulatory system. Types of heart diseases. Review of heart research. Nutrition and metabolism with emphasis on weight control.
Figure Training.

P.E. 103 Spring

Problems of different environments. Principles of mouth to mouth respiration. Reading assignments in health related areas.
Figure Training or Individual Conditioning.

P.E. 104 Summer

This course could be substituted for 101, 102 or 103. Lectures and assignments from the course for which it will be substituted.
Figure Training or Individual Conditioning.

P.E. 221, 222, 223 and 224

Open for students that have completed three terms of the 100 series. Limited reading on selected topics. Conditioning and physical fitness instruction. Weekly three half hour periods in the gymnasium.

P.E. 221, 222, 223 and 224

Special projects involving experiments or reading in a selected area by the students.

SOCIAL SCIENCES**SS 098-099 General Readings in Social Science 0(3-2)**

Vital areas of the Social Sciences, Humanities and History are dealt with by Departmental Faculty Representatives. Pertinent readings and extensive discussion along with personal guidance are designed to acquaint the student with the concerns and rudimentary methods of the various disciplines. The topics covered are also designed to enrich the student's role as a citizen.

BASIC SOCIAL SCIENCE

This three-term sequence of courses introduces the student to the social sciences and forms an integral part of the general deucation program. The structure and contest require that the courses be taken in sequence.

SS 101 Sociology—4(4-0)

Th first term of a three-term sequence in basic social science. The course surveys major concepts and methods of sociology and anthropology. Emphasis will be given to selective aspects of culture, socialization, social stratification, associations, primary groups, collective behavior, population-ecology, and cultural history.

SS 102 Economics 4(4-0)

The second term of basic social science. This course deals with economic institutions in their social context. The student will study the genesis and development of the social situation of capitalism. The historical treatment provides a background for the understanding of modern economic institutions. Prerequisite: SS 101.

SS 103 Political Science 4(4-0)

The third term of basic social science. This course deals with political behavior and institutions in their social context. The student will study the social situation of modern nation-state systems in cross-cultural perspective to provide an understanding of modern political systems. The emphasis will be on political sociology with respect to the nature of democracy and the problems which affect democratic institutions. Prerequisite: SS 101 and SS 102.

SS 102, 103 Basic Social Science Honors Section 4(4-0)

The schedule for winter and spring terms of each year will include one section of Basic Social Science to be conducted as an honors course. The material will be comparable to that of the standard sections but will be taught at an advanced level and in seminar fashion. Outstanding students will be enrolled by invitation and will be notified of their eligibility in advance of registration.

GEOGRAPHY**GEO 200 Elements of Geography 3(3-0)**

A specific geographic principles course which emphasizes the physical forces on a world wide basis. The course 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.

GEO 201 World Regional Geography 3(3-0)

A course which describes and analyzes the human and natural resources of the countries and cultures of the world. The major emphasis will be on their distribution over the surface areas of the earth.

GEO 202 Geography of North America 3(3-0)

This course presents a study of the human and physical resources of North America, Central America, and the Panama Canal Zone. The focus will be on the distinct characteristics of the various regions.

GEO 203 Economic Geography 3(3-0)

This course concerns the geographic distribution and production of agricultural commodities, raw materials for industry, and the localization of industries throughout the world. Some emphasis will be placed on trade of raw materials and finished products among nations.

POLITICAL SCIENCE**SS 250 American Government: Problems in Democracy 4(4-0)**

This course presents an analysis of the American political system and gives emphasis to the federal and state systems, with special attention to the policy making process. The course will survey contemporary problems in American democracy from the local to the national levels.

SS 260 Introduction to Comparative Government 3(3-0)

A course which introduces the student to the political institutions of modern government. The course will give emphasis to the institutions of the United Kingdom, France, Germany, and the USSR. The course content will include the dynamics of political behavior in these and other societies, including the newly emerging nations. Prerequisite: SS 103 or instructor's approval.

SS 271 International Relations 3(3-0)

This course in contemporary international relations and politics. The course presents a survey of concepts and theories relevant to these subjects. It also explores the relationships between international politics, foreign policy, and domestic policy in the United States. Prerequisite: SS 103 or instructor's approval.

PSYCHOLOGY**PSY 101 Orientation 1(1-0)**

This course is designed to orient the full-time freshman student to his new college environment. The course emphasizes four things: the background, philosophy, and resources of the College; the responsibilities of and opportunities for the student; the services available to the student in determining realistic vocational and educational goals; the aid given in developing effective study habits and skills.

PSY 201 Introduction to Psychology 4(4-0)

A course designed to give the student a general understanding of the science of psychology. Treats such topics as intelligence, motivation, emotions, sensation, perception, learning, and group processes. Emphasizes the relation between psychology and life.

PSY 202 Psychology of Personality 3(3-0)

A course designed to provide the student with an explicit concept of healthy personality. Attention given to the recognized theories of personality. Investigates the origin and modification of behavior in order that the student may understand the application of principles of mental hygiene. Prerequisite: Psychology 201 or approval of department.

PSY 203 Psychology of Human Relations 3(3-0)

A course designed to give the student an understanding of the influence of social interaction upon the development of personality. Emphasizes the impact of culture upon personal social adjustment. Treats also of principles which can be applied to make the group process of learning or problem-solving more efficient. Analyzes the collective aspects of human behavior. Prerequisite: Psychology 201 or approval of department.

PSY 204 Educational Psychology 3(3-0)

A course designed to investigate the contribution of psychology to the field of education. It is concerned with child growth and development, learning, measurement, and mental hygiene. An attempt is made to allow observations of practical teaching situations. Prerequisite: Psychology 201.

SOCIOLOGY and ANTHROPOLOGY**SS 220 Juvenile Delinquency and Youth Behavior 3(3-0)**

Early attention will be given to the problems of defining juvenile delinquency and a survey of its present status in major industrial nations. The main concentration of the course will be on theories which attempt to account for juvenile delinquency and the evidence supporting such theories. Brief attention will be given to control and correction as a concluding topic.

SS 270 Introduction to Anthropology 3(3-0)

A survey of the fields, methods, and findings of the science of man. Primary attention will be given to the evolution of man as a physical animal and the evolution of culture as man's distinctive development. Some notice will be taken of the traditional fields of anthropology and of selected aspects of culture once physical and cultural evolution have been completed.

GENERAL INFORMATION

APPLICATION

Lansing Community College accepts applicants from the Greater Lansing Area. This area includes communities lying within approximately a 25-mile radius from the College.

Applications may be obtained from the College admissions office or from high schools in the College service area.

Prospective applicants are urged to contact the admissions office and to submit a preliminary or final transcript of their high school work as early as possible to insure time for testing, counseling, and pre-enrollment. High school graduates should submit final transcripts when they apply for admission and high school seniors should make arrangements to forward a final transcript to the college immediately after graduation.

Applications received after August 1, will be placed on a waiting list and applicants will be admitted as the enrollment permits.

REGISTRATION PROCEDURE

To become officially enrolled at Lansing Community College, a student must complete the following:

1. File directly with the admission office an application for admission form, which requires a personal statement, and a \$5.00 application fee.
2. Present the personal and scholastic record-form to his high school to be completed and forwarded on to the college.
3. Request that official transcripts from all other colleges or universities in which he has been enrolled since his last attendance in high school be sent to the admissions office.
4. Report for placement testing at the time requested by the admissions office. Upon the completion of testing he will be given an appointment with a counselor, who will discuss his educational and vocational goals, and assist in planning an appropriate educational program.

Special, guest and transfer students, who have been accepted for admission, should enroll when notified by the admissions office.

Registration periods are indicated in the school calendar, and students will register according to instructions which will be published each term.

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 credentials listed above prior to the day he enrolls. An additional \$5.00 is charged those students who register after the official registration period.

AUDITING A COURSE

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. A record will be kept of classes attended. 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 in that class.

CHANGE IN REGISTRATION

During the first week of a term, a student may make changes in his schedule by obtaining the proper form from the College office. After the first week, he may add no courses for credit.

A student may withdraw from a course before the end of the fourth week without academic penalty. If he withdraws after that time and is passing in the course at the time of withdrawal, an "N" will appear on his record. If he withdraws after that time and is failing in the course at the time of withdrawal, an "F" will appear on his record.

WITHDRAWAL FROM COLLEGE

If a student finds it necessary to withdraw from college, he should contact the Registrar's office without delay and fill out a form to make his withdrawal official. Then 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 11 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. Carrying 16 credit hours each term plus one credit hour in physical education, the student will earn in two years the 92-96 hours required for graduation and a maximum of 96 hours transferrable to a four-year institution. The credit hour value of each course is given in the section of this catalog devoted to "Courses and 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 registrar's 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 4-year institution is advised to examine carefully the current catalog of the particular college he ex-

pects 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 work of the student.

- A — A grade given to indicate distinct superiority in course work.
- B — A grade given to indicate better than average achievement but lacking clear superiority.
- C — A grade given to indicate average achievement.
- D — A grade given to indicate below average achievement.
- F — A grade given to indicate insufficient achievement to pass.
- 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 "E".
- N — A grade given to indicate withdrawal passing from a course. A grade of "N" is given to any student who withdraws officially from a class any-time up to and including the last day of the fourth week of the term. 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.
- X — Audit.

Grade point averages are determined on the following basis:

A — 4, B — 3, C — 2, D — 1, F — 0, N — 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 points for 15 hours, a grade point average of 3.00.

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 Admissions Office of the College.

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 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 Assistant Dean in charge of Student Services 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. 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. The instructor whose course requires absences of students from classes will file in the College office a list of the names of the students involved at least 48 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 in the Community College.
2. Maintain a minimum grade point average of 2.0.
3. Earn toward graduation at least 30 credits in attendance at the Lansing Community College.
4. File with the Registrar's office a petition for graduation before January 15, preceding June 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 Dean.
7. Have the approval of the faculty and The Board of Education.

DEGREES

Associate degrees are granted to all who meet graduation requirements. Any student completing the requirements during the Fall or Winter terms will be able to apply for graduation during the term 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 to qualify for honors.

STUDENT PERSONNEL SERVICES

Many specialized services are available to students at Lansing Community College. These services include various types of counseling, pre-enrollment, registration, orientation, testing, educational and occupational information, advisory services, educational planning, coordination of transfer programs, the handling of veteran affairs, and loans and scholarships.

Counseling Services

Student Personnel Services extend to the student professional assistance on such matters as curriculum choice, educational program planning, occupational choice and planning, and matters which threaten to interfere with the educational progress of the student.

Pre-enrollment Counseling Services

After a student has been admitted to the college and before he enrolls he is given the opportunity to discuss, with a counselor, the educational program which he will pursue. At this time he has the opportunity to discuss his entrance examination, the curriculum in which he will be enrolling, and his schedule for his first term.

Orientation

The College desires to make the student feel that he is an integral part of the institution and to acquaint him with the philosophy, facilities, and procedures unique to the college.

During the student's first term here, he enrolls for a course called "Orientation" in which an attempt is made to help the student become familiar with his educational program, the procedures used at Lansing Community College, and effective study skills and habits.

Testing Services

It is often helpful for the student making educational or occupational choices and plans to take certain tests. The counselors in Student Personnel Services will administer and interpret these tests, and offer counseling to the student desiring such services.

Occupational-Educational Information

Student Personnel Services maintains a file of educational-occupational information available to all students at the College. The purpose of this service is to assist students in making appropriate educational-occupational choices and plans.

Advisory Service

Student Personnel Services coordinates the advisor-advisee system in the College. This office has the responsibility of assigning students to academic advisors. A summary of the student's record, his academic report, and his tentative

educational program are forwarded to the advisor. This enables a student to receive advice from a faculty member in his own stated area of specialization at the time he enrolls each term.

Advisory Services to Clubs and Organizations

Student Personnel Services staff members are available as consultants to groups which desire to form clubs or organizations within the college or to existing clubs and organizations.

Student Employment Assistance

Student Personnel Services assists those students who find it necessary to work while attending college to find part-time employment. A bulletin board in Student Personnel Services lists available jobs.

Placement

A student graduating from Lansing Community College and wishing to become employed may receive assistance through Student Personnel Services or the instructors in the area of his specialization. Lansing Community College is anxious to maintain its record of placing those graduates who desire employment.

Veteran's Affairs

Veterans and War Orphans enrolled at Lansing Community College are eligible for benefits under Public Law 550 and 634. Monthly certifications of training are signed in The Registrar's Office and other veteran's affairs are conducted through the same office.

Grants for Students Attending Lansing Community College

SCHOLARSHIPS

An increasing number of scholarships are available to students enrolled in the College. The student may receive information and make application for these scholarships through Student Personnel Services.

Community Junior College Scholarships are available to graduates of Lansing Community College. These scholarships are available to most of Michigan's state colleges and universities. Information and application forms for these scholarships may also be obtained through Student Personnel Services.

The student who needs financial assistance while attending the College may wish to borrow from one of the Lansing Community College loan funds. Information and application forms for these loans may be obtained through Student Personnel Services.

ALVIN M. BENTLEY FOUNDATION JUNIOR COLLEGE SCHOLARSHIPS

The foundation established by Mr. Alvin M. Bentley makes available a \$375.00 scholarship to one outstanding graduating senior, who is admissible to the college and who has financial need.

Application for this scholarship should be made through Student Personnel Services.

THE STATE OF MICHIGAN COMPETITIVE SCHOLARSHIP

This scholarship provides tuition and fees for graduating seniors who meet the following requirements:

1. Michigan resident for three years 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.

For further information contact Student Personnel Services.

STUDENT GOVERNMENT SCHOLARSHIP

The Student Government provides a full-tuition scholarship for one Lansing school district resident and one non-resident freshman student of Lansing Community College. The scholarships are awarded on the basis of scholarship and need for funds. The scholarship is renewable so that a student may receive aid for a total of six terms.

Application for the scholarship should be made through Student Personnel Services.

LANSING BUSINESS AND PROFESSIONAL WOMEN'S TUITION SCHOLARSHIP FUND

The Lansing Business and Professional Women's organization makes available a tuition scholarship to an older woman who has a definite need to establish or re-establish herself in business or a profession.

Application for this scholarship should be made through Student Personnel Services.

AMERICAN BUSINESS WOMEN'S ASSOCIATION WHITE PINE CHAPTER, LANSING TUITION SCHOLARSHIP

The American Business Women's Association, White Pine Chapter, Lansing makes available a tuition scholarship for a capable woman student in need of financial assistance.

Application of this scholarship should be made through Student Personnel Services.

MARKETING SCHOLARSHIP

Mr. Ronald Garlock provides a \$100.00 scholarship for a capable student enrolled in the Marketing curriculum, who is in need of financial assistance.

P.T.A. SCHOLARSHIP

The P.T.A. Council of Lansing provides one \$25.00 scholarship for a capable student in need of financial assistance.

FEDERAL GOVERNMENT LOAN FOR STUDENTS

The National Defense Education Act provides for the creation, at American colleges and universities, of loan funds from which needy students may borrow

on reasonable terms to help complete their higher education.

The law requires that the borrower: 1. be a full-time student (12 or more term-hours); 2. be in need of the amount of his loan to pursue his courses of study; 3. be capable of maintaining good academic standing in his chosen course of study.

Special consideration is given to applicants who express a desire to teach in public elementary or secondary schools and applicants who show promise in science, mathematics, engineering, or modern foreign language.

Lansing Community College students who qualify for loans under these specified provisions should inquire for application through Student Personnel Services.

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 needy students at reasonable terms to help students complete their higher education.

The student wishing to borrow from this fund must be a full-time student, be in need of the amount of his loan to pursue his course of study, and be capable of maintaining good academic standing in his chosen course of study.

Applications for this loan are made through Student Personnel Services.

Scholarships for Lansing Community College Graduates

The following schools provide scholarship opportunities for community college graduates. In addition to these schools, many other universities and four-year colleges award scholarships to junior college graduates. Interested students should inquire at Student Personnel Services.

Alma College Trustee Honor Scholarships

These scholarships are available to either high school seniors or transfer students from community colleges. In order to qualify a transfer student must have achieved a "B" average while attending college, completed the Associate of Arts degree, and must be in need of financial assistance.

The Michigan Tech Board of Control Distinguished Student Scholarships

These scholarships are awarded to students who have demonstrated high academic achievement, who have or will have graduated in one of the pre-professional curricula and who intend to continue in that curriculum at Michigan Tech.

Michigan State Board of Education Scholarships

These scholarships are available to students entering teacher training at Central Michigan University, Eastern Michigan University, Western Michigan University and Northern Michigan College. They are awarded on the basis of scholarship, U.S. citizenship, high moral conduct, need, and the recommendation of Lansing Community College Student Financial Committee. They cover payment of tuition for one year and are renewable if the student maintains a satisfactory record.

Michigan State University Public Junior College Scholarships

These scholarships are awarded on the basis of scholarship, U.S. citizenship, high moral conduct, and need, and the recommendation of the Lansing Community College Student Financial Aids Committee. They cover payment of tuition and fees for one year and are renewable if the student maintains a satisfactory record.

University of Michigan Public Junior College Scholarships

Scholarships for Junior College graduates are awarded on the basis of scholarship, U.S. citizenship, high moral conduct, and need, and with the recommendation of the Lansing Community College Student Financial Aids Committee. They cover payment of tuition and fees for one year and are renewable if the student maintains a satisfactory record.

Western Michigan University Community College Scholarships

Two scholarship programs are awarded yearly to Community College graduates. One provides tuition only and one provides full support. Application must be made before March 1. Full details about qualifications and selection may be obtained at the Student Personnel office.

HOUSING

The Lansing Community College maintains no housing units for students, but it does cooperate in making available a list of suitable living quarters. The College will assist students by maintaining a list of housing.

CONDUCT

Inasmuch as students attending the Lansing Community College are considered mature adults, it is assumed that the need for well-defined rules of conduct is not required. The student should remember that attendance at the College is a privilege which can be revoked at any time by the Dean of the College.

FEES AND TUITION

Note: Tuition and fees may change due to Board action. Costs listed below are those in effect at the date of publication. All tuition and fees are to be paid at the time of registration.

Fees:

Application fee:	
A non-refundable fee for all new and entering students	\$5.00
Registration fee:	
Guests, special and readmitted students	\$2.00
Student activity fee:	
12 or more credits	\$3.00
7-11 credits	\$2.00
Locker fee	\$1.00
Towel fee	\$2.00
Lab fee	\$5-10.00

Tuition:

Residents: (Student living within the Lansing School District)	
Per credit hour	\$4.75
Non Residents: (Students living outside of the Lansing School District)	
	\$6.75

REFUNDING FEES

Tuition will be refunded in accordance with the following policy:

A student who withdraws officially within one week of final registration will be refunded 80% of his tuition.

A student who withdraws officially between the end of the first week and the end of the fourth week after final registration will be refunded 50% of his tuition.

A student who withdraws after the end of the fourth week after final registration is not refunded any of his tuition.

Students who are in training under Public Act 550-634 pay their own fees and are subject to the payment and refund schedule above. However, veterans under Public Acts 16, 815 and 894 may be enrolled without payment of fees, if they have established their eligibility through the Veterans Administration and present their certificates of eligibility to the registration officials. The payment of fees and refunds by the Veterans Administration will be governed by the above schedule.

TO WITHDRAW FROM THE COLLEGE A STUDENT MUST GIVE WRITTEN NOTIFICATION.

ALL STUDENTS WHO FIND IT NECESSARY TO WITHDRAW DURING THE TERM MUST NOTIFY THE REGISTRAR'S OFFICE IN PERSON OR BY LETTER TO REMAIN IN GOOD STANDING.

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