1987-1988
Planning Guide

montealm community college
...helping you prepare for life
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ADMISSION TO MONTCALM COMMUNITY COLLEGE

Applicants shall possess a high school diploma or, if over the age of 18 years, shall submit to an educational equivalency examination as prescribed by the Dean of Student Services.

Exceptions to the above, in keeping with the "Open-Door Policy" of Montcalm Community College, may be made at the discretion of the Dean of Student Services.

HOW TO APPLY FOR ADMISSION

1. Applications are available from high school counselors or MCC's Admissions Office.

2. The application and the non-refundable application fee should be sent to MCC's Admissions Office.

3. Students should have an official copy of their high school transcript or equivalency examination sent to MCC.

4. Questions should be referred to the student's high school counselor or the Admissions Office at MCC.

GUEST APPLICATION

A guest applicant is a student who is currently enrolled in a program at another college or university, and who wishes to complete a course at MCC as part of that program. Guest applicants may complete the regular application procedure, or complete a Guest Application Form, and receive permission to attend MCC. Guest Application Forms are usually available at the Records Office of the student's home college or university. A student may not attend as a guest for two consecutive semesters.

FORMER STUDENTS

MCC extends to all students a continuous matriculation; therefore, former students need only to contact the Admissions Office to update the personal information file and reactivate their registration status. The only exception to this regulation applies to students who have been formally dismissed. They must re-apply through the Dean of Student Services Office. Former students need not complete an admission form.

POLICY AGAINST DISCRIMINATION

It is the policy of MCC that no person shall—on the basis of sex, race, religion, color, national origin, age, or handicap—be excluded from participation in, be denied the benefits of, or be subjected to discrimination in any of its programs or activities.

Mr. James Lantz is the college REQ Officer/Title IX - Section 504 coordinator. His office is located in the Library/Administration Building - telephone 517-328-2111, extension 284.
TUITION AND FEES

RESIDENTS OF MONTCALM COMMUNITY COLLEGE DISTRICT

Tuition: $25.00 per credit hour
Fees: $1 per credit hour to a maximum of $12.00 per semester

(Resident of MCC district - lives within one of the public school districts of Carson City, Central Montcalm, Greenville, Lakeview, Montabella, Tri-County, and Vestaburg.)

MICHIGAN NON-DISTRICT RESIDENTS

Tuition: $37.50 per credit hour
Fees: $1 per credit hour to a maximum of $12.00 per semester

OUT-OF-STATE RESIDENTS

Tuition: $41.00 per credit hour
Fees: $1 per credit hour to a maximum of $12.00 per semester

OTHER FEES

Application for Admission (paid only once): $5
Late Registration Fee: $5
Laboratory Fee: $5 (per contact hour)*

*A course with a required laboratory will cost an additional $5 per student contact hour over and above the assessed credit hour charged for the course. For example: NUR115, 3 credits with 9 laboratory hours, the student will be charged for 3 credit hours and 6 additional contact hours. In-district student-3 credit hours x $25 + 6 additional contact hours x $5 = $105.

PAYMENT OF TUITION AND FEES

1. Tuition and fees are due and payable in full on the day of registration.
2. Students unable to pay the cost of tuition and fees should consult with the Financial Aid Office prior to registration to determine possible eligibility for Federal Grants. For students with good credit, payment terms can be arranged with the Business Office prior to registration. Full-payment terms can be arranged prior to registration with the Business Office for those with good credit. Full payment must be received prior to the end of the semester.
3. Visa or Master Charge are accepted.
4. No other credit arrangements can be made through the college.
FINANCIAL AID INFORMATION

Montcalm Community College strives to make a college education possible for all qualified students. Financial aid is available in a variety of forms: scholarships, loans, grants, and work-study jobs that supplement the cost of your college education.

HOW TO APPLY FOR AID

To be considered for financial aid, students must file a Financial Aid Form (FAF). It will then be processed by the College Scholarship Service. Timing of the application is important. Students may apply for aid after January 1, and after the student or his/her parents have completed their income tax return for the past calendar year.

By completing the FAF, students will be considered for several types of financial aid. However, students may apply only for a Pell Grant by submitting just a Pell Grant application.

The Pell Grant application and the Financial Aid Form are available at your high school guidance office and the Financial Aid Office at the College.

MCC SCHOLARSHIPS

Montcalm Community College offers several scholarships each year to area high school students. Specific details about the following scholarships may be obtained from the high school counselor or MCC Financial Aid Office.

1. Board of Trustees (in-district) – two scholarships per area high school are available. These are given to students who have attained a "B" average in high school. Recipients could receive up to full tuition and fees.

2. Board of Trustees (out-district) – seven scholarships are available. These are given to students who have attained a "B" average in high school. Recipients could receive up to full tuition and fees.

3. Area High School Grants – two grants per area high school are available. Students who are recommended must apply for a Pell Grant. If ineligible for Pell, recipients could receive up to full tuition and fees from MCC.

4. Performing Arts/Music Stipend – fifteen stipends are available to students who perform in choir and band. Recipients could receive up to full tuition and fees.

5. Adult High School Completion – two scholarships are available to each high school completion program. Scholarships will cover 7 credit hours of tuition and fees (in-district rate).

6. Outstanding Achievement Awards – five awards will be available to students who have excelled in a specific area in high school. Recipients could receive up to full tuition and fees.
7. MCC Adult Scholarships - five scholarships will be available to new students over the age of 21. Amount will be $200 per semester.

8. Scholarships for High School Seniors - scholarships for three (3) MCC classes, tuition and fee free (limited to the in-district rate), may be available to students who have completed their junior year of high school with at least a B+ average. These courses must be taken during their senior year.

9. Scholarships for Adult High School Seniors - scholarships for three (3) MCC classes, tuition and fee free (limited to the in-district rate), may be available to students who have achieved senior status, have at least a B+ average, and are currently enrolled in the last quarter of their adult high school completion program. These courses must be taken during their senior year.

10. Over-60 Scholarships - tuition scholarships are available to persons age 60 or older.

11. MCC Foundation Scholarship (in-district) - one $1000 scholarship will be available annually to students entering directly from high school with a grade point average of 3.00 (B) or better and who declare a major in mathematics and/or science.

12. James Crosby Memorial Scholarship - one $1000 scholarship will be available annually to a sophomore student with a grade point average of 3.00 (B) or better and who has a letter of support from 4-H Leaders' Council.

There are also several local scholarships available each year. More information can be obtained from the Financial Aid Office.

STATE AID PROGRAMS

GUARANTEED STUDENT LOAN

Under this program, students may borrow up to $2,500 per academic grade level. This loan bears an 8% interest rate. Applications for this loan are available at many local banks and credit unions.

STATE DIRECT STUDENT LOAN

Students unable to obtain a Guaranteed Student Loan from a private lender may be eligible for a State Direct Loan. Students may borrow up to $2,500 per academic level. Students may obtain a Direct Loan application kit from the Financial Aid Office.

MICHIGAN COMPETITIVE SCHOLARSHIP

The State Scholarship program currently measures academic potential on the basis of the National ACT Exam. Eligible applicants may receive up to the amount of demonstrated need or the amount of tuition, whichever is less. Students must be Michigan residents. For more information, students may contact their high school counselor or the Financial Aid Office.
SINGLE PARENT/HOMEMAKER PROGRAM

The Single Parent/Homemaker Program was made possible through a grant provided by the Vocational Educational Department of the State of Michigan. This program is designed to assist students who are enrolled in a vocational program and who are single parent/homemakers or non-traditional job trainees.

Students applying must meet several eligibility criteria. Currently, MCC is able to provide tuition assistance to eligible students. Applications may be obtained from the Financial Aid Office.

MICHIGAN ADULT PART-TIME GRANT PROGRAM

The Michigan Adult Part-Time Grant Program is designed to provide grant assistance for needy adults who enroll at approved public or private degree-granting Michigan colleges on a part-time basis. Grants of up to $600 per year are available for not more than two years of study.

MICHIGAN EDUCATIONAL OPPORTUNITY GRANT PROGRAM

The Michigan Educational Opportunity Grant Program is designed to provide grant assistance for needy undergraduates who are enrolled on at least a half-time basis at public, Michigan colleges and universities. Grants of up to $1000 per year are available under this program.

MICHIGAN WORK-STUDY PROGRAM

The Michigan Work-Study Program is designed to provide work opportunities for needy undergraduate students who enroll at approved public or private degree-granting, Michigan colleges on a full or part-time basis. Both non-profit and profit-based employers may sign agreements with Michigan colleges to participate in this program.

MICHIGAN AUXILIARY LOAN (PLUS) PROGRAM

Parents may borrow for their dependent children and independent undergraduate and graduate students may borrow for themselves for study at eligible schools. Requests for application forms may be made through participating Michigan lenders (banks, savings and loan associations, and credit unions).

FEDERAL AID PROGRAMS

PELL GRANT

Formerly known as the BEOG (Basic Educational Opportunity Grant Program), the Pell Grant is available on the basis of demonstrated financial need. It is for undergraduate students who are attending eligible vocational schools or colleges on at least a half-time basis. These grants are based on the cost of attendance at the institution and do not exceed 50% of the cost of education. To be considered, students may file a Pell Grant application or a Financial Aid Form (FAF).
SUPPLEMENTAL EDUCATIONAL OPPORTUNITY GRANT

These are limited funds available to students who demonstrate financial need. These grants can be up to $2,000 per academic year. To be considered for this grant, students must file a Financial Aid Form (FAF).

NATIONAL DIRECT STUDENT LOAN

Known as the NDSL, these loans are available to students who demonstrate financial need. These loans bear a 5% interest rate and allow the student a six month grace period before repayment begins. Students can borrow up to $3,000 for two years of undergraduate work. To be considered, students must file a Financial Aid Form (FAF).

COLLEGE WORK-STUDY PROGRAM

This financial aid is in the form of a part-time job on the college campus. It is available to students enrolled at least half-time and who demonstrate financial need. Preference is given to students who have the greatest financial need. Students can work up to 20 hours per week. To be considered, students must file a Financial Aid Form (FAF).
MONTCALM COMMUNITY COLLEGE
CREDIT ACCEPTANCE GUIDELINES

Students enrolled at Montcalm Community College for the first time either as first semester freshmen or as first or second year transfer students may wish to have work experience or coursework taken at other institutions evaluated for MCC credit. While not all experiences nor even all coursework will be automatically accepted, in many instances it can be used to satisfy MCC course requirements or be applied toward completion of the associate degree or certificate as elective credit.

In general, a maximum of 36 credit hours may be either transferred into Montcalm Community College or earned in some other fashion than in the traditional way. In order to receive an Associate Degree, a student must earn a minimum of 24 credit hours at Montcalm Community College. In the case of certificate programs, a minimum of fifty percent (50%) of the credits required for the certificate must be earned at MCC.

Moreover, students who intend to graduate from Montcalm Community College must be enrolled at the College during their final semester prior to receiving a degree or certificate.

Described below are guidelines for the acceptance of credit from other colleges or universities and for earning credit in non-traditional ways. In order for a student to qualify, he/she must make formal application to the College and be an enrolled student. More detailed information is available from the Admissions Office (or from the appropriate instructional administrator).

1. Transfer Credit from Accredited Institutions of Higher Learning

In general, courses taken at other colleges or universities in which a student has earned a "C" grade or better may be transferred to Montcalm Community College.

For more information on transfer credit please see the Student Handbook, pp. 15-16

2. Credit for Correspondence Courses

Generally credit will not be granted by MCC for correspondence coursework. Exceptions are limited to United States Armed Forces Instruction courses and courses for regionally accredited institutions of higher learning.

Procedure: In order to qualify for correspondence credit a student must forward official transcripts to the Records Office. The transcripts will be evaluated by the appropriate instructional administrator. A fee of $5.00 will be charged for each credit granted.
3. **Credit or Waiver by Examination**

MCC recognizes that many of its students come to college with a wealth of practical experience. Often that experience is equivalent to knowledge that would be gained through MCC coursework. To take a course in that field may be needless repetition. If a student wishes to receive a waiver or credit for a course in which he/she feels competent and for which an exam is offered he/she may opt for "credit or waiver by examination".

a. for credit: after enrolling in the course and successfully completing the exam the student will be awarded full credit for the course. An "S" grade will be awarded.

b. for waiver: upon successful completion of the exam, the requirement for taking that course will be waived. An examination fee of $5.00 per credit hour will be charged.

This option is available for a specific course only once and is not available for a course in which a student has already received a grade.

**Procedure:** The list of courses that qualify for "credit by examination" is available in the Student Services Office. A student, upon finding a course on that list, may petition the appropriate administrator to take the examination prepared for it.

4. **C.L.E.P. (College Level Examination Program) Credit**

MCC students in their first semester who have taken part in the College Level Examination Program (CLEP) and who have ranked in the 50th percentile or higher on a Subject Area test may request a waiver of specific-course requirements or have course credit granted. If the waiver is applied, the student will not have to take the corresponding MCC course but will be required to take the equivalent credit hours in other MCC coursework. For those students who wish to have specific course credits granted for the CLEP exams a fee equivalent to $5.00 per credit hour will be charged for each credit granted. A maximum of 14 credits may be earned in this fashion.

**Procedure:** To qualify for CLEP credit a student must supply to the Records Office an official transcript of the test results. The appropriate instructional administrator will then evaluate the examination results for credit. CLEP credit will be noted on the transcript.

5. **Articulation Credits**

MCC recognizes that some coursework completed in high school may be equivalent to basic courses offered at the college. Written agreements to grant college credit for high school courses have been reached with several school districts in respect to specific programs.
The conditions for receiving such credit are that the student:

1. has maintained a "B" average in high school course(s) under consideration; and

2. has received a written recommendation from the appropriate high school instructor.

Credit will be granted when the student has completed six (6) hours of MCC coursework with a "C" average in the discipline for which college credit is being granted. There will be no charge for the credit hours granted. To take advantage of this opportunity a student must enroll at MCC, take the appropriate courses no later than the beginning of the third year following high school graduation, and formally request credit. Finally, credit will be awarded through notation (no grade will be given) upon completion of the requirements. A maximum of nine (9) hours can be earned in this way.

Procedure: To qualify for articulation credits the student must submit the required forms to the Records Office. When the coursework at MCC has been completed, he/she must then notify the appropriate instructional administrator.

6. Credit for Training Program

A. Armed Services Training

1. Students who have successfully completed Military Basic Training will be granted up to four credit hours of Physical Education credit provided they:

   a. formally request credit for Physical Education;

   b. submit to the Recorder "Form DD214" indicating the successful completion of "Basic Training;" and

B. Other Training Programs

2. Students who have successfully completed military coursework may receive transfer credit upon application according to the appropriate ACE guide. The MOS number is, by itself, not recognized for transfer credit. A fee of $5.00 will be charged for each credit granted.

   Students who have successfully completed courses outlined in The National Guide (ACE) may receive transfer credit. A fee of $5.00 will be charged for each credit granted.

Procedure: In order to earn credit for training or military coursework, a student must forward official transcripts to the Records Office. The transcripts will be evaluated for credit by the appropriate instructional administrator.

7. Credit for Life Experience (see #3)
# Degree Information

**Associate Degree in Arts and Sciences**

<table>
<thead>
<tr>
<th>COURSE TITLES</th>
<th>COURSE NUMBERS</th>
<th>CREDIT HOURS</th>
</tr>
</thead>
<tbody>
<tr>
<td>LA Freshman English I</td>
<td>LA100</td>
<td>3</td>
</tr>
<tr>
<td>Freshman English II*</td>
<td>LA101</td>
<td>3</td>
</tr>
<tr>
<td>HU Humanities I</td>
<td>HU200</td>
<td>4</td>
</tr>
<tr>
<td>Humanities II</td>
<td>HU201</td>
<td>4</td>
</tr>
<tr>
<td>NS Biological Science**</td>
<td>NS100</td>
<td>4</td>
</tr>
<tr>
<td>Physical Science**</td>
<td>NS101</td>
<td>4</td>
</tr>
<tr>
<td>SS Intro to Social Science I</td>
<td>SS110</td>
<td>4</td>
</tr>
<tr>
<td>Intro to Social Science II***</td>
<td>SS111</td>
<td>4</td>
</tr>
</tbody>
</table>

| TOTAL REQUIRED HOURS   | 30            |
| TOTAL ELECTIVE HOURS   | 30            |
| TOTAL FOR DEGREE       | 60            |

* OR (having earned B+ or better in LA100) any other language arts courses except speech or drama

** OR (with sufficient science background) any other TWO science laboratory courses

*** OR any other TWO social science courses
## DEGREE INFORMATION

### ASSOCIATE DEGREE IN APPLIED ARTS AND SCIENCES

<table>
<thead>
<tr>
<th>COURSE TITLES</th>
<th>COURSE NUMBERS</th>
<th>CREDIT HOURS</th>
</tr>
</thead>
<tbody>
<tr>
<td>LA Freshman English I</td>
<td>LA100</td>
<td>3</td>
</tr>
<tr>
<td>Freshman English II*</td>
<td>LA101</td>
<td>3</td>
</tr>
<tr>
<td>SS Intro to Social Science I</td>
<td>SS110</td>
<td>4</td>
</tr>
<tr>
<td>Intro to Social Science II**</td>
<td>SS111</td>
<td>4 or 3</td>
</tr>
</tbody>
</table>

**LIBERAL ARTS REQUIRED HOURS**

14 or 13

**PROGRAM REQUIREMENTS**

(See specific program description)

**TOTAL FOR DEGREE**

60+

* OR (having earned B+ or better in LA100) any language arts courses except speech or drama

** OR Biological Science or Physical Science

NS100 or NS101

OR Humanities I or Humanities II

HU200 or HU201

OR any other social science course

**NOTE:** Nursing students see page 26 for degree requirements
DEGREE INFORMATION

ASSOCIATE DEGREE IN GENERAL STUDIES

<table>
<thead>
<tr>
<th>COURSE TITLES</th>
<th>COURSE NUMBERS</th>
<th>CREDIT HOURS</th>
</tr>
</thead>
<tbody>
<tr>
<td>SS Intro to Social Science I</td>
<td>SS110</td>
<td>4</td>
</tr>
<tr>
<td>OR</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SS Political Science</td>
<td>SS240</td>
<td>3</td>
</tr>
</tbody>
</table>

Other academic courses (must include courses from at least three of the academic areas: humanities, language arts, mathematics, natural science, and social science).

TOTAL REQUIRED HOURS 15
TOTAL ELECTIVE HOURS 45
TOTAL FOR DEGREE 60+
MULTIPLE DEGREE PROCEDURE

A student may earn all three of MCC's degrees if he/she meets the requirements for those degrees. However, if a student has already received (or is receiving) an AAS or an AAAS degree, he/she may not apply for an Associate Degree in General Studies.

To receive an Applied Arts and Science degree a student must complete the degree requirements spelled out for that program. The completion of a certificate program coupled with general education courses is not sufficient to qualify for an AAAS degree.

Students may receive more than one AAAS degree if they fulfill the requirements specified by the department. However, a student may earn only one AAAS degree within a department (e.g. Business Studies, including Business Data Processing, and Office Education). Students may complete more than one area of concentration within a department. Each area of concentration will be noted on the degree. While a second degree will not be granted, an area of concentration completed after the AAAS degree is issued will be noted on the transcript.
GRADING SYSTEM

Academic achievement will be appraised and recorded by means of the following system of letter grades:

<table>
<thead>
<tr>
<th>GRADE</th>
<th>HONOR POINT VALUE</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>4.0</td>
</tr>
<tr>
<td>A-</td>
<td>3.7</td>
</tr>
<tr>
<td>B+</td>
<td>3.3</td>
</tr>
<tr>
<td>B</td>
<td>3.0</td>
</tr>
<tr>
<td>B-</td>
<td>2.7</td>
</tr>
<tr>
<td>C+</td>
<td>2.3</td>
</tr>
<tr>
<td>C</td>
<td>2.0</td>
</tr>
<tr>
<td>C-</td>
<td>1.7</td>
</tr>
<tr>
<td>D+</td>
<td>1.3</td>
</tr>
<tr>
<td>D</td>
<td>1.0</td>
</tr>
<tr>
<td>D-</td>
<td>0.7</td>
</tr>
<tr>
<td>E</td>
<td>Failure</td>
</tr>
<tr>
<td>WP</td>
<td>Withdraw while passing</td>
</tr>
<tr>
<td>WF</td>
<td>Withdraw while failing</td>
</tr>
<tr>
<td>I</td>
<td>Incomplete (see note below)</td>
</tr>
<tr>
<td>V</td>
<td>Audit (see note below)</td>
</tr>
<tr>
<td>*S</td>
<td>Satisfactory completion</td>
</tr>
<tr>
<td>*U</td>
<td>Unsatisfactory</td>
</tr>
</tbody>
</table>

NOTE: Incomplete Grades - The "I" grade will be employed sparingly. It will be awarded in the case where a student has found it impossible to complete required coursework by the close of a semester for reasons beyond the student's control. It is an indication by the instructor of his belief that the student will receive a passing grade when the requirements have been fulfilled. Upon mutual written agreement (Incomplete Form) between student and instructor, the following procedure will be observed:

1. An "I" mark shall be entered on the record when a course of study is incomplete at the termination of the scheduled semester.

2. An "I" mark shall remain without alteration indefinitely or until such time as the requirements of the course are satisfied and warranted in writing by the instructor to the Recorder.

3. An "I" mark shall not be averaged with other grades to establish a grade point average (GPA).

4. Any student who receives veteran's benefits and receives an "I" in a course has one year to complete the "I".

NOTE: Audit - applies to the situation where a person pays tuition for a course but is not required to complete assignments or examinations. No credit is given for auditing a class.

*"S" (satisfactory completion) and "U" (unsatisfactory completion grades will be used only for the following courses: SD150, SD151, SD152, SD153, SD156, SD160, SD161, SD162, SD163, SD170, SD175, NUR115, NUR116, NUR117, and those courses for which competency exams are submitted.
INFORMATION FOR TRANSFER STUDENTS

STATEWIDE COLLEGE AND UNIVERSITY ARTICULATION AGREEMENT

The Michigan Association of Collegiate Registrars and Admissions Officers (MACRAO) Transfer Agreement was established to improve transfer student articulation between two-year and four-year colleges in Michigan. MCC is a participant in this agreement with the following Michigan four-year institutions:

Adrian College
Albion College
Alma College
Andrews University
Aquinas College
Central Michigan University
Cleary College
Detroit College of Business
Eastern Michigan University
 Ferris State College
General Motors Institute
Grand Valley State College
Hope College
John Wesley College
Kalamazoo College
Lake Superior State College
Lawrence Institute of Technology
Madonna College
Marygrove College
Michigan State University
Michigan Technological University
Nazareth College
Northern Michigan University
Northwood Institute
Oakland University
Olivet College
Saginaw Valley State College
Shaw College
Siena Heights College
Spring Arbor College
Western Michigan University

This agreement provides that a student who completes the Associate Degree in Arts and Sciences at MCC and who is accepted as a transfer student by one of these schools will have satisfied the basic general education requirements of that four-year college. The specific requirements of the MACRAO agreement are:

1. English Composition 6 Semester Hours or 9 Quarter Hours
2. Humanities 8 Semester Hours or 12 Quarter Hours
3. Social Sciences 8 Semester Hours or 12 Quarter Hours
4. Natural Sciences 8 Semester Hours or 12 Quarter Hours

QUESTIONS: Which courses does MCC require? Which courses do four-year colleges recommend that a transfer student take at the community college level? Which electives are most useful in a given specialized field of study? Who has the answers to such questions?

ANSWERS: We have the answers! The following page contains information about several concentrations of study (majors) which one might pursue in the completion of a baccalaureate degree at a four-year college. SEE AN MCC COUNSELOR for more details about this IMPORTANT PLANNING! The information provided here will change as four-year institutions change their degree requirements. You SHOULD CONTACT the admissions office at the four-year college or university which you expect to attend (as soon as possible after beginning at Montcalm).

This information cannot be considered as an agreement or contract between the individual student and Montcalm Community College or its staff.
INFORMATION FOR CERTIFICATES AND APPLIED ARTS AND SCIENCES DEGREES

The certificate and degree programs listed on the following pages are designed for students who wish to complete a specialized training education before entering the job market. Students planning to transfer to a four-year (senior) college or university should consult with a counselor to determine whether it is best to select courses other than those listed herein, in order to maximize transferability of credits to upper level colleges and universities.

This document was prepared on December 1, 1986 and is subject to change without prior notice and therefore cannot be considered as an agreement or contract between the individual student and Montcalm Community College or its staff.
CERTIFICATE AND DEGREE GUIDELINES AND PROGRAMS

ARTS AND SCIENCES DEGREE GUIDELINES

Arts
Biological Sciences
Language Arts
Physical Education
Physical Sciences
Social Sciences

CERTIFICATE PROGRAMS

Apprentice Training
Automotive Servicing
Cosmetology
Criminal Justice
Drafting
Electrical Technology
Emergency Medical Technician
Food Service Technology
Machine Tool Operation
Nursing
Office Education
Clerk-Typist
Legal Office Assistant
Medical Office Assistant
Stenographer
Word Processing
Small Business Development/Management
Welding

APPLIED ARTS AND SCIENCES DEGREE PROGRAMS

Automotive Technology
Business Data Processing
Business Studies
Accounting
Business Administration
Small Business Development/Management
Criminal Justice
Drafting Technology
Food Service Technology
Industrial Technology
Nursing
Office Education
Executive Secretary
Legal Secretary
Medical Secretary
Word Processing
Radiological Technology (1+1 Agreement)
ART
ARTS AND SCIENCES
ASSOCIATE DEGREE PROGRAM

This is a two-year program in the liberal arts leading to an Associate Degree in Arts and Sciences with an emphasis in art. The objective of this program is to provide the background and skills necessary to continue study in the field of the visual arts.

FIRST YEAR

<table>
<thead>
<tr>
<th>FALL SEMESTER</th>
<th></th>
<th>SPRING SEMESTER</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Freshman English I</td>
<td>LA100</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Intro to Social Science I</td>
<td>SS110</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Intro to Art</td>
<td>HU120</td>
<td>2</td>
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<tr>
<td>Drawing I or Sketching</td>
<td>HU122</td>
<td>3</td>
<td></td>
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<tr>
<td>Painting I</td>
<td>HU125</td>
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<table>
<thead>
<tr>
<th>SECOND YEAR</th>
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<tbody>
<tr>
<td>Humanities I</td>
<td>HU200</td>
<td>4</td>
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</tr>
<tr>
<td>Biological Science</td>
<td>NS100</td>
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<tr>
<td>Ceramics I</td>
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<td>Painting III</td>
<td>HU227</td>
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<td>Art &quot;Teaching Courses&quot;</td>
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<tr>
<td>Elective</td>
<td></td>
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</tbody>
</table>

SUGGESTED ELECTIVES:

History
Philosophy
Literature

*See alternatives listed under requirements for the Associate Degree in Arts and Sciences (page 10)
BIOLOGICAL SCIENCES
ARTS AND SCIENCES
ASSOCIATE DEGREE PROGRAM

This is a two-year program in the liberal arts leading to an Associate Degree in Arts and Sciences with an emphasis in biology. The objective of this program is to provide the background and skills necessary to continue study in the field of biological science.

FIRST YEAR

<table>
<thead>
<tr>
<th>FALL SEMESTER</th>
<th>SPRING SEMESTER</th>
</tr>
</thead>
<tbody>
<tr>
<td>Freshman English I</td>
<td>Freshman English II*</td>
</tr>
<tr>
<td>College Chemistry I</td>
<td>College Chemistry II</td>
</tr>
<tr>
<td>Botany</td>
<td>Zoology</td>
</tr>
<tr>
<td>Math Elective</td>
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<td>LA100 3</td>
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<tr>
<td>NS110 4</td>
<td>NS115 4</td>
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SECOND YEAR

<table>
<thead>
<tr>
<th>FALL SEMESTER</th>
<th>SPRING SEMESTER</th>
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</thead>
<tbody>
<tr>
<td>Humanities I</td>
<td>Humanities II</td>
</tr>
<tr>
<td>Intro to Social Science I</td>
<td>Intro to Social Science II*</td>
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<tr>
<td>Anatomy and Physiology I</td>
<td>Anatomy and Physiology II</td>
</tr>
<tr>
<td>Science Elective</td>
<td>Science Elective</td>
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<tr>
<td>HU200 4</td>
<td>HU201 4</td>
</tr>
<tr>
<td>SS110 4</td>
<td>SS111 4</td>
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<tr>
<td>NS103 4</td>
<td>NS203 4</td>
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</table>

SCIENCE ELECTIVES

Microbiology NS201
Intro to Physics I & II NS230/231
Earth Science NS102

MATH ELECTIVES

Intermediate Algebra MA104
Trigonometry MA102
College Algebra MA159
Analytic Geometry MA160

*See alternatives listed under requirements for the Associate Degree in Arts and Sciences (page 10).
**LANGUAGE ARTS**

**ARTS AND SCIENCES**

**ASSOCIATE DEGREE PROGRAM**

This is a two-year program in the liberal arts leading to an Associate Degree in Arts and Sciences with an emphasis in the language arts. The objective of this program is to provide the background and skills necessary to continue study in the field of language arts (literature, speech, communications).

### FIRST YEAR

<table>
<thead>
<tr>
<th>FALL SEMESTER</th>
<th>SPRING SEMESTER</th>
</tr>
</thead>
<tbody>
<tr>
<td>Freshman English I</td>
<td>LA100 3</td>
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<tr>
<td>Intro to Social Science I</td>
<td>LA101 3</td>
</tr>
<tr>
<td>American Thought &amp; Lit I</td>
<td>Intro to Social Science II*</td>
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<tr>
<td>Speech</td>
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<tr>
<td>Elective</td>
<td>SS111 4</td>
</tr>
<tr>
<td></td>
<td>American Thought &amp; Lit II</td>
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<td>LA200 3</td>
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<td>Elective</td>
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<td>LA210 3</td>
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### SECOND YEAR

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<tbody>
<tr>
<td>Humanities I</td>
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<td>English Literature I</td>
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<td>Biological Science</td>
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<td></td>
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<td></td>
<td>LA220 3</td>
</tr>
<tr>
<td></td>
<td>Elective</td>
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</table>

### LITERATURE ELECTIVES:

- Short Story: LA230
- Children's Literature: LA235
- The Novel: LA240
- Drama as Literature: LA260
- Drama as a Performing Art: LA261
- Poetry: LA270

### OTHER ELECTIVES:

- U.S. History to 1865: SS250
- U.S. History since 1865: SS251
- Michigan History: SS120
- General Psychology: SS220
- Economics: SS215
- Intro to Philosophy: HU220

*See alternatives listed under requirements for the Associate Degree in Arts and Sciences (page 10).*
PHYSICAL EDUCATION  
ARTS AND SCIENCES  
ASSOCIATE DEGREE PROGRAM

This is a program in liberal arts leading to an Associate Degree in Arts and Sciences with an emphasis in physical education. The objective of this program is to provide the background and skills necessary to continue study toward possible majors in secondary education with a minor in coaching; plus physical education and sport curriculum leading to employment in general recreation areas or therapeutic recreation; business; TV production; or health services management. A minimum of 60 credit hours is required to obtain a degree.

**FIRST YEAR**

<table>
<thead>
<tr>
<th>FALL SEMESTER</th>
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</thead>
<tbody>
<tr>
<td>Freshman English I</td>
<td>Freshman English II*</td>
</tr>
<tr>
<td>Intro to Social Science I</td>
<td>Intro to Social Science II*</td>
</tr>
<tr>
<td>Biological Science</td>
<td>Speech</td>
</tr>
<tr>
<td>Intermediate Algebra</td>
<td>Sports Fundamentals I</td>
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<tr>
<td>Personalized Body Cond.</td>
<td>Electives</td>
</tr>
<tr>
<td>or Intro to Physical Fit</td>
<td></td>
</tr>
<tr>
<td></td>
<td>PE103 1</td>
</tr>
<tr>
<td></td>
<td>LA101 3</td>
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<tr>
<td></td>
<td>SS111 4</td>
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<tr>
<td></td>
<td>LA210 3</td>
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<td></td>
<td>PE105 1</td>
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**SECOND YEAR**

<table>
<thead>
<tr>
<th>FALL SEMESTER</th>
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</tr>
</thead>
<tbody>
<tr>
<td>College Chemistry</td>
<td>General Psychology</td>
</tr>
<tr>
<td>Anatomy &amp; Physiology I</td>
<td>Anatomy &amp; Physiology II</td>
</tr>
<tr>
<td>Humanities I</td>
<td>Humanities II</td>
</tr>
<tr>
<td>Sports Officiating</td>
<td>Emergency Health Care</td>
</tr>
<tr>
<td>Beginning Swimming</td>
<td>Elective</td>
</tr>
<tr>
<td>Elective</td>
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</tbody>
</table>

It is a requirement that all students taking Physical Education courses submit evidence of physical fitness from their doctor to Montcalm Community College and this form will be placed in the student's file and kept on record for one year.

CMU's PED designated courses are subject to a limitation of six hours toward curriculum requirements for graduation.

**SUGGESTED ELECTIVES**

- Introduction to Business  BA135
- Principles of Marketing  BA233
- Small Business Management  BA235
- Management  BA237
- Intro to Elec Data Process  DP110
- Introduction to BASIC  DP112

*See alternatives listed under requirements for the Associate Degree in Arts and Sciences (page 10).
This is a two-year program in the liberal arts leading to an Associate Degree in Arts and Sciences with an emphasis in the physical sciences. The objective of this program is to provide the background and skills necessary to continue study in the field of physical science (physics and chemistry).

**FIRST YEAR**

<table>
<thead>
<tr>
<th>FALL SEMESTER</th>
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</thead>
<tbody>
<tr>
<td>Freshman English I</td>
<td>Freshman English II*</td>
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<tr>
<td>LA100 3</td>
<td>LA101 3</td>
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<tr>
<td>College Chemistry I</td>
<td>College Chemistry II</td>
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<tr>
<td>NS220 4</td>
<td>NS221 4</td>
</tr>
<tr>
<td>Intro to College Physics I</td>
<td>Intro to College Physics II</td>
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<tr>
<td>NS111 4</td>
<td>NS112 4</td>
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<tr>
<td>College Algebra</td>
<td>Analytic Geometry</td>
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<td>MA159 3</td>
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**SECOND YEAR**

<table>
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<tr>
<th>FALL SEMESTER</th>
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</tr>
</thead>
<tbody>
<tr>
<td>Humanities</td>
<td>Humanities II</td>
</tr>
<tr>
<td>HU200 4</td>
<td>HU201 4</td>
</tr>
<tr>
<td>Intro to Social Science I</td>
<td>Intro to Social Science II*</td>
</tr>
<tr>
<td>SS110 4</td>
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<tr>
<td>Calculus I</td>
<td>Calculus II</td>
</tr>
<tr>
<td>MA250 4</td>
<td>MA251 4</td>
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<tr>
<td>Elective, 3-4</td>
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</tr>
</tbody>
</table>

**SCIENCE ELECTIVES:**

- Biological Science NS100
- Earth Science NS102
- Botany NS110
- Zoology NS115
- Nature Study NS208

*See alternatives listed under requirements for the Associate Degree in Arts and Sciences (page 10).
SOCIAL SCIENCE
ARTS AND SCIENCES
ASSOCIATE DEGREE PROGRAM

This is a two year program in the liberal arts leading to an Associate Degree in Arts and Sciences with an emphasis in the social sciences. The objective of this program is to provide the background and skills necessary to continue study in the field of social science.

FIRST YEAR

<table>
<thead>
<tr>
<th>FALL SEMESTER</th>
<th>SPRING SEMESTER</th>
</tr>
</thead>
<tbody>
<tr>
<td>Freshman English I</td>
<td>Freshman English II*</td>
</tr>
<tr>
<td>Intro to Social Science I</td>
<td>Intro to Social Science II*</td>
</tr>
<tr>
<td>U.S. History to 1865</td>
<td>U.S. History since 1865</td>
</tr>
<tr>
<td>Sociology</td>
<td>Social Problems</td>
</tr>
<tr>
<td>LA100</td>
<td>LA101</td>
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<td>SS110</td>
<td>SS111</td>
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<tr>
<td>SS250</td>
<td>SS251</td>
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<td>SS230</td>
<td>SS235</td>
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SECOND YEAR

<table>
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<th>FALL SEMESTER</th>
<th>SPRING SEMESTER</th>
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</thead>
<tbody>
<tr>
<td>Humanities I</td>
<td>Humanities II</td>
</tr>
<tr>
<td>General Psychology</td>
<td>Child Psychology</td>
</tr>
<tr>
<td>Cultural Anthropology</td>
<td>Principles of Economics</td>
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<tr>
<td>Biological Science</td>
<td>Physical Science</td>
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<tr>
<td>HU200</td>
<td>HU201</td>
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<td>SS220</td>
<td>SS221</td>
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<td>NS100</td>
<td>NS101</td>
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<td>4</td>
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</table>

SUGGESTED ELECTIVES

Michigan History                        SS255
Speech                                  LA210
American Literature                     LA200/LA201
Math                                     MA104
Intro to Philosophy                     HU220
Foreign Language                        FL

*See alternatives listed under requirements for the Associate Degree in Arts and Sciences (page 10).
ALLIED HEALTH
EMERGENCY MEDICAL TECHNICIAN CERTIFICATE

This is a one semester course granting a certificate of completion for the Emergency Medical Technician program. This program of study allows the successful student eligibility to challenge the Michigan Department of Public Health State Examination and be licensed as an EMT. The course requires six hours of lecture per week for 16 weeks and six hours of clinical practice in one of several local cooperating hospitals starting in the sixth week of the semester. It is recommended that the student enroll in Emergency Health Care, PE205, prior to the EMT course. 9 credit hours are required.

<table>
<thead>
<tr>
<th>FALL SEMESTER</th>
<th>SPRING SEMESTER</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emergency Medical Tech</td>
<td>Emergency Health Care</td>
</tr>
<tr>
<td>AH200 9</td>
<td>PE205 2</td>
</tr>
</tbody>
</table>

RECOMMENDED SCHEDULE
APPRENTICE TRAINING
CERTIFICATE

Admission into the apprenticeship training program is gained by way of employment and sponsorship by the employer and depends upon a training agreement between the employer, employee, and the United States Bureau of Apprenticeship and Training. Montcalm Community College coordinates the training plan and provides the related instruction.

Each semester of apprenticeship "related instruction" is 16 weeks in length, with the trainee usually taking two courses per semester. A competency examination may result in a waiver of a required course. Official transcripts may also be used for this purpose.

Entrance requirements are established by the employer in accordance with existing Bureau of Apprenticeship and Training standards. Continuation in the training program is dependent upon employment status and level of achievement.

The related instruction schedule shown below is for apprentice tool and die designers. Programs for machinists, plastic mold designers, mold and die makers, and auto mechanics are also available. 32 credit hours are required for completion.

<table>
<thead>
<tr>
<th>FIRST LEVEL COURSES</th>
<th>SECOND LEVEL COURSES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shop Math I</td>
<td>Sketching</td>
</tr>
<tr>
<td>Shop Drawing</td>
<td>Layout &amp; precision Measure</td>
</tr>
<tr>
<td>Blueprint Reading</td>
<td>Shop Math III</td>
</tr>
<tr>
<td>Shop Math II</td>
<td>Ind Safety &amp; First Aid</td>
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<tr>
<td>MA110 2</td>
<td>HU121 2</td>
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<td>TD106 2</td>
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<td>TD105 2</td>
<td>MA112 2</td>
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<tr>
<td>MA111 2</td>
<td>IT155 2</td>
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</table>

<table>
<thead>
<tr>
<th>THIRD LEVEL COURSES</th>
<th>FOURTH LEVEL COURSES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Machine Tool Theory</td>
<td>Tool &amp; Die Design II</td>
</tr>
<tr>
<td>Industrial Quality Control</td>
<td>Metallurgy &amp; Heat Treatment</td>
</tr>
<tr>
<td>TIG Welding</td>
<td>Tool &amp; Die Design III</td>
</tr>
<tr>
<td>Tool &amp; Die Design I</td>
<td>Basic CNC Operation</td>
</tr>
<tr>
<td>IT100 2</td>
<td>TD136 2</td>
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<tr>
<td>IT270 2</td>
<td>IT130 2</td>
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<tr>
<td>WE125 2</td>
<td>TD137 2</td>
</tr>
<tr>
<td>TD135 2</td>
<td>IT102 2</td>
</tr>
</tbody>
</table>

THESE COURSES ARE NOT LIMITED TO APPRENTICESHIP STUDENTS ONLY.
AUTOMOTIVE SERVICING
CERTIFICATE

The automotive servicing curriculum provides for the development of the skill and knowledge essential in the repair and maintenance of engines, electrical and other automotive systems. Laboratory instruction is performed on modern equipment and operating training units. 31 credit hours are required for a certificate. Personal hand tools are required.

**FALL SEMESTER**
- Auto Tools & Hardware AM104 1
- Engine Servicing I AM106 2
- Auto Brakes & Servicing AM108 3
- Engine Servicing Theory II AM124 2
- Concepts in Electricity EL100 3
- Shop Math I MA110 2
- Improving Reading & Writing SD175 3

**SPRING SEMESTER**
- Auto Electrical Sys Theory I AM140 2
- Auto Electrical Sys Lab I AM141 3
- Customer Relations BA251 2
- Hydraulics & Fluid Mechanics IT253 3
- Automotive Welding WE110 3
- AM Elective

This program prepares the student for passing three of the state certification tests, and is intended to help the student obtain his/her first automotive maintenance job.

AUTOMOTIVE TECHNOLOGY
APPLIED ARTS AND SCIENCES ASSOCIATE DEGREE
(PENDING CURRICULUM COMMITTEE APPROVAL)

This program is designed to give the technical student basic preparation in several automotive subjects, and at the same time, to provide a deeper understanding of the underlying concepts influencing business and society, of which the automobile is such an important part. Graduates may seek employment as technical representatives or sales person, or request admission to the Bachelor's Degree program with advanced standing. Personal hand tools required.

**FIRST YEAR**

**FALL SEMESTER**
- Concepts in Electricity EL100 3
- Freshman English I LA100 3
- Intermediate Algebra MA104 3
- Auto Tools & Hardware AM104 1
- Engine Servicing Theory I AM106 2
- AM Elective

**SPRING SEMESTER**
- Freshman English II* LA101 3
- Trigonometry MA102 3
- Intro to Elec Data Process DP110 3
- Auto Electrical Sys Theory I AM140 2
- AM Elective
- Intro to College Physics I NS111 3
- Intro to Social Science I SS110 4
- Automatic Trans Theory AM230 2
- Automatic Trans Lab AM231 2
- Auto Elec Sys Theory II AM142 2
- AM Elective

**SECOND YEAR**

**SPRING SEMESTER**
- Intro to College Physics II NS112 3
- Intro to Social Science II* SS112 4
- Hydraulics & Fluid Mechanics IT253 3
- Automotive Parts & Serv Mgmt AM204 2
- AM Electives** 4

**AM Internship available to qualified students only.**

*See alternatives listed under requirements for the Associate Degree in Applied Arts and Sciences (page 7). Approved AM electives (see pages 41-45). Other recommendations: Customer Relations (BA251), Beginning Typing (OE100), Sketching (HU121), Technical Drafting (TD100), Automotive Welding (WE110).
LICENCES AND CERTIFICATION

Professional Auto Service Technicians are required to hold a State License with certifications appropriate to their work. There are eight certification areas; each has its own test. National ASE tests and certificates are also available in these same subjects, and are accepted by most states in place of their own. Many employers prefer to hire ASE licensed technicians. MCC offers coursework, both theoretical and practical, which prepares students to pass tests in either series.

Listed below are the eight state and national testing areas, together with the recommended MCC courses needed to fully prepare for each. A person with previous training or experience, or who has not completed high school, should check with an automotive instructor for special recommendations.

**BRAKES**

Automotive Tools & Hardware AM104  
Automotive Brakes & Servicing AM108  
Hydraulics & Fluid Mechanics IT253

**FRONT-END SUSPENSION, STEERING**

Automotive Tools & Hardware AM104  
Automotive Brakes & Servicing AM108  
Hydraulics & Fluid Mechanics IT153  
Auto Steer. & Susp. Theory AM130  
Auto Steer. & Susp. Lab AM131

**ENGINE REPAIR**

Automotive Tools & Hardware AM104  
Engine Servicing I AM106  
Engine Servicing Theory II AM124  
Engine Servicing Lab II AM125

**ENGINE TUNE-UP AND PERFORMANCE**

Concepts in Electricity EL100  
Auto Tools & Hardware AM104  
Engine Servicing I AM106  
Engine Servicing Theory II AM124  
Engine Servicing Lab II AM125  
Auto Engine Perf Theory I AM210  
Auto Engine Perf Lab I AM211  
Auto Engine Perf Theory II AM212  
Auto Engine Perf Lab II AM213

**MANUAL TRANSMISSIONS, DIFFERENTIALS AND DRIVE TRAINS**

Automotive Tools & Hardware AM104  
Manual Transmission Theory AM132  
Manual Transmission Lab AM133

**HEATING, VENTILATING, AND AIR CONDITIONING**

Automotive Tools & Hardware AM104  
Auto Heating & Air Con. Theory AM260  
Auto Heating & Air Con. Lab AM261

**AUTOMATIC TRANSMISSIONS**

Hydraulics & Fluid Mechanics IT253  
Automotive Tools & Hardware AM104  
Engine Servicing I AM106  
Automatic Transmission Theory AM230  
Automatic Transmission Lab AM231

**ELECTRICAL SYSTEMS**

Concepts in Electricity EL100  
Auto Tools & Hardware AM104  
Auto Electrical Sys Theory I AM140  
Auto Electrical Sys Lab I AM141  
Auto Electrical Sys Theory II AM142  
Auto Electrical Sys Lab II AM143
BUSINESS STUDIES
APPLIED ARTS AND SCIENCES
ASSOCIATE DEGREE
ACCOUNTING

This is a two-year program leading to an Associate Degree in Applied Arts and Sciences with an emphasis in accounting. The objective of this program is to provide the background and skills necessary for an entrance job in the accounting field. 60 credit hours are required to obtain a degree.

<table>
<thead>
<tr>
<th>FIRST YEAR</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>FALL SEMESTER</strong></td>
<td><strong>SPRING SEMESTER</strong></td>
</tr>
<tr>
<td>Freshman English I</td>
<td>LA100</td>
</tr>
<tr>
<td>Financial Accounting</td>
<td>BA115</td>
</tr>
<tr>
<td>Introduction to Business</td>
<td>BA135</td>
</tr>
<tr>
<td>Intro to Elec Data Process</td>
<td>DP110</td>
</tr>
<tr>
<td>Elective</td>
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<table>
<thead>
<tr>
<th>SECOND YEAR</th>
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<tbody>
<tr>
<td><strong>FALL SEMESTER</strong></td>
<td><strong>SPRING SEMESTER</strong></td>
</tr>
<tr>
<td>Intro to Social Science I</td>
<td>SS110</td>
</tr>
<tr>
<td>Cost Accounting I</td>
<td>BA215</td>
</tr>
<tr>
<td>Legal Environ of Business</td>
<td>BA200</td>
</tr>
<tr>
<td>Principles of Economics</td>
<td>SS215</td>
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<td>Elective</td>
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**SUGGESTED ELECTIVES**

<table>
<thead>
<tr>
<th>Intro to Computer Programming</th>
<th>DP115</th>
</tr>
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<tbody>
<tr>
<td>Managerial Mathematics</td>
<td>MA116</td>
</tr>
<tr>
<td>Keyboarding</td>
<td>SD145</td>
</tr>
</tbody>
</table>

*See alternatives listed under requirements for the Associates Degree in Applied Arts and Sciences (page 7).*
BUSINESS STUDIES
APPLIED ARTS AND SCIENCES
ASSOCIATE DEGREE
BUSINESS ADMINISTRATION

This is a two-year program leading to an Associate Degree in Applied Arts and Sciences with an emphasis in business administration. The objective of this program is to provide the background skills necessary for an entrance job in the business field. 60 credit hours required.

**FIRST YEAR**

<table>
<thead>
<tr>
<th>FALL SEMESTER</th>
<th>SPRING SEMESTER</th>
</tr>
</thead>
<tbody>
<tr>
<td>Freshman English I</td>
<td>Freshman English II*</td>
</tr>
<tr>
<td>LA100 3</td>
<td>LA101 3</td>
</tr>
<tr>
<td>Financial Accounting</td>
<td>Managerial Accounting</td>
</tr>
<tr>
<td>BA115 4</td>
<td>BA116 4</td>
</tr>
<tr>
<td>Introduction to Business</td>
<td>Human Relations</td>
</tr>
<tr>
<td>BA135 3</td>
<td>~BA250* 3</td>
</tr>
<tr>
<td>Intro to Elec Data Proc</td>
<td>Speech</td>
</tr>
<tr>
<td>DP110 3</td>
<td>LA210* 3</td>
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**SECOND YEAR**

<table>
<thead>
<tr>
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</thead>
<tbody>
<tr>
<td>Intro to Social Science I</td>
<td>Intro to Social Science II*</td>
</tr>
<tr>
<td>SS110 4</td>
<td>SS111 4</td>
</tr>
<tr>
<td>Legal Environ of Business</td>
<td>Advertising</td>
</tr>
<tr>
<td>BA200 3</td>
<td>BA248 3</td>
</tr>
<tr>
<td>Marketing</td>
<td>General Psychology</td>
</tr>
<tr>
<td>BA233 3</td>
<td>SS220* 3</td>
</tr>
<tr>
<td>Management</td>
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</tr>
<tr>
<td>BA237 3</td>
<td>Elective</td>
</tr>
<tr>
<td>Principles of Economics</td>
<td>Elective</td>
</tr>
<tr>
<td>SS215 3</td>
<td></td>
</tr>
</tbody>
</table>

**SUGGESTED ELECTIVES**

- Intro to Computer Programming: DP115
- College Algebra: MA159
- Retailing: BA234
- Accounting for Small Business: BA105
- Entrepreneurship: BA136
- Small Business Management: BA235
- Customer Relations: BA251
- Financial Principles: BA252
- Purchasing: BA255
- Sales Management: BA265
- Credits and Collections: BA268
- Industrial Relations: BA273

*See alternatives listed under requirements for the Associate Degree in Applied Arts and Sciences (page 11).
BUSINESS STUDIES
CERTIFICATE
SMALL BUSINESS DEVELOPMENT/MANAGEMENT

The one-year certificate in Small Business Development/Management will prepare the student to handle bookkeeping, determine prices, deal with customers, employ some computer applications, and assist in new business development. 29 credit hours required.

**FALL SEMESTER**
- Entrepreneurship  
  BA136 3
- Intro to Elec Data Process  
  DP110 3
- Business Mathematics  
  OE120 3
- Legal Environ of Business  
  BA200 3
- Marketing  
  BA233 3

**SPRING SEMESTER**
- Small Business Management  
  BA235 3
- Customer Relations  
  BA251 2
- Acctg for Small Business  
  BA105 3
- Microcomputers - Operating Systems and Applications  
  DP116 3
- Retailing  
  BA234 3

**SMALL BUSINESS DEVELOPMENT/MANAGEMENT**
**APPLIED ARTS AND SCIENCES ASSOCIATE DEGREE**

The two-year associate degree program is designed to prepare the student to start up a new business venture, determine vendors, price merchandise, use a microcomputer for accounting purposes, recruit and select employees and handle public relations. An Associate Degree in Applied Arts and Sciences will be awarded upon successful completion of at least 60 credit hours including the coursework described below. 60 credit hours are required.

**FIRST YEAR**

**FALL SEMESTER**
- Freshman English I  
  LA100 3
- Financial Accounting  
  BA115 3
- Entrepreneurship  
  BA136 3
- Intro to Elec Data Process  
  DP110 3
- Marketing  
  BA233 3

**SPRING SEMESTER**
- Freshman English II*  
  LA101 3
- Advertising  
  BA248 3
- Speech  
  LA210 3
- Small Business Management  
  BA235 3
- Elective

**SECOND YEAR**

**FALL SEMESTER**
- Intro to Social Science I  
  SS110 4
- Legal Environ of Business  
  BA200 3
- Business Mathematics  
  OE120 3
- Principles of Economics  
  SS215 3
- Microcomputers - Operating Systems and Applications  
  DP116 3

**SPRING SEMESTER**
- Intro to Social Science II*  
  SS111 4
- Retailing  
  BA234 3
- Customer Relations  
  BA251 2
- General Psychology  
  SS220 3
- Elective

**SUGGESTED ELECTIVES**
- Management  
  BA237
- COBOL Programming  
  DP120
- Managerial Accounting  
  BA116
- Accounting for Small Business  
  BA105
- Introduction to Business  
  BA135
- Intro to Computer Programming  
  DP115

*See alternatives listed under requirements for the Associate Degree in Applied Arts and Sciences (page 11).
This is a two-year program leading to an Associate Degree in Applied Arts and Sciences with a specialty in Business Data Processing. The objective of this program is to provide the background and skills necessary for an entrance job in the business data processing field. 60 credit hours required.

**FIRST YEAR**

<table>
<thead>
<tr>
<th>FALL SEMESTER</th>
<th>SPRING SEMESTER</th>
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<tbody>
<tr>
<td>Freshman English I</td>
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<tr>
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<td>Managerial Accounting</td>
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<tr>
<td>Introduction to Business</td>
<td>Human Relations</td>
</tr>
<tr>
<td>Intro to Elec Data Process</td>
<td>Intro to Computer Program</td>
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<tr>
<td>Elective</td>
<td>Elective</td>
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<td>LA100 3</td>
<td>LA101 3</td>
</tr>
<tr>
<td>BA115 4</td>
<td>BA116 4</td>
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<td>BA135 3</td>
<td>BA250 3</td>
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<td>DP110 3</td>
<td>DP115 3</td>
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**SECOND YEAR**

<table>
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<tr>
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</thead>
<tbody>
<tr>
<td>Intro to Social Science I</td>
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<td>RPGII Programming</td>
</tr>
<tr>
<td>Management</td>
<td>Programming Project</td>
</tr>
<tr>
<td>COBOL Programming</td>
<td>Speech</td>
</tr>
<tr>
<td>Systems Concepts/Design</td>
<td></td>
</tr>
<tr>
<td>SS110 4</td>
<td>SS111 4</td>
</tr>
<tr>
<td>BA200 3</td>
<td>DP125 3</td>
</tr>
<tr>
<td>BA237 3</td>
<td>DP290 3</td>
</tr>
<tr>
<td>DP120 3</td>
<td>LA210 3</td>
</tr>
<tr>
<td>DP240 3</td>
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</table>

**THIS PROGRAM IS BEING REVISED AND UPDATED FOR FALL 1987. PLEASE REQUEST A SEPARATE DESCRIPTION SHEET FROM THE STUDENT SERVICES OFFICE**

Students are urged to learn typing in high school or early in this program.

*See alternatives listed under requirements for the Associate Degree in Applied Arts and Sciences (page 11).*
COSMETOLOGY CERTIFICATE

The Cosmetology Program is approved by the Michigan Department of Licensing and Regulations and prepares students to take the State Licensing Board Examination. Instruction is scheduled for five days per week, four and one-half hours per day and includes over 1,500 hours of training. Over 900 hours will be spent in laboratory work during which students practice and apply services studied in the classroom setting. A licensed cosmetology instructor directs students' activities in a completely equipped cosmetology laboratory. 32 credit hours and 1500 attendance hours are required for a certificate.

FIRST YEAR

<table>
<thead>
<tr>
<th>FALL SEMESTER*</th>
<th>SPRING SEMESTER*</th>
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</thead>
<tbody>
<tr>
<td>Intro to Cosmetology</td>
<td>Beginning Hair Cutting and</td>
</tr>
<tr>
<td>CS100  3</td>
<td>Permanent Waving</td>
</tr>
<tr>
<td>Intro to Cosmetology Lab</td>
<td>CS110  4</td>
</tr>
<tr>
<td>Beginning Hairstyling</td>
<td>Beginning Hair Cutting and</td>
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<tr>
<td>CS101  3</td>
<td>Permanent Waving Lab</td>
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<td>Beginning Hairstyling Lab</td>
<td>CS111  4</td>
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<tr>
<td></td>
<td>Beginning Hair Coloring and</td>
</tr>
<tr>
<td></td>
<td>Professional Development</td>
</tr>
<tr>
<td></td>
<td>CS103  3</td>
</tr>
<tr>
<td></td>
<td>Beginning Hair Coloring and</td>
</tr>
<tr>
<td></td>
<td>Professional Development LabCS113  4</td>
</tr>
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</table>

SECOND YEAR

<table>
<thead>
<tr>
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<th>SPRING SEMESTER*</th>
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</thead>
<tbody>
<tr>
<td>Advanced Hairstyling</td>
<td>Advanced Hairstyling II</td>
</tr>
<tr>
<td>CS200  3</td>
<td>CS202  3</td>
</tr>
<tr>
<td>Advanced Hairstyling Lab</td>
<td>CS210  5</td>
</tr>
<tr>
<td>Advanced Hair Coloring and Permanent Waving</td>
<td>CS201  3</td>
</tr>
<tr>
<td>Advanced Hair Coloring and Permanent Waving Lab</td>
<td>CS211  5</td>
</tr>
<tr>
<td></td>
<td>Salon Management and Board</td>
</tr>
<tr>
<td></td>
<td>Review</td>
</tr>
<tr>
<td></td>
<td>CS203  3</td>
</tr>
<tr>
<td></td>
<td>Salon Management and Board</td>
</tr>
<tr>
<td></td>
<td>Review Lab</td>
</tr>
<tr>
<td></td>
<td>CS213  5</td>
</tr>
</tbody>
</table>

*18 Week semester program -- all courses are 9 weeks.

COSMETOLOGY STUDENTS WILL HAVE AN ADDITIONAL COST FOR UNIFORMS, SHOES AND LOCKER RENTAL.

Students wishing to earn an Associate Degree in Applied Arts and Sciences must complete additional courses required for this degree (page 11).
CRIMINAL JUSTICE - CORRECTIONS
CERTIFICATE
(PENDING CURRICULUM COMMITTEE APPROVAL)

This 15 credit hour certificate program is specifically designed to qualify
students to apply for correction officer positions with the Department of
Corrections. To be hired, students must pass a written exam, physical fitness
test, and a personal interview. Background investigations are also conducted.

**FALL SEMESTER**
Intro to Corrections CJ110 3
Legal Issues in Corrections CJ220 3
Client Relations in Corrections CJ250 3

**SPRING SEMESTER**
Corrections Institutions/ CJ120 3
Facilities
Client Growth & Development CJ260 3

CRIMINAL JUSTICE - CORRECTIONS
APPLIED ARTS AND SCIENCES
ASSOCIATE DEGREE
(PENDING CURRICULUM COMMITTEE APPROVAL)

This associate degree program is designed to prepare the successful graduate for
a career in corrections with increased opportunities. It includes the 15 credit
hours needed for a certificate (and job application), plus normal degree
requirements and other career related courses. It also is designed to provide
maximum transferability to those four year colleges and universities which offer
a Bachelor's Degree in Criminal Justice or related fields.

**FIRST YEAR**
**FALL SEMESTER**
Intro to Corrections CJ110 3
Freshman English I LA100 3
Intro to Social Science I SS110 4
Intro to Criminal Justice CJ100 3
Elective

**SPRING SEMESTER**
Corrections Institutions/
Facilities CJ120 3

**SECOND YEAR**
**FALL SEMESTER**
Humanities I HU200 4
Speech LA210 3
Legal Issues in Corrections CJ220 3
Emergency Health Care PE205 2
Client Relations in Corrections CJ250 3
Stress Management SD120 1

**SPRING SEMESTER**
Humanities II HU201 4
American Criminal Law CJ210 3
Client Growth & Development CJ260 3
Internship-Corrections** CJ290 5
Report Writing** XY240 1

**Classes under development**
+Additional 290's will be added for police, fire, public safety, etc., as need
arises
*See alternatives listed under the requirements of the Associate Degree in
Applied Arts and Sciences (page 11).
DRAFTING
CERTIFICATE

The drafting certificate is intended to help the student find his/her first job as a detailer or a drawing changer and is considered as a first step toward an associate degree. Many of these courses will apply to the associate degree. 30 credit hours required.

**FALL SEMESTER**

<table>
<thead>
<tr>
<th>Course</th>
<th>Code</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Basic Machine Operation</td>
<td>IT220</td>
<td>3</td>
</tr>
<tr>
<td>Shop Math I or</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Elementary Algebra (MA100)</td>
<td>MA110</td>
<td>2</td>
</tr>
<tr>
<td>Improved Reading &amp; Writing</td>
<td>SD175</td>
<td>3</td>
</tr>
<tr>
<td>Technical Drafting I</td>
<td>TD100</td>
<td>3</td>
</tr>
<tr>
<td>Blueprint Reading</td>
<td>TD105</td>
<td>2</td>
</tr>
<tr>
<td>Intro to Elec Data Process</td>
<td>DP110</td>
<td>3</td>
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**SPRING SEMESTER**

<table>
<thead>
<tr>
<th>Course</th>
<th>Code</th>
<th>Hours</th>
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</thead>
<tbody>
<tr>
<td>Customer Relations</td>
<td>BA251</td>
<td>2</td>
</tr>
<tr>
<td>Sketching</td>
<td>HU121</td>
<td>2</td>
</tr>
<tr>
<td>Hydraulics &amp; Fluid Mechanics</td>
<td>IT253</td>
<td>3</td>
</tr>
<tr>
<td>Manufacturing Processes</td>
<td>IT260</td>
<td>2</td>
</tr>
<tr>
<td>Shop Math II or</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inter Algebra (MA104)</td>
<td>MA111</td>
<td>2</td>
</tr>
<tr>
<td>Technical Drafting II</td>
<td>TD130</td>
<td>3</td>
</tr>
</tbody>
</table>

The alternate math courses are recommended for those with adequate background who are considering the Associate Degree at a later date.

DRAFTING TECHNOLOGY
APPLIED ARTS AND SCIENCES ASSOCIATE DEGREE

The sequence of courses shown below allows students to earn an associate degree in applied arts and sciences in two years of school as a full-time student. Students who wish to attend school part-time need not necessarily adhere to this exact sequence. Please check with your counselor. 60 credit hours required.

**FIRST YEAR**

**FALL SEMESTER**

<table>
<thead>
<tr>
<th>Course</th>
<th>Code</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Metallurgy &amp; Heat Treatment</td>
<td>IT130</td>
<td>2</td>
</tr>
<tr>
<td>Basic Machine Operation</td>
<td>IT220</td>
<td>3</td>
</tr>
<tr>
<td>Freshman English I</td>
<td>LA100</td>
<td>3</td>
</tr>
<tr>
<td>Intermediate Algebra</td>
<td>MA104</td>
<td>3</td>
</tr>
<tr>
<td>Technical Drafting I</td>
<td>TD100</td>
<td>3</td>
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**SPRING SEMESTER**

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<thead>
<tr>
<th>Course</th>
<th>Code</th>
<th>Hours</th>
</tr>
</thead>
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<tr>
<td>Sketching</td>
<td>HU121</td>
<td>2</td>
</tr>
<tr>
<td>Manufacturing Processes</td>
<td>IT260</td>
<td>2</td>
</tr>
<tr>
<td>Freshman English II*</td>
<td>LA101</td>
<td>3</td>
</tr>
<tr>
<td>Trigonometry</td>
<td>MA102</td>
<td>3</td>
</tr>
<tr>
<td>Descriptive Geometry</td>
<td>TD110</td>
<td>3</td>
</tr>
<tr>
<td>Technical Drafting II</td>
<td>TD130</td>
<td>3</td>
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**SECOND YEAR**

**FALL SEMESTER**

<table>
<thead>
<tr>
<th>Course</th>
<th>Code</th>
<th>Hours</th>
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</thead>
<tbody>
<tr>
<td>Concepts of Electricity</td>
<td>EL100</td>
<td>3</td>
</tr>
<tr>
<td>Product Design</td>
<td>TD215</td>
<td>3</td>
</tr>
<tr>
<td>Intro to Social Science I</td>
<td>SS110</td>
<td>4</td>
</tr>
<tr>
<td>Jig &amp; Fixture Design</td>
<td>TD230</td>
<td>3</td>
</tr>
<tr>
<td>Intro to Elec Data Process</td>
<td>DP110</td>
<td>3</td>
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**SPRING SEMESTER**

<table>
<thead>
<tr>
<th>Course</th>
<th>Code</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Customer Relations</td>
<td>BA251</td>
<td>2</td>
</tr>
<tr>
<td>Hydraulics &amp; Fluid Mechanics</td>
<td>IT253</td>
<td>3</td>
</tr>
<tr>
<td>Intro to Social Science II*</td>
<td>SS111</td>
<td>4</td>
</tr>
<tr>
<td>Tool &amp; Die Design I</td>
<td>TD135</td>
<td>2</td>
</tr>
<tr>
<td>Computer Aided Drafting I</td>
<td>TD250</td>
<td>3</td>
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</tbody>
</table>

*See alternatives listed under requirements for the Associate Degree in Applied Arts and Sciences (page 11).

** May substitute Plastic Mold Design I (TD140)
ELECTRONICS TECHNOLOGY
CERTIFICATE

This one-year certificate is intended to help the student find his/her first job in repair and servicing of routine electronic devices. It is considered a first step toward the associate degree and many of these courses apply directly. 30 credit hours required.

<table>
<thead>
<tr>
<th>FALL SEMESTER</th>
<th>SPRING SEMESTER</th>
</tr>
</thead>
<tbody>
<tr>
<td>Improving Reading &amp; Writing SD175 3</td>
<td>Customer Relations MA251 2</td>
</tr>
<tr>
<td>Intermediate Algebra MA104 3</td>
<td>Trigonometry MA102 3</td>
</tr>
<tr>
<td>Concepts in Electricity EL100 3</td>
<td>Electronic Circuits EL210 3</td>
</tr>
<tr>
<td>Electronic Circuit Analysis EL110 3</td>
<td>Electronic Devices EL120 3</td>
</tr>
<tr>
<td>Elective (DP110 recommended)</td>
<td>Elective (EL251 and EL252 recommended)</td>
</tr>
</tbody>
</table>

ELECTRONICS TECHNOLOGY
APPLIED ARTS AND SCIENCES ASSOCIATE DEGREE

This program prepares the student for diagnosis and repair of complex electronic devices. It may be transferable as a package to a four year university. Through proper selection of electives, emphasis may be placed upon communications, computers, or industrial electronics. See your counselor or the instructor. 60 credit hour required for the degree, at least 30 must be EL courses

<table>
<thead>
<tr>
<th>FIRST YEAR</th>
</tr>
</thead>
<tbody>
<tr>
<td>FALL SEMESTER</td>
</tr>
<tr>
<td>Freshman English I LA100 3</td>
</tr>
<tr>
<td>Intermediate Algebra MA104 3</td>
</tr>
<tr>
<td>Concepts of Electricity EL100 3</td>
</tr>
<tr>
<td>Electronic Circuit Analysis EL110 3</td>
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<tr>
<td>Intro to Elec Data Process DP110 3</td>
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<table>
<thead>
<tr>
<th>SPRING SEMESTER</th>
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</thead>
<tbody>
<tr>
<td>Freshman English II* LA101 3</td>
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<tr>
<td>Trigonometry MA102 3</td>
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<tr>
<td>Electronic Test Equipment EL160 3</td>
</tr>
<tr>
<td>Electronic Devices EL120 3</td>
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<tr>
<td>Elective (EL)</td>
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</table>

<table>
<thead>
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<th>SECOND YEAR</th>
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<tbody>
<tr>
<td>FALL SEMESTER</td>
</tr>
<tr>
<td>Intro to Social Science I SS110 4</td>
</tr>
<tr>
<td>Intro to College Physics I NS111 3</td>
</tr>
<tr>
<td>Microprocessors I EL141 3</td>
</tr>
<tr>
<td>Microprocessors II EL241 1</td>
</tr>
<tr>
<td>Digital Electronics EL230 3</td>
</tr>
<tr>
<td>Elective (EL)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SPRING SEMESTER</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intro to Social Science II* SS111 4</td>
</tr>
<tr>
<td>Intro to College Physics II NS112 3</td>
</tr>
<tr>
<td>Customer Relations BA251 2</td>
</tr>
<tr>
<td>Electronic Circuits EL210 3</td>
</tr>
<tr>
<td>Elective (EL)</td>
</tr>
</tbody>
</table>

*See alternatives listed under requirements for the Associate Degree in Applied Arts and Sciences (page 11).
FOOD SERVICE TECHNOLOGY
CERTIFICATE

The one-year program in Food Service Technology is a 30 credit hour program designed to provide students with the skills and technical knowledge necessary to prepare them for entry level employment in the Food Service/Restaurant industry. Students completing this program will have basic skills in food preparation, nutrition, and menu planning.

**FALL SEMESTER**
- Intro to Food Service: FST100 3
- Food Service Safety & Sanitation: FST101 2
- Food Production Skills - General: FST110 4
- Elective

**SPRING SEMESTER**
- Food Production Skills - Entree: FST120 4
- Meat and Portion Control: FST130 3
- Nutrition and Menu Planning: FST140 3
- Elective

---

FOOD SERVICE TECHNOLOGY
APPLIED ARTS AND SCIENCES ASSOCIATE DEGREE

The two-year program in Food Service Technology is a 61 credit hour program designed to provide students with the skills and technical knowledge necessary to prepare them for entry level employment in the Food Service/Restaurant industry. Students completing this program will have basic skills in food preparation, nutrition and menu planning, hotel and restaurant management, and small business operation as it relates to the food industry. In addition, they will fulfill all the requirements for an Applied Arts and Sciences Degree.

**FIRST YEAR**

**FALL SEMESTER**
- Freshman English I: LA100 3
- Business Mathematics: OE120 3
- Intro to Food Services: FST100 3
- Food Service Safety and Sanitation: FST101 2
- Food Production Skills - General: FST110 4

**SPRING SEMESTER**
- Freshman English II*: LA101 3
- Intro to Business: BA135 3
- Food Production Skills - Entree: FST120 4
- Meat and Portion Control: FST130 2
- Nutrition and Menu Planning: FST140 3

**SECOND YEAR**

**FALL SEMESTER**
- Intro to Social Science I: SS110 4
- Equipment Design, Layout and Selection: FST200 2
- Food Service Management: FST201 3
- Food Production Skills - Bakery: FST210 4

**SPRING SEMESTER**
- Intro to Social Science II*: SS111 4
- Small Business Management: BA235 3
- Humanities I: HU200 4
- Food Production Skills - Catering: FST220 4
- Food Purchasing: FST230 3

*See alternatives listed under requirements for the Associate Degree in Applied Arts and Sciences (page 11).
The Industrial Technology graduate will have a well-rounded background, which prepares him/her for work in manufacturing and process industries as planners, buyers, or as technicians. In addition, transfer to a four-year Bachelor’s Degree Program is possible. The training offers many hours of practical, hands-on experience to complement the theory. 61 credit hours required.

**FIRST YEAR**

**FALL SEMESTER**
- Basic Machine Operation IT220 3
- Freshman English I LA100 3
- Elementary Algebra MA100 3
- Technical Drafting I TD100 3
- Intro to Elec Data Process DP110 3

**SPRING SEMESTER**
- Sketching HU121 2
- Hydraulics & Fluid Mechanics IT253 3
- Manufacturing Processes IT260 2
- Freshman English II* LA101 3
- Intermediate Algebra MA104 3
- Layout & Precision Measure TD106 2

**SECOND YEAR**

**FALL SEMESTER**
- Concepts in Electricity EL100 3
- Basic CNC Operation IT102 2
- Metallurgy & Heat Treatment IT130 2
- Intro to College Physics I NS111 3
- Intro to Social Science I SS110 4

**SPRING SEMESTER**
- Industrial Quality Control IT270 2
- Customer Relations BA251 2
- Trigonometry MA102 3
- Intro to College Physics II NS112 3
- Intro to Social Science II* SS111 4
- Welding Elective

*See alternatives listed under requirements for the Associate Degree in Applied Arts and Sciences (page 11).
MACHINE TOOL OPERATION
CERTIFICATE

Students who complete this program are eligible to obtain entry-level jobs in metal working industries as machinist helpers. Many of the following courses are also applicable toward an Associate Degree or an Apprenticeship Certificate. 30 credit hours required.

FALL SEMESTER
Basic Machine Operation IT220 3
Basic Writing Skills or
Freshman English I (LA100) SD170 2
Basic CNC Operation IT102 2
Metallurgy & Heat Treatment IT130 2
Shop Math I or
Elementary Algebra (MA100) MA110 2
Blueprint Reading TD105 2
Welding Tech & Joint Prep WE107 3

SPRING SEMESTER
Advanced Machine Operation IT221 3
Layout & Precision Measure TD106 2
Manufacturing Processes IT260 2
Hydraulics & Fluid Mechanics IT253 3
Shop Math II or
Intermediate Algebra(MA104) MA111 2
Industrial Quality Control IT270 2
**NURSING CERTIFICATE**

Our Nursing curriculum is designed to promote career mobility for the student. A student who completes one year is awarded a certificate in Practical Nursing and is eligible to write the National Council Licensing Examination (NCLEX-PN) for licensure and practice as a Licensed Practical Nurse (LPN). Students who meet the admission criteria are eligible to progress directly to second year of the Associate Degree Program.

**FALL SEMESTER - 16 WEEKS**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nursing Skills I</td>
<td>NUR100 4</td>
</tr>
<tr>
<td>Food in Health &amp; Disease</td>
<td>NUR110 2</td>
</tr>
<tr>
<td>Clinical Practicum I</td>
<td>NUR115 3</td>
</tr>
<tr>
<td>Concepts of Interpersonal Relationships</td>
<td>NUR120 2</td>
</tr>
<tr>
<td>Intro to Medical-Surgical Nursing I</td>
<td>NUR150 2</td>
</tr>
<tr>
<td>Anatomy &amp; Physiology I</td>
<td>NS103 4</td>
</tr>
<tr>
<td>Child Psychology</td>
<td>SS221 3</td>
</tr>
<tr>
<td>Introduction to Physical Fitness</td>
<td>PE110 1</td>
</tr>
</tbody>
</table>

**SPRING SEMESTER - 16 WEEKS**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nursing Skills II</td>
<td>NUR101 2</td>
</tr>
<tr>
<td>Clinical Practicum II</td>
<td>NUR116 10</td>
</tr>
<tr>
<td>Maternal-Child Nursing I</td>
<td>NUR145 3</td>
</tr>
<tr>
<td>Medical-Surgical Nursing II</td>
<td>NUR151 3</td>
</tr>
<tr>
<td>Pharmacology</td>
<td>NUR160 2</td>
</tr>
</tbody>
</table>

**SUMMER SEMESTER - 8 WEEKS**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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<tbody>
<tr>
<td>Clinical Practicum III</td>
<td>NUR117 6</td>
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<tr>
<td>Nursing Seminar</td>
<td>NUR125 1</td>
</tr>
<tr>
<td>Medical-Surgical Nursing III</td>
<td>NUR152 2</td>
</tr>
<tr>
<td>Role Transition</td>
<td>NUR200 2</td>
</tr>
</tbody>
</table>

**APPLIED ARTS AND SCIENCES ASSOCIATE DEGREE**

Our Nursing curriculum is designed to promote career mobility for the students. A student who completes two years is awarded an Applied Arts and Sciences Degree and becomes eligible to write the National Council Licensing Examination (NCLEX-RN) for licensure and practice as a Registered Nurse (RN). Students who have previously completed a LPN program are eligible to be considered for advanced standing in the program. Prior to admission into the second year program, LPN students are required to enroll in the following two courses offered in the summer semester: Role Transition-NUR100-2 credits, and Physical Fitness-PE110-1 credit.

**FALL SEMESTER - 16 WEEKS**

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<tr>
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<tr>
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<td>Intro to Medical-Surgical Nursing I</td>
<td>NUR150 2</td>
</tr>
<tr>
<td>Child Psychology</td>
<td>SS221 3</td>
</tr>
<tr>
<td>Anatomy &amp; Physiology I</td>
<td>NS103 4</td>
</tr>
<tr>
<td>Intro to Physical Fitness</td>
<td>PE110 1</td>
</tr>
</tbody>
</table>

**SPRING SEMESTER - 16 WEEKS**

<table>
<thead>
<tr>
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<th>Credits</th>
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<tbody>
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<td>NUR101 2</td>
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<tr>
<td>Clinical Practicum II</td>
<td>NUR116 10</td>
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<td>Maternal Child Nursing I</td>
<td>NUR145 3</td>
</tr>
<tr>
<td>Medical-Surgical Nursing II</td>
<td>NUR151 3</td>
</tr>
<tr>
<td>Pharmacology</td>
<td>NUR160 2</td>
</tr>
</tbody>
</table>

**SUMMER SEMESTER - 8 WEEKS**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>Clinical Practicum III</td>
<td>NUR117 6</td>
</tr>
<tr>
<td>Nursing Seminar</td>
<td>NUR125 1</td>
</tr>
<tr>
<td>Medical-Surgical Nursing III</td>
<td>NUR152 2</td>
</tr>
<tr>
<td>Role Transition</td>
<td>NUR200 2</td>
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</table>

**SECOND YEAR**

**FALL SEMESTER - 16 WEEKS**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>Advanced Medical-Surgical Nursing</td>
<td>NUR251 10</td>
</tr>
<tr>
<td>Freshman English I</td>
<td>LA100 3</td>
</tr>
<tr>
<td>Anatomy &amp; Physiology II</td>
<td>NS203 4</td>
</tr>
<tr>
<td>General Psychology</td>
<td>SS220 3</td>
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</table>

**SPRING SEMESTER - 16 WEEKS**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>Maternal Child Nursing II</td>
<td>NUR245 6</td>
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<tr>
<td>Community Mental Health</td>
<td>NUR255 6</td>
</tr>
<tr>
<td>Freshman English II*</td>
<td>LA101 3</td>
</tr>
<tr>
<td>Microbiology</td>
<td>NS201 4</td>
</tr>
<tr>
<td>Political Science or Intro to Social Science I</td>
<td>SS110 3/4</td>
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**SUMMER SEMESTER - 4 WEEKS**

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<tr>
<th>Course</th>
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</thead>
<tbody>
<tr>
<td>Leadership Role in Nursing</td>
<td>NUR225 3</td>
</tr>
</tbody>
</table>

*See alternatives listed under requirements for the Associate Degree in Applied Arts and Sciences (page 11).
OFFICE EDUCATION
CERTIFICATE
CLERK TYPIST

The objective of the Clerk-Typist curriculum is preparation for employment in a variety of office occupations which include the development of skills in the use of all office machinery and the knowledge needed to carry out routine office functions. Previous training in typing is desirable. A certificate will be awarded upon successful completion of the program requirements. A student wishing to continue training may apply credits earned toward the secretarial or management programs. 31 credit hours required.

<table>
<thead>
<tr>
<th>FALL SEMESTER</th>
<th>SPRING SEMESTER</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intermediate Typing</td>
<td>OE101 3</td>
</tr>
<tr>
<td>Acct for Small Business</td>
<td>BA105 3</td>
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<tr>
<td>Business Mathematics</td>
<td>OE120 3</td>
</tr>
<tr>
<td>Business Communications I</td>
<td>OE129 3</td>
</tr>
<tr>
<td>Word Processing I</td>
<td>OE225 4</td>
</tr>
<tr>
<td>Business Communications II</td>
<td>OE130 3</td>
</tr>
<tr>
<td>Advanced Typing</td>
<td>OE202 3</td>
</tr>
<tr>
<td>Voice Transcription</td>
<td>OE220 3</td>
</tr>
<tr>
<td>Office Procedures</td>
<td>OE230 3</td>
</tr>
<tr>
<td>Business Calculators</td>
<td>OE240 3</td>
</tr>
</tbody>
</table>
The graduate of the Executive Secretarial Science Curriculum will have a knowledge of business technology and a skill in dictation and accurate transcription of business letters and reports. The graduate is prepared to be employed as a stenographer or a secretary. Stenographers are primarily responsible for taking dictation and transcribing letters, memoranda, or reports. The secretary, in addition to taking dictation, is responsible for meeting office callers, screening telephone calls, and assisting the executive. An Associate Degree in Applied Arts and Sciences will be awarded upon successful completion of at least 60 credit hours, including the coursework below.

### FIRST YEAR

<table>
<thead>
<tr>
<th>FALL SEMESTER</th>
<th>SPRING SEMESTER</th>
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</thead>
<tbody>
<tr>
<td>Freshman English I</td>
<td>Freshman English II*</td>
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<tr>
<td>Intermediate Typing</td>
<td>Business Communications II</td>
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<tr>
<td>Business Mathematics</td>
<td>Advanced Typing</td>
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<tr>
<td>Business Communications I</td>
<td>Voice Transcription</td>
</tr>
<tr>
<td>Business Calculators</td>
<td>Word Processing I</td>
</tr>
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<tr>
<td><strong>TOTAL</strong></td>
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<tr>
<td>Freshman English I</td>
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<tr>
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<tr>
<td>Business Mathematics</td>
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<tr>
<td>Business Communications I</td>
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<td><strong>TOTAL</strong></td>
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<tr>
<td><strong>Total credits</strong>: 18</td>
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### SECOND YEAR

<table>
<thead>
<tr>
<th>FALL SEMESTER</th>
<th>SPRING SEMESTER</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intro to Social Science I</td>
<td>Intro to Social Science II*</td>
</tr>
<tr>
<td>Shorthand I</td>
<td>Records Management</td>
</tr>
<tr>
<td>Acctg for Small Business</td>
<td>Shorthand II</td>
</tr>
<tr>
<td>Elective</td>
<td>Office Procedures</td>
</tr>
<tr>
<td>Elective</td>
<td>Elective</td>
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<tr>
<td></td>
<td></td>
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<tr>
<td><strong>TOTAL</strong></td>
<td><strong>TOTAL</strong></td>
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<tr>
<td>Intro to Social Science I</td>
<td>4</td>
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<tr>
<td>Shorthand I</td>
<td>4</td>
</tr>
<tr>
<td>Acctg for Small Business</td>
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<tr>
<td>Elective</td>
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<tr>
<td><strong>TOTAL</strong></td>
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</tr>
<tr>
<td><strong>Total credits</strong>: 18</td>
<td><strong>Total credits</strong>: 18</td>
</tr>
</tbody>
</table>

### SUGGESTED ELECTIVES
- Introduction to Business BA135
- Human Relations BA250
- Intro to Elec Data Process DP110
- Word Processing II OE226
- Word Processing III OE227
- Field Experience OE290
- Shorthand III OE203

*See alternatives listed under requirements for the Associate Degree in Applied Arts and Sciences (page 11).
OFFICE EDUCATION
CERTIFICATE
LEGAL OFFICE ASSISTANT

This one-year program leads to a certificate as a Legal Office Assistant. The curriculum provides the student with the background and understanding of legal office assisting, practices, and procedures. 32 credit hours required.

FALL SEMESTER
Legal Environ of Business BA200 3
Intermediate Typing OE101 3
Acctg for Small Business BA105 3
Business Communications I OE129 3
Legal Term & Transcription OE205 3

SPRING SEMESTER
Advanced Typing OE202 3
Legal Office Procedures OE206 3
Voice Transcription OE220 3
Word Processing I OE225 4
Business Calculators OE240 3

LEGAL SECRETARY
APPLIED ARTS AND SCIENCES ASSOCIATE DEGREE

This program leads to a two-year Associate Degree in Applied Arts and Sciences. The Legal Secretarial program is designed to prepare for employment and/or advancement for students who wish to specialize in legal shorthand and transcription and legal office procedures. An Associate Degree in Applied Arts and Sciences will be awarded upon successful completion of at least 60 credit hours including the coursework below.

FIRST YEAR

FALL SEMESTER
Freshman English I LA100 3
Intermediate Typing OE101 3
Business Mathematics OE120 3
Business Communications I OE129 3
Business Calculators OE240 3

SPRING SEMESTER
Freshman English II* LA101 3
Advanced Typing OE202 3
Voice Transcription OE220 3
Word Processing I OE225 4
Elective

SECOND YEAR

FALL SEMESTER
Intro to Social Science I SS110 4
Legal Environ of Business BA200 3
Shorthand I OE103 4
Acctg for Small Business BA105 3
Legal Term & Transcription OE205 3

SPRING SEMESTER
Intro to Social Science II* SS111 4
Shorthand II OE104 4
Legal Office Procedures OE206 3
Office Procedures OE230 3
Elective

SUGGESTED ELECTIVES
Introduction to Business BA135
Human Relations BA250
Intro to Elec Data Process DP110
Word Processing II OE226
Word Processing III OE227
Business Communications II OE130
Field Experience OE290
Shorthand III OE230

*See alternatives listed under requirements for the Associate Degree in Applied Arts and Sciences (page 11).
OFFICE EDUCATION
CERTIFICATE
MEDICAL OFFICE ASSISTANT

This one-year program leads to a certificate as a Medical Office Assistant. The curriculum provides the student with a background and understanding of medical office assisting and practice in medical office procedures. 30 credit hours required.

**FALL SEMESTER**

- Intermediate Typing          OE101  3
- Acctg for Small Business    BA105  3
- Business Communications I   OE129  3
- Medical Terminology          OE207  3
- Word Processing I            OE225  4

**SPRING SEMESTER**

- Emergency Health Care        PE205  2
- Advanced Typing              OE202  3
- Medical Office Procedures    OE208  3
- Voice Transcription          OE220  3
- Business Calculators         OE240  3

MEDICAL SECRETARY
APPLIED ARTS AND SCIENCES ASSOCIATE DEGREE

This program leads to a two-year degree in Applied Arts and Sciences. The Medical Secretarial program is designed to prepare the student for employment and/or advancement in a physician's office; hospital; medical supply hours; local, state, or federal health agency; voluntary health agency; medical college; health insurance firm; or related area. An Associate Degree in Applied Arts and Sciences will be awarded upon successful completion of at least 60 credit hours including the coursework below.

**FIRST YEAR**

**FALL SEMESTER**

- Freshman English I           LA100  3
- Intermediate Typing          OE101  3
- Business Mathematics         OE120  3
- Business Communications I    OE129  3
- Business Calculators         OE240  3

**SPRING SEMESTER**

- Freshman English II*         LA101  3
- Advanced Typing              OE202  3
- Voice Transcription          OE220  3
- Word Processing I            OE225  3
- Elective                     

**SECOND YEAR**

**FALL SEMESTER**

- Intro to Social Science I    SS110  4
- Shorthand I                  OE104  4
- Acctg for Small Business    BA105  3
- Medical Terminology          OE207  3
- Elective                     

**SPRING SEMESTER**

- Intro to Social Science II*  SS111  4
- Emergency Health Care        PE205  2
- Shorthand II                 OE104  4
- Medical Office Procedures    OE208  3
- Office Procedures            OE230  3

**SUGGESTED ELECTIVES**

- Introduction to Business    BA135
- Human Relations              BA250
- Intro to Elec Data Process   DP110
- Word Processing II           OE226
- Word Processing III          OE227
- Business Communications II   OE130
- Field Experience             OE290
- Shorthand III                OE203

*See alternatives listed under requirements for the Associate Degree in Applied Arts and Sciences (page 11).
OFFICE EDUCATION
CERTIFICATE
STENOGRAPHER

This 32-credit-hour program is planned for the high school graduate who has majored in business and desires advanced studies to perfect skills, but who can spend only one year in college. A student who has little or no previous business training and can spend only one year in college may also wish to follow this curriculum. This is a one-year certificate program. Upon completion of this intensive program, a certificate of achievement will be awarded.

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<tbody>
<tr>
<td>Intermediate Typing</td>
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<tr>
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<tr>
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<td>OE230 3</td>
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</tbody>
</table>
OFFICE EDUCATION
CERTIFICATE
WORD PROCESSING

This one-year program leads to a certificate in Word Processing and provides the student with a background and understanding of different types of electronic office equipment. This program is designed to prepare the student for initial employment in the Word Processing field. 31 credit hours required.

**FALL SEMESTER**
- Intro to Elec Data Process  DP110  3
- Intermediate Typing  OE101  3
- Business Mathematics  OE120  3
- Business Communications I  OE129  3
- Word Processing I  OE225  4

**SPRING SEMESTER**
- Business Communications II  OE130  3
- Advanced Typing  OE202  3
- Voice Transcription  OE220  3
- Office Procedures  OE230  3
- Word Processing II  OE226  3

**WORD PROCESSING APPLY ARTS. AND SCIENCES ASSOCIATE DEGREE**

The graduate of this two-year associate degree program will have a knowledge of business concepts and skill in the use of several types of electronic office equipment. The student is prepared to be employed as either a word processing secretary and/or an administrative secretary. Advancement may also be attained for those students who wish to further specialize in related fields. An Associate Degree in Applied Arts and Sciences will be awarded upon successful completion of at least 60 credit hours including the coursework below.

**FIRST YEAR**

**FALL SEMESTER**
- Freshman English I  LA100  3
- Intermediate Typing  OE101  3
- Business Mathematics  OE120  3
- Business Communications I  OE129  3
- Business Calculators  OE240  3

**SPRING SEMESTER**
- Freshman English II*  LA101  3
- Business Communications II  OE130  3
- Advanced Typing  OE202  3
- Voice Transcription  OE220  3
- Word Processing I  OE225  4

**SECOND YEAR**

**FALL SEMESTER**
- Intro to Social Science I  SS110  4
- Intro to Elec Data Process  DP110  3
- Acctg for Small Business  BA105  3
- Word Processing II  OE226  3
- Elective

**SPRING SEMESTER**
- Intro to Social Science II*  SS111  4
- Records Management  OE175  3
- Word Processing III  OE227  3
- Office Procedures  OE230  3
- Elective

**SUGGESTED ELECTIVES**
- Introduction to Business  BA135
- Human Relations  BA250
- Field Experience  OE290

*See alternatives listed under requirements for the Associate Degree in Applied Arts and Sciences (page 11).
RADIOLOGIC TECHNOLOGY  
APPLIED ARTS AND SCIENCES ASSOCIATE DEGREE

A "One-Plus-One" approach, the Radiologic Technology curriculum is offered in cooperation with Mid-Michigan Community College. This program is designed for students who live in the Montcalm Community College service area and are interested in pursuit of this highly technical program. All Radiological Technology courses (22 credit hours) are taught at Mid-Michigan Community College. The clinical course (26 credit hours) will be arranged locally. The liberal arts, science, and prerequisite courses (31 credit hours) are available at Montcalm.

<table>
<thead>
<tr>
<th>FALL SEMESTER (MONTCALM)</th>
<th>SPRING SEMESTER (MONTCALM)</th>
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<tbody>
<tr>
<td>Medical Terminology**</td>
<td>Anatomy and Physiology II</td>
</tr>
<tr>
<td>OE207</td>
<td>NS203</td>
</tr>
<tr>
<td>Anatomy and Physiology I**</td>
<td>Political Science</td>
</tr>
<tr>
<td>NS103</td>
<td>SS240</td>
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<tr>
<td>Introductory Chemistry**</td>
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<tr>
<td>NS105</td>
<td>Intro to Elec Data Process</td>
</tr>
<tr>
<td>General Psychology</td>
<td>DP110</td>
</tr>
<tr>
<td>SS220</td>
<td>Speech</td>
</tr>
<tr>
<td>Freshman English I</td>
<td>LA210</td>
</tr>
<tr>
<td>LA100</td>
<td>Elective</td>
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<tr>
<td>Physical Education Elective</td>
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</tbody>
</table>

**Prerequisite Courses

All documents, testing, and prerequisites should be completed and submitted to Mid-Michigan Community College by May 1st to be eligible to begin Radiologic Technology classes by next fall at Mid-Michigan Community College.

<table>
<thead>
<tr>
<th>SECOND YEAR</th>
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<tbody>
<tr>
<td>FALL SEMESTER (MID-MICHIGAN)</td>
</tr>
<tr>
<td>Intro to Radiologic Tech RAD100</td>
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<tr>
<td>Radiologic Positioning I RAD105</td>
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<tr>
<td>SUMMER SEMESTER (MID-MICHIGAN)</td>
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<tr>
<td>Radiologic Positioning III RAD175</td>
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<table>
<thead>
<tr>
<th>THIRD YEAR</th>
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<tbody>
<tr>
<td>THIS BEGINS THE 50-WEEK CLINICAL COMPONENT TO BE ARRANGED LOCALLY</td>
</tr>
<tr>
<td>FALL SEMESTER</td>
</tr>
<tr>
<td>Clinical Education I RAD200</td>
</tr>
<tr>
<td>Radiologic Techniques I RAD215</td>
</tr>
<tr>
<td>SUMMER SEMESTER</td>
</tr>
<tr>
<td>Clinical Education III RAD225</td>
</tr>
<tr>
<td>Radiographic Quality Assurance</td>
</tr>
<tr>
<td>RAD230</td>
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</tbody>
</table>

Associate in Applied Science Degree is awarded by Mid-Michigan Community College with a major in Radiologic Technology. Graduates are eligible to apply for the Certification Examination offered by the American Registry of Radiologic Technologists.
WELDING TECHNOLOGY
CERTIFICATE

Welding is a skill which is essential to many industries. This program stresses the development of techniques and understanding of quality weldments. Effects of heat and stress on welded materials are studied and practiced in the laboratory. The student may develop sufficient skill for American Welding Society Certification* and will receive a Certificate of Achievement upon successful completion of program requirements below. Additional welding courses are available for those who wish to develop their skills even further. 32 credit hours required.

**FALL SEMESTER**

<table>
<thead>
<tr>
<th>Course</th>
<th>Code</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Basic Machine Operations</td>
<td>IT220</td>
<td>3</td>
</tr>
<tr>
<td>Welding Tech &amp; Joint Prep</td>
<td>WE107</td>
<td>3</td>
</tr>
<tr>
<td>Welding &amp; Fabrication I</td>
<td>WE108</td>
<td>3</td>
</tr>
<tr>
<td>Shop Math I</td>
<td>MA110</td>
<td>2</td>
</tr>
<tr>
<td>Blueprint Reading</td>
<td>TD105</td>
<td>2</td>
</tr>
<tr>
<td>Metallurgy &amp; Heat Treatment</td>
<td>IT130</td>
<td>2</td>
</tr>
<tr>
<td>Basic Writing Skills</td>
<td>SD170</td>
<td>2</td>
</tr>
</tbody>
</table>

**SPRING SEMESTER**

<table>
<thead>
<tr>
<th>Course</th>
<th>Code</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>Welding &amp; Fabrication II</td>
<td>WE120</td>
<td>3</td>
</tr>
<tr>
<td>Related Welding Skills</td>
<td>WE122</td>
<td>3</td>
</tr>
<tr>
<td>Layout &amp; Precision Measure</td>
<td>TD106</td>
<td>2</td>
</tr>
<tr>
<td>Sketching</td>
<td>HU121</td>
<td>2</td>
</tr>
<tr>
<td>Customer Relations</td>
<td>BA251</td>
<td>2</td>
</tr>
<tr>
<td>Hydraulics &amp; Fluid Mechanics</td>
<td>IT253</td>
<td>3</td>
</tr>
</tbody>
</table>

*THE COLLEGE DOES NOT ATTEMPT TO CERTIFY WELDERS*
COURSE CODE INDEX

These two pages will help locate descriptions of individual courses, such as HU122, Introduction to Art, and LA210, Speech. Use the index below in the following manner: Find the subject matter in which you are interested, the letter prefix that follows tells where to find descriptions of the courses which cover that subject matter. For example, art course descriptions would be found under HU.

Accounting/BA
Acting/LA
Advertising/BA
Algebra/MA
Allied Health/AH
Analytic Geometry/MA
Anatomy/NS
Anthropology/SS
Art/HU
Art (Appreciation)/HU
Automotive Mechanics/AM
Biology/NS
Blueprint Reading/TD
Bookkeeping/OE
Botany/NS
Business Communications/OE
Business Correspondence/OE
Business Law/BA
Business Mathematics/OE
Calculus/MA
Ceramics/HU
Chemistry/NS
Communications/LA
Communications/(Business)/OE
Composition/LA
Computer Programming/DP
Computers/DP
Correspondence/OE
Cosmetology/CS
Criminal Justice/CJ
Data Processing/DP
Die Drafting (Apprentice)/TD
Diesel Engine/AM
Directed Studies/XY
Drafting Technology/TD
Drafting & Design (App)/TD
Drama/LA
Drawing/HU
Economics/SS
 Electricity/Electronics/EL
English/LA
Entrepreneurship/BA
Executive Secretary Studies/OE
Finance (Personal)/BA
Fitness/PE

Food Service/FST
French/FL
General Business/BA
Geography/SS,NS
Government/SS
Heat Treatment Metals (App.)/IT
History/SS
Humanities/HU
Human Relations/BA
Hydraulics/IT
Industrial Supervision & Management/BA
Journalism/LA
Law (Business)/BA
Law Enforcement/LE
Legal Secretary/OE
Literature/LA
Machine (Lab) (App.)/IT
Machine Shop/IT
Management/BA
Marketing/BA
Mathematics/MA
Mathematics (App.)/MA
Mathematics (Business)/OE
Medical Shorthand/OE
Medical Terminology/OE
Metallurgy Theory (App.)/IT
Mold Making & Die Casting (Apprentice)/TD
Music/HU
Natural Science/NS
Nursing (Practical)/NUR
Nursing (ADN)/NUR
Office Practice/OE
Oral Interpretation/LA
Painting/HU
Philosophy/HU
Photography/HU
Physical Fitness/PE
Physical Education/PE
Physical Science/NS
Physics/NS
Physiology/NS
Plastics/IT/TD
Political Science/SS
Psychology/SS
Radiologic Technology/RAD
Reading/SD
Religion/HU
Safety and First Aid/IT
Salesmanship/BA
Science/NS
Sculpture/HU
Secretarial Studies/OE
Shop Drawing/TD
Shorthand/OE
Sketching/HU
Small Business/BA
Social Science/SS
Sociology/SS
Spanish/FL
Speech/LA
Sports/PE
Statistics/MA
Supervision and Management/BA
Taxation (Business)/BA
Technical Drafting/TD
Theater/LA
Tool Drafting (App.)/TD
Transcription/OE
Trigonometry/MA
Typewriting/OE
Welding (Trades (App.))/WE
Welding Technology/WE
Word Processing/OE
Writing/LA,SD
Zoology/NS
COURSE DESCRIPTIONS

IN THIS SECTION, DESCRIPTIONS OF ALL COURSES OFFERED AT MONTCALM COMMUNITY COLLEGE ARE GIVEN. THESE ARE LISTED ALPHABETICALLY.

NUMBERS IN THE PARENTHESIS () WHICH FOLLOW COURSE TITLES REPRESENT THE TOTAL CREDITS, HOURS OF LECTURE/Demonstration, AND HOURS OF LABORATORY IN THAT ORDER. (FOR EXAMPLE, (3,2,2) REPRESENTS FOUR SEMESTER HOURS OF CREDIT GIVEN FOR THE COURSE, TWO OF THE HOURS WILL BE LECTURE/Demonstration, AND TWO OF THE HOURS WILL BE LABORATORY-TYPE CLASSES.) IN SOME CASES THE INSTRUCTOR WILL ASSIGN ADDITIONAL LABORATORY HOURS. SEE DIAGRAM BELOW FOR ILLUSTRATION.

*Number of lecture/demonstration hours

Number of semester hours of credit given

*Number of laboratory hours

TD250 Computer Aided Drafting (3,2,2) **Prerequisites: TD100, ***Co-requisites: TD130 or student must have written departmental approval

This course consists of computer-generated graphics to include: terminology, techniques and application of computer aided drafting, CAD, to engineering, tool design, architecture, and electronics. Two dimensional design drafting is stressed. Four hours lecture/laboratory combination.

*Combined these equal the total number of classroom/laboratory contact hours.

**Prerequisites: A prerequisite is a course required to have been successfully completed prior to enrollment in another course. They are indicated following the course titles. Students must have written approval from the appropriate instructional department if the prerequisite has not been met.

***Co-requisites: A co-requisite is a course which, if not taken ahead of time, must be taken at the same time. Co-requisites are indicated following course titles. Students must have written approval from the appropriate instructional department if the co-requisite has not been met.
ALLIED HEALTH

AH100 **Introduction to ORT (1,1,0)** Prerequisites: None
This course will provide the student with background information regarding technician functions, the background of surgical practice, a brief history of how surgery has evolved over the centuries, correct usage of medical terminology, and units of weights and measures. Emphasis will focus on the student code of behavior and will include ethical, moral, and legal responsibilities.

AH101 **Body Structure and Function (4,4,0)** Prerequisites: None
The student will acquire a broad foundation in regard to basic understanding of body structure and functions. Each system will be studied independently and the interrelationships of the body systems will be emphasized.

AH102 **Microbiology (2,2,0)** Prerequisites: None
This course will provide the learner with a firm understanding of microbiology so that a clear appreciation of the relationship of microorganisms with the maintenance of health and the prevention of disease will be maintained, especially as it applies to the practice of operating room technology. The trainee will learn that infection control requires constant vigilance and interdepartmental cooperation. A thorough understanding of the principles involved in sterilization procedures will be developed.

AH105 **Food Service for Health Care Facilities I (1,1,0)** Prerequisites: None
This course is intended for people employed in food service. Basic includes: communications, sanitation, safety, food handling, regulations, nutrition and therapeutic diets.

AH106 **Food Service for Health Care Facilities II (1,1,0)** Prerequisites: AH105
This is a continuation of course AH105 for food service personnel. Nutrition and life cycles, menu planning, meal preparation, equipment, storage and service procedures will be studied.

AH107 **Health Care Housekeeping (1,1,0)** Prerequisites: None
This course will examine the following principles of sanitation and disinfection, basic and special cleaning procedures with emphasis on cleaning of the isolation unit, floor maintenance and pest control. Related areas to be covered are patient-housekeeping relations, accident prevention, principles of good body mechanics, and institutional purposes and organization.

AH125 **Adult Foster Care in Michigan (1,1,0)** Prerequisites: None
This is a course that covers the history and philosophy of Adult Foster Care and role in the continuum of services to mentally ill, mentally retarded, and aging clients. Funding, licensing, systems that impact Adult Foster Care and the role of the caregiver will also be covered.
AH220  Coronary Care (4,3,2) Prerequisites: None
This course is an introduction to the principles of nursing management of
the patient with heart disease. Emphasis will be on identification of
cardiac dysrhythmias and therapeutic intervention.

STUDENTS SHOULD HAVE COMPLETED AH125, ADULT FOSTER CARE IN MICHIGAN (1,1,0) AS A
PREREQUISITE FOR THE FOLLOWING ONE CREDIT COURSES.

AH110  Adult Foster Care Programming (1,1,0) Prerequisites: AH125
This is a skill development course that assists the Adult Foster Care
caregiver in becoming an integral part of a client’s learning.
Participants will be provided with information and opportunities to learn
specific skills of observation, client assessment and successful teaching
principles. A program instrument will be provided that allows caregivers
to incorporate many variables that affect the client’s learning, e.g.
family, friends, physical environment of the home, the community.

AH135  The Aging Process (1,1,0) Prerequisites: AH125
This course covers a description and a clarification of the aging process
historical and current approaches to working with the elderly, and the
role of the Adult Foster Care Program and the caregiver.

AH136  Programs for Aged Residents (1,1,0) Prerequisites: AH125
As a result of this course, providers will be able to establish programs
for elderly residents of Adult Care Facilities. Included are practical
tips for getting started and ensuring success. Providers will learn how
to identify needs/problems, develop an individual or group program,
preserve a schedule of activities, and locate resources that can assist in
program planning.

AH145  Mental Retardation (1,1,0) Prerequisites: AH125
This course covers the definition, causes and classification of mental
retardation, historical and current approaches to working with mentally
retarded, and the role of an Adult Foster Care program and the caregiver.

AH146  Programs for Mentally Retarded Residents (1,1,0) Prerequisites: AH125
This is a skill development course that presents techniques to access and
teach mentally retarded adult foster care residents. The Techniques will
be applicable to all ranges of learning, from basic care to skills needed
for independent community living. The course will provide an opportunity
to participants to design, implement, and assess programs for their
present clients.

AH155  Health Care/Incidents and Accidents (1,1,0) Prerequisites: AH125
This is a skill development course that covers the techniques of
emergency care specifically relevant to the Adult Foster Care setting
AFC Foods and Nutrition (1,1,0) Prerequisites: AH125
AFC Foods and Nutrition is designed to provide a problem-solving approach to improving resident nutritional status and caregiver kitchen efficiency. The beginning units build upon each other from nutrients to food groups to meal planning to food selection to storage and sanitation. The remaining units deal with special issues in AFC homes, such as special diets, nutrient/drug interactions, teaching/eating skills, and identifying nutrition resources.

Facility Environmental Management (1,1,0) Prerequisites: AH125
This course reviews good staffing procedures, including hiring policy, staff evaluation, inservice training, responsibility delegation, time management, staff "burn-out," and insuring proper environment conducive to resident growth. The course is specifically designed for the caregiver who has supervision of staff and provides direct resident care.

Activity Programming for the Adult Foster Care Resident (1,1,0) Prerequisites: None
This is a skill development course that covers development of recreation and leisure time activities as a part of the overall program for a client. The course will include developing activity for in-the-home and in-the-community for groups and individuals.

Health Care/Human Growth and Development (1,1,0) Prerequisites: AH125
This course will review body systems and discuss the normal aging process, summarize common ailments, and discuss common terminology which will be useful in future courses.

Death and Dying (1,1,0) Prerequisites: AH125
This course will explore the concept of death and dying as it impacts on all types of individual residents of various ages, home environment, and families.

Support Staff Development (1,1,0) Prerequisites: AH125
This course is intended to meet the varied aspects of the needs expressed by the employees in an AFC Facility. The orientation is focused on training for the cook, substitute worker, aide, laundry worker, bookkeeper, driver, housekeeper, and other persons who have contact with the residents. The philosophy of Adult Foster Care, licensing regulations, and inspection of attitudes, understanding, and behavior toward residents will be presented.

Attitude and Behavior Management in AFC (1,1,0) Prerequisites: AH125
A practical course in how to deal effectively with difficult behaviors and attitudes. A number of allowable approaches, including behavior modification, will be considered and discussed. Examples: dealing with the residents who pose a fire hazard with smoking; helping a resident overcome a negative attitude; turning hostility into helpfulness; assisting a resident to "get motivation," dealing with drug abuse problems. Other topics will also be discussed.
AH195  Understanding and Working with the Mentally Ill (1,1,0) Prerequisites: AH125
This course will describe and explain the major types of mental disorders. This will include anxiety disorders, depression, personality disorders, and schizophrenia. Also presented and discussed will be guidelines in approaching and working with residents with these disorders.

AH196  Programs for Mentally Ill Residents (1,1,0) Prerequisites: AH125
This is a skill development course that gives the caregiver specific techniques in assisting mentally ill clients develop skills for moving toward independent living. The course will provide an opportunity for participants to design, implement, and assess programs for their present clients.

AH200  Emergency Medical Technician (9,8,6) Prerequisites: None
This course includes orientation to the EMT, legal responsibilities, anatomy, physiology, diagnostic signs, triage, basic cardiac life support, injuries to the body, illnesses of the body, childbirth, mental health, environmental injuries, communications and emergency vehicles (including extrication). Upon successful completion the student will be eligible to challenge the Michigan Department of Public Health State Exam.
AUTOMOTIVE MECHANICS TECHNOLOGY

AM104 Automotive Tools & Hardware (1,1,0) Prerequisites: None
A study of the standard tools-of-the-trade, their proper and improper use
and care, their several size designations, and their current sources and
costs.

AM106 Engine Servicing I (2,1,2) Prerequisites: None
This is a course dealing with general engine servicing and principles of
operation. Emphasis will be given to proper installation, adjustment,
and inspection of belts, hoses, sparkplugs, ignition points, and filters.
Simple test devices will be included as well as use of human sensory
perception.

AM108 Auto Brakes and Servicing (3,1,3) Prerequisites: AM104
This is a course dealing with general chassis servicing and light
maintenance. Included are battery servicing, fuses, wipers, bulbs,
tires, and lubrication. Emphasis will be given to rebuilding and
servicing brake systems and components.

AM114 Basic Small Engine Repair (2,1,1) Prerequisites: None
This course provides a basic knowledge of the operation, maintenance, and
minor repair procedures of small gasoline engines. This course is not
recommended as an approved elective for the associate degree.

AM118 Auto Maintenance-for the Homemaker (2,1,1) Prerequisites: None
This course provides the necessary knowledge to recognize danger signals,
handle emergency problems, make minor repairs, and perform general
maintenance on the automobile. This course is not recommended as an
approved elective for the associate degree.

AM124 Engine Servicing Theory II (3,0,4) Pre- or Co-requisites: AM106
This course covers cylinder head and crankcase details of construction,
operations, and nomenclature. Methods of inspecting and rebuilding are
discussed, as students are introduced to specification charts. For full
benefit enroll in AM125 at the same time.

AM125 Engine Servicing Lab II (3,0,4) Pre-or-Co-requisite: AM104, AM124 or
student must have written departmental approval.
This lab course gives students the opportunity to experience the use of
special procedures, tools, measuring instruments, test devices, and
specifications as applied to engine rebuilding.

AM130 Automotive Steering and Suspension Theory (2,2,0) Pre- or Co-requisites:
AM108, IT253 or student must have written departmental approval
This course covers principles, history, and methods of servicing the many
varieties of systems in use today. For full benefit, enroll in AM131 at
the same time.

AM131 Automotive Steering and Suspension Lab (2,0,3) Pre- or Co-requisites:
AM104, AM130 or student must have written departmental approval.
This course gives useful practical experience in diagnosing troubles,
repairing and adjusting systems covered in AM130.
AM132 Manual Transmissions Theory (2,2,0) Prerequisites: None
This course covers principles, history, and methods of servicing the many varieties of manual transmissions, differentials, and drivelines in use today. For maximum gain, enroll in AM133 at the same time.

AM133 Manual Transmissions Lab (2,0,3) Pre- or Co-requisites: AM104, AM132, or student must have written departmental approval.
This course gives useful practical experience in diagnosing troubles, repairing and adjusting manual transmissions, differentials, and drivelines covered in AM132.

AM140 Automotive Electrical Systems Theory I (2,2,0) Pre- or Co-requisites: EL100
This course includes the principles of operation, servicing, troubleshooting and repairing the several starting and charging systems in use today. For full benefit, enroll in AM141 at the same time.

AM141 Automotive Electrical Systems Lab I (3,0,4) Pre- or Co-requisites: AM104 AM140
This course gives students valuable practical experience in the use of tools and test equipment for performing the tasks learned in AM140 above.

AM142 Automotive Electrical Systems Theory II (2,2,0) Pre- or Co-requisites: EL100
A very complete study of the many electrical systems* used in automobiles. Included are lighting, warning, heating, motor and solenoid circuits. Wiring diagrams and symbols are also emphasized. For best results, enroll in AM143 at the same time. *Except starting, charging, and ignition.

AM143 Automotive Electrical Systems Lab II (3,0,4) Pre- or Co-requisites: AM142
This course gives students valuable practical experience in servicing, troubleshooting and repair of the several systems studied in AM142 above.

AM160 Auto Restoration: Metal Bodywork (2,1,2) Prerequisites: None
A course for developing knowledge and skill in traditional metal forming, joining, and smoothing methods, as used on older automobiles primarily. Leading and preparation for painting are included, but painting is not. Students may bring their own parts to class. A materials fee is added.

AM164 Automotive Restoration: Surface Preparation and Painting (2,1,2) Prerequisites: None
In addition to the technical aspects of surface preparation, priming, finishing materials and their application, this course deals with the special artistic touches, which make a good paint job become a work of beauty. It is intended for the meticulous craftsman. A materials fee is added.

AM204 Automotive Parts and Service Management (2,2,0) Prerequisites: None
This course deals with the day-to-day operation of a parts and servicing department. Techniques of coding, pricing, inventory control, scheduling, estimating, quality control, and personnel management are presented by our experienced staff and occasional guest speakers.
AM210 Automotive Engine Performance Theory I (2,2,0) Pre- or Co-requisites: AM124, or student must have written departmental approval
This course covers the principles of operation, diagnosis, and repair of several kinds of carburetors, fuel injectors, and turbochargers as used in today's automobiles. To insure more complete understanding, enroll in AM211 at the same time.

AM211 Automotive Engine Performance Lab I (2,0,3) Pre- or Co-requisites: AM210, AM104
This course follows the student to apply the knowledge gained in AM210 to service, diagnose, and repair the units studied. Use of special analytical equipment is stressed.

AM212 Automotive Engine Performance Theory II (2,2,0) Pre- or Co-requisites: AM211, EL100, or student must have written departmental approval
A study of the several types of ignition and emission control systems in use today. Included are principles of operation, servicing, and troubleshooting. To insure maximum understanding, enroll in AM213 at the same time.

AM213 Automotive Engine Performance Lab II (3,0,4) Pre- or Co-requisites: AM212
This lab gives students many opportunities to apply the theories gained in AM212 above. Emphasis is given to use of special test equipment in troubleshooting and adjusting systems after rebuilding or repair.

AM230 Automatic Transmission Theory (2,2,0) Pre- or Co-requisites: AM106
This is a study of the history, principles, parts, and operation of several makes of automatic transmissions. Hydraulic, mechanical, electrical and vacuum functions are all covered thoroughly. For best results, enroll in AM231 below.

AM231 Automatic Transmission Lab (2,0,3) Pre- or Co-requisites: AM104, AM230, or student must have written departmental approval
This is a course dealing with removal, replacement, rebuilding, and tests for automatic transmissions. It encourages application of all principles learned in AM230 above.

AM254 Diesel Engine Theory (3,3,0) Prerequisites: None
This is a study of basic diesel engine principles of operation and related components. This course prepares the student for servicing and troubleshooting operational engines. For most efficient learning, students should enroll in AM255 below.

AM255 Diesel Engine Lab (3,0,4) Pre- or Co-requisites: AM104, AM254, or student must have written departmental approval
This course is designed to furnish the student the necessary technical knowledge and the practical experience to service, repair, and diagnose diesel engines used in the truck, automobile, farm, or heavy equipment applications.
AM260 Automotive Heating and Air Conditioning Theory (2,2,0) Prerequisites: None.
This course includes the several different systems and components used for heating and air conditioning in today's vehicles. Also included are testing, troubleshooting, and servicing techniques. For practical experiences, enroll in AM261 at the same time.

AM261 Automotive Heating and Air Conditioning Lab (2,0,3) Pre- or Co-requisites: AM260, AM104, or student must have written departmental approval
This course allows students to apply the knowledge gained in AM260 by providing several service opportunities on operating systems, using special test equipment.
BUSINESS ADMINISTRATION

BA105 Accounting for Small Business (3,3,0) Prerequisites: None
This course provides basic accounting principles and practices, from a theoretical and practical approach, with emphasis on the small business.

BA115 Financial Accounting (4,4,0) Prerequisites: None
An introduction to accounting and fundamentals: the meaning and purpose of accounting statements, balance sheets, and profit and loss statements. The theory of debits and credits; accounts payable and receivable; the trial balance; adjusting and closing entries; accounting for notes, interest, unearned and accrued items are examined.

BA116 Managerial Accounting (3,3,0) Prerequisites: BA115, or student must have written departmental approval
Basic procedures for accumulating and using the accounting data needed for managerial planning, controlling, and decision making.

BA135 Introduction to Business (3,3,0) Prerequisites: None
An introduction to the environment, nature, and opportunities of business. The study of ownership and operation of business including: marketing, location and layout, personnel, finance, controls for decision making, and the legal environment of business.

BA136 Entrepreneurship (3,3,0) Prerequisites: None
This course examines the nature and characteristics of the entrepreneur—the risk-taker; and the roles of business creators in American society. In addition, this course looks at the critical factors and special problems associated with the process of creating potential business ventures.

BA200 The Legal Environment of Business (3,3,0) Prerequisites: None
An introduction to the legal system and the common body of knowledge as it relates to the environment of business, providing emphasis on business relations with society and government.

BA215 Cost Accounting I (3,3,0) Prerequisites: BA116
A study of cost information systems and accumulation procedures for the purpose of budgetary planning. The recording of and preparation of factory overhead, material, and labor costs in a form acceptable in AICPA will be taught.

BA216 Cost Accounting II (3,3,0) Prerequisites: BA215
Planning for profits and sales and controlling of costs and profits are covered. Emphasis will be placed on cost and profit analysis.

BA233 Principles of Marketing (3,3,0) Prerequisites: None
An introduction to marketing, with special emphasis upon retailing from the standpoint of both consumers and businessmen, including the establishment, financing, and organizing of merchandising institutions, as well as buying and selling procedures.
BA234 **Retailing (3,3,0)** Prerequisites: BA233, or student must have written departmental approval
A continuation of BA233 with emphasis placed upon control of the store operation.

BA235 **Small Business Management (3,3,0)** Prerequisites: None
This is a study of the operation of small business. Included in the course are topics dealing with organization, financial structure, record keeping, and promotion of small business. Also included are topics dealing with salesmanship, personnel relations, customer psychology, and business law.

BA236 **Production Management (3,3,0)** Prerequisites: MA159
The management functions as applied to the production of products. The inputs of capital, labor, design, and purchasing are covered with emphasis upon the process including all types of control.

BA237 **Management (3,3,0)** Prerequisites: None
This is a study of management with three primary purposes: to cover in detail the managerial process, to understand the purposes of organizations and how they function, and to understand human behavior as it relates to organizations.

BA246 **Tax Accounting (3,3,0)** Prerequisites: None
Local, state, and federal taxes of sole proprietorships, partnerships, and corporations are studied. Tax practices and procedures relating to assessment and collections are also covered.

BA248 **Advertising (3,3,0)** Prerequisites: None
The role of advertising in society is investigated along with its institutions and media. The creation and planning of advertising is covered along with effective promotional activities.

BA250 **Human Relations (3,3,0)** Prerequisites: None
Study of the methods of selecting and training personnel, discipline problems, morale, wages, fringe benefits, promotions, separations, and other related areas.

BA251 **Customer Relations (2,2,0)** Prerequisites: None
Exploration of the ways and means of making good first impressions, maintaining satisfaction, communicating effectively, handling complaints, and avoiding the mistakes which offend customers. Emphasis will be given to face-to-face as well as telephone contacts.

BA252 **Financial Principles (3,3,0)** Prerequisites: None
Monetary and credit systems are covered extensively with emphasis placed on meeting the demand for funds, the factors affecting the supply of funds, and monetary and credit policies and problems.
BA253 Principles of Investment (3,3,0) Prerequisites: BA135, or student must have written departmental approval
An introduction to the securities market with special attention to corporate securities and financial policies including: limited income securities, common stock, and special classes of securities. Security analysis, and portfolio development policies.

BA255 Purchasing (3,3,0) Prerequisites: BA237
The purchasing department's role in logistics, objectives, and contributions are studied. Coordination of purchasing with other management functions such as materials management, the computer, and ethics are studied.

BA265 Sales Management (3,3,0) Prerequisites: None.
To provide the student with necessary background in organization, management, and operation of an effective sales force. The laws of effective selling are covered extensively.

BA268 Credits and Collections (3,3,0) Prerequisites: None
This course is designed to provide the student with understanding of basic credit principles, by explanation of credit as a tool, analysis of dealer's and individual's ability to pay, use of credit references, and development of skills and techniques normally used in a credit department for collection of past due accounts.

BA273 Industrial Relations (3,3,0) Prerequisites: None
The components of personnel problems, supervision skills, organization, manpower, and employment development are investigated. Incentives and management responsibilities are covered also.
Basic Income Tax Preparation (5,5,1) Prerequisites: None
The H & R Block Income Tax Course enables the interested student, with no prior knowledge, to begin to gain a solid and working understanding of the intricacies surrounding most income tax returns. Study includes illustrated lectures, discussions and the practical use of tax forms. There are 27 three-hour classes. Students who successfully complete the course are awarded the H & R Block certificate of achievement. The five (5) hours credit may be used only for general credit and are not applicable to any business requirement for one- or two-year business curricula.

Red Cross Multimedia First Aid & CPR (1,1,0) Prerequisites: None
This course will provide fundamental principles and skills in basic first aid and accident prevention. Participants will also be prepared, through knowledge and skill development, to meet the needs of most situations in which CPR is needed and medical assistance is not excessively delayed.

Basic Consumerism (3,3,0) Prerequisites: None
A course in developing basic consumer principles and skills to meet the ever-challenging and ever-changing demands of day-to-day living in a free enterprise, economic system. The course emphasizes consumer protection, resource management, decision-making, planning for food buying, purchasing health services, insurances, using community resources and credit.
COSMETOLOGY

CS100 Introduction to Cosmetology (3,3,0) Prerequisites: None
This course is an orientation to the science of cosmetology and includes
cosmetology laws and rules as well as sterilization and sanitation
techniques and policies. Basic hair shapings and finger waving will also
be covered in this course.

CS101 Beginning Hairstyling (3,3,0) Prerequisites: None
Student will gain more experience in finger waving and learn the basics of
pin-curling, shampooing, manicuring and facials. The use and care of
cosmetology equipment will also be covered.

CS102 Beginning Hair Cutting and Permanent Waving Theory (3,3,0) Prerequisites: None
This course will provide further training in the elements of basic
hairstyling and an introduction to hair shaping, permanent waving and
scalp and hair treatments. Basic electrical theory as related to
cosmetology and the use of thermal and specialized electrical equipment
will also be covered.

CS103 Beginning Hair Coloring and Professional Development Theory (3,3,0)
Prerequisites: None
This course will cover basics in hair coloring, chemical hair relaxing,
wiggery and professional development and ethics.

CS110 Introduction to Cosmetology Lab (4,0,8) Prerequisites: None
This course provides students with laboratory experiences in the science
of cosmetology and includes cosmetology laws and rules as well as
sterilization and sanitation techniques and policies. The student will
practice basic hair shapings and finger waving.

CS111 Beginning Hairstyling Lab (4,0,8) Prerequisites: None
This course will provide students with laboratory experiences in the
practice of finger waving, and the practice of basic pin-curling,
shampooing, manicuring, and facials. The use of cosmetology equipment
will be stressed.

CS112 Beginning Hair Cutting and Permanent Waving Lab (4,0,8) Prerequisites: None.
This course provides students with laboratory experiences in basic
hairstyling and hair shaping, permanent waving and scalp and hair
treatments. Basic electrical theory as related to cosmetology will be
applied and the use of thermal and specialized electrical equipment will
be practiced.

CS113 Beginning Hair Coloring and Professional Development Lab (4,0,8)
Prerequisites: None
This course will provide students with laboratory experience in
haircoloring, chemical hair relaxing, wiggy and professional development
and ethics.
CS200 Advanced Hairstyling (3,3,0) Prerequisites: CS101, CS111
This course will provide students with an introduction to cosmetic chemistry. Students will receive training in advanced hairstyling and shaping.

CS201 Advanced Hair Coloring and Permanent Waving (3,3,0) Prerequisites: CS103, CS113.
This course is a continuation of advanced hairstyling with special emphasis on coloring and permanent waving. The basics of trichology will also be presented.

CS202 Advanced Hairstyling II (3,3,0) Prerequisites: CS101, CS111
This course continues to develop the student's technical skills in hairstyling, shaping, coloring and permanent waving. A continuation of the science of trichology will further be developed.

CS203 Cosmetology Salon Management and Board Review Theory (3,3,0) Prerequisites: CS210, CS211
This course will provide training to students in salon management techniques, professional ethics, and job preparation skills. A review of all theoretical and practical experiences will be covered in a 35-hour segment of this course, designed to prepare students for the State Board Licensing Examination.

CS210 Advanced Hairstyling Lab (5,0,10) Pre or Co-requisite: CS200
This course will provide students with laboratory experiences in cosmetic chemistry at the introductory level. Students will practice advanced hairstyling and shaping.

CS211 Advanced Hair Coloring and Permanent Waving Lab (5,0,10) Prerequisites: CS200, CS210
This course will provide students with laboratory experiences in advanced hairstyling with emphasis on coloring and permanent waving. The student will become familiar with the basics of trichology.

CS212 Advanced Hairstyling Lab II (5,0,10) Pre- or Co-requisites: CS202
This course will provide the students with further laboratory experiences in the technical skill of hairstyling, shaping, coloring, and permanent waving. Further study in the science of trichology will be stressed and further development of all basic skills learned through our program will be improved.

CS213 Salon Management and Board Review Lab (5,0,10) Pre- or Co-requisites: CS203.
This course will provide students with training in salon management techniques, professional ethics and job preparation skill in the laboratory setting. A review of all theoretical and practical experiences will be covered in 35-hour segment of this course, which is designed to prepare students for the State Board Licensing Examination. Special emphasis will be placed on the Pre-Board Examination.
CS250 Cosmetology Instructional Internship (16,9,22) Prerequisites: Student Must Have Written Departmental Approval
This course is taught on a tutorial basis in an active school setting, giving the student experience in a large variety of training situations. Only one student is enrolled at a time, and he/she is expected to devote approximately 28 hours per week throughout the 18 week course. Emphasis will be on methods of presentation, record keeping, safety, regulations, and customer/student relations.
CRIMINAL JUSTICE

CJ100 Introduction to Criminal Justice (3,3,0) Prerequisites: None
This course provides the student with a broad overview of the history and scope of the American Criminal Justice System.

CJ110 Introduction to Corrections (3,3,0) Prerequisites: None
This course is designed for persons employed in or interested in a career within the broad field of correctional administration. This course will review where corrections in America originated, where it is today, where it seems to be going, and some of the issues which need to be resolved. Emphasis is to be placed on the multi-faceted approach to corrections in our contemporary society.

CJ120 Corrections Institutions/Facilities (3,3,0) Prerequisites: None
This course provides the student with a concentrated overview of correctional institutions and facilities. It is designed primarily for students intending to pursue a career in the criminal justice system or for those already employed within the system. It has relevance to other students pursuing a social science orientation. The course explores federal, state, county, and local facilities, including maximum, close, medium, and minimum custody facilities. It addresses community facilities, co-educational facilities, and the safety and security requirements and considerations related to each. Constitutional and managerial issues are stressed. The course includes historical developments and philosophy, sociological concepts, definitions and concepts, and their application. The interplay of policy, procedures, management, law, and facility design is stressed.

CJ125 Police Administration and Operations (3,3,0) Prerequisites: None
This course is for students pursuing careers in the criminal justice system or for those already employed within the system. This course explores the evolution of administrative theory with special emphasis on its impact and application at the operational level of law enforcement agencies.

CJ130 Criminal Investigation (3,3,0) Prerequisites: None
This course includes the basic principles of modern criminal investigation techniques including crime scene search, collection and preservation of evidence, follow-up investigation, police criminalistics, and court preparation and testimony.

CJ210 American Criminal Law (3,3,0) Prerequisites: None
For persons seeking employment in the criminal justice system. The course includes the historical development and philosophy of criminal law, including legal definitions, concepts, and their application to the criminal justice system.
CJ220 Legal Issues in Corrections (3,3,0) Prerequisites: None
This course provides the student with a broad overview of legal issues related to corrections in the United States. It is designed primarily for students intending to pursue a career in the criminal justice system or those already employed within the system. It has relevance to all students pursuing a social science orientation. The course explores legal conflicts arising from the rights of the accused, the convicted, society, and those who work within the system. Constitutional limitations are stressed, as is the impact of law on correctional practice. The course includes historical developments and philosophy, as well as definitions, concepts, and their applications.

CJ230 Juvenile Delinquency (3,3,0) Prerequisites: None
This course is designed for students interested in or already employed within the criminal justice system. This introductory course includes: theories of delinquency causation, examination of the family relationship and juvenile delinquency, the juvenile justice system, and delinquency prevention programs.

CJ240 Introduction to Security Systems (3,3,0) Prerequisites: None
This course is designed for persons employed in or interested in a career within the broad field of public and private security administration.

CJ250 Client Relations in Corrections (3,3,0) Prerequisites: None
This course is designed to acquaint the student with the principles of human relations as they relate to the criminal offender. Topics to be covered will include the meaning and function of culture, minorities, discrimination, and affirmative action; attitude formation, human relations skills, and professional responses to human behavior.

CJ260 Client Growth and Development (3,3,0) Prerequisites: None
This course is designed to acquaint the student with the conditions which promote the growth and development of criminal offenders. The course will differentiate between normal and criminal behavior; will trace the social, psychological, and biological development of offenders; identify specific problems related to offenders; and propose a set of intervention strategies.

CJ290 Corrections Internship
Under development
DATA PROCESSING

DP110 Introduction to Data Processing (3,3,0) Prerequisites: None
This course provides a basic understanding of computer system fundamentals, with emphasis on microcomputers. A brief introduction to programming using BASIC is also included. The students will do exercises on a microcomputer as part of their class assignments.

DP112 Introduction to BASIC (1,1,0) Prerequisites: DP110, or student must have written departmental approval.
A BASIC language introduction. This course is intended for students who have had no prior exposure to programming and may not feel quite ready to start right into the full effort of DP115. It is intended to be a pre-DP115 course. Only the very elementary statements of BASIC will be covered and some hands-on use of the microcomputers to give a first exposure to their use. Students who have completed DP110 with less than a B are encouraged to consider this course as a stepping stone to DP115.

DP115 Introduction to Computer Programming (3,2,2) Prerequisites: DP110, OE120.
This is the first computer programming course. Microcomputers and the programming language "BASIC" are the primary tools. Included are programming concepts and problem-solving techniques, structured basic programming; files and file manipulation techniques, understanding and using built-in features and available software. Programming assignments will reflect personal, business, and scientific applications.

DP116 Microcomputers: Operating Systems and Applications (3,2,2)
Prerequisites: DP110 or student must have written departmental approval.
This course is not a substitute for DP115.
This course will introduce the student to the operating systems used on today's microcomputers. The main emphasis will be on MS-DOS (Micro-Soft Disk Operating System), which is used on the IBM-PC and its compatibles. The student will also be introduced to some Commercial Application Software, File Management, Report Generation, Word Processing, and Spreadsheets. The PFS series from Software Publishing Company will be used on both the Apple and IBM-PC.

DP120 COBOL Programming (3,2,2) Prerequisites: DP110, DP115.
This course provides an elementary understanding of the principles and techniques of writing computer programs in COBOL. Features and capabilities of COBOL will be used in solving business-related problems. Topics covered will be: computer programming, flowcharting, data storage, and procedural study.

DP121 Introduction to Computer Language/Fortran (3,2,1) Prerequisites: DP110
FORTRAN is a computer language used to communicate commands to a computer. Completion of the course will enable students to flowchart problems and then program this information as instructions for the computer. Topics include: write statement, read statement, format statement, do-loops, arrays, subroutines, and addition I/O statements.
DP122 Introduction to Pascal (3,2,2) Prerequisites: DP110, DP115, or student must have written departmental approval.
This course provides an elementary understanding of the principles and techniques of writing computer programs in PASCAL. Topics covered will include: problem solving, algorithm development, structured programming techniques, module design, and dynamic storage concepts.

DP125 RPG II Programming (3,2,2) Prerequisites: DP110, DP115.
RPG II Programming provides an elementary understanding of the principles and techniques of writing business-related programs in RPG II. The course will be heavily oriented to hands-on programming. Topics covered will be: program design; flowcharts/pseudocode; report generation; editing; file concepts and use; table processing; and other features of RPG II.

DP215 Advanced Programming in Basic (3,2,2) Prerequisites: DP110 and DP115 or student must have written departmental approval.
Advanced Programming in BASIC is a follow-up course to DP115. This course will cover additional and more indepth topics in programming in the BASIC language.

DP240 Systems Concepts/Design (3,3,0) Prerequisites: DP120.
Systems development methodology as applied to the analysis, design and implementation of manual and computerized systems. Topics include: the role of the System Analyst; system investigation; design of systems output, input, files, processing and controls; project management and implementation. Students will have the opportunity to participate in the analysis and design of a simulated business system.

DP290 Programming Project (3,1,4) Prerequisites: DP240, BA135, BA116.
A comprehensive laboratory project requiring the student to conduct a detailed analysis and implementation of a data processing application program or system.
ELECTRICITY/ELECTRONICS

EL100 Concepts in Electricity (3,2,2) Prerequisites: MA100
The purpose of this course is to give a student a basic knowledge of electrical components, AC and DC circuits, and electrical measuring instruments. Other topics include: schematic symbols, power, capacitance, inductance, impedance, magnetism, electro-magnetism, transformers, and motors. This course emphasizes a "hands-on" approach, with the use of modern components and equipment.

EL110 Electronic Circuit Analysis I (3,2,2) Prerequisites: EL100, MA104.
Electronic Circuit Analysis is a course in the use of mathematics as a tool in analyzing working and defective circuitry. Although primarily lecture, some lab time is used for demonstrations and class assignments.

EL120 Electronic Devices (3,2,2) Prerequisites: EL110, Co-requisites: MA102.
The student will study many electrical and electronic components, including: inductors, capacitors, transformers, diodes, transistors, and integrated circuits. Applications such as filters, resonant circuits, and basic amplifier configurations will be used to reinforce the student's knowledge.

EL141 Microprocessors I (3,2,1.5) Prerequisites: None
This course is an introduction to microcomputer structure and programming, with the Motorola 6800 microprocessor used for examples. Topics include number systems and codes, microcomputer basics, computer arithmetic, an introduction to programming, and the 6800 microprocessor. Laboratory time is provided for developing and executing machine language programs.

EL160 Electronic Test Equipment (3,2,2.) Prerequisites: EL241
This course will explore the use of test equipment in electronic servicing. A variety of servicing examples will be used ranging from audio amplifiers to computer systems. Many practical troubleshooting hints will be offered, including the use of the human senses.

EL210 Electronic Circuits (3,2,2) Prerequisites EL120, Co-requisites: EL120.
This course is a study of electronic component applications. This will cover basic power supplies, regulated power supplies, amplifiers, including: audio, RF, and power types, and some basic digital and pulse circuitry. Construction and analysis of these circuits will be included in the laboratory experiments, along with proper soldering and desoldering techniques.

EL230 Digital Electronics (3,2,2) Prerequisites: EL120
This course is a study of techniques used in building and analyzing digital circuitry. Course topics include: numbering and coding systems, digital integrated circuits, Boolean algebra, combinational and sequential logic circuits, digital counters, and computer fundamentals.
EL241 Microprocessors II (1.5.1) Pre- or Co-requisites: EL141, EL230
This course continues EL141's discussion of microprocessors, with emphasis on circuits required in computer interfacing. Basic keyboard and display interfacing will be discussed in lecture and built in lab.

EL251 Industrial Electrical Maintenance I (2.1.1) Prerequisites: EL100
This course is for those who have an understanding of electrical basics and want to learn more about industrial motors and their controls. Included is a study of the National Electrical Code, wiring symbols and diagrams, motors, and basic control circuits.

EL252 Industrial Electrical Maintenance II (2.1.1) Prerequisites: EL251
This course builds on knowledge and skills taught in EL251 and is for students having a good understanding of basic industrial motor circuits. Included is a study of the National Electric Code, timing circuits, speed control, reduced voltage starting and troubleshooting.

EL253 Industrial Electrical Maintenance III (2.1.1) Prerequisites: EL252
This course will emphasize programmable controllers, their use, selection, setup, and servicing. This course is designed to give the electrician an understanding of the programmable controller, its logic functions, its installation, and troubleshooting.

EL261 Electronic Communications (2.0.3) Prerequisites: EL210
Electronic Communications is a course in communications systems, such as AM and FM radio, television, and digital data links. Antenna systems are also included. This is an advanced course for those students interested in employment as a radio, television, or telephone technician.

EL271 Microprocessor Interfacing (3.0.4) Prerequisites: EL241
This course is a continuation of the study of microprocessors. The course will be primarily concerned with standard peripheral devices, and how they are interfaced into a microprocessor system. In addition, more advanced microprocessor systems, such as the 6800, will be studied.

EL281 Robotics and Industrial Electronics (3.0.4) Prerequisites: EL241
This course is a study of industrial robots, which includes their classification, operation, programming, and functional analysis. Additional topics include motors, sensors, and control systems.
FOOD SERVICE TECHNOLOGY

FST100 **Introduction to Food Service** (3,3,0) Prerequisites: None
This course provides students with an introduction to the Food Service Industry. A study of the many divisions of the industry, their function and relationship to careers for the student will be covered. The course will provide information on each of the many types of food service and the employment potential found in each.

FST101 **Food Service Sanitation** (2,2,0) Prerequisites: None
This course provides an indepth analysis of guidelines for effective food service sanitation. The course will provide information and methods to help the food service manager apply sanitation procedures to food handling functions.

FST110 **Food Production Skills—General** (4,2,4) Prerequisites: FST101
This course presents the various food production methods geared toward quantity food production. The class will include basic terminology and special consideration of safety and sanitation in a "hands on" type experience. The course will include preparation of all types of meals.

FST120 **Food Production Skills—Entree** (4,2,4) Prerequisites: FST101
A continuation of FST110 with special emphasis on preparation of both luncheon and dinner entrees.

FST130 **Meat and Portion Control** (2,1,2) Prerequisites: FST101
This course provides a study of meat, its relationship to menu and how costs can affect menus. The student will be able to identify meat cuts and the methods of preparation for each. Special emphasis on meat quality and its significance to customer satisfaction and profitability will also be covered.

FST140 **Nutrition and Menu Planning** (3,3,0) Prerequisites: None
This course presents a study of normal nutrition and how food is absorbed into the body. Students will study menu planning with a special emphasis on nutritional value and menu attractiveness. Special projects in all areas of menu planning will be included to insure students will gain experience that will assist them in the food service industry.

FST200 **Equipment Design, Layout, Selection** (2,1,2) Prerequisites: None
In this course students will study the equipment and facilities available to the food service industry. A student project will consist of the overall design and equipment layout for maximum productivity and the selection of the actual equipment based on desired function, quality and performance of a specific food service facility.
FST201 Food Service Management (3,3,0) Prerequisites: None
In this course students will study the manager's role in the operation of a food service establishment. The course will include both the study of people and their performance as well as management controls and their relationship to the successful management of a food service operation.

FST210 Food Production Skills—Bakery (4,2,4) Prerequisites: FST101
A continuation of FST110 and FST120, with special emphasis on preparation of all baked products, including cake and pastry decoration.

FST220 Food Production Skills Catering (4,1,5) Prerequisites: FST101
In this course the student will study the types and methods of catering operations. Special emphasis will be placed upon obtaining practical experiences in the planning of menus and preparation of hors d'oeuvres and other items appropriate for various themes.

FST230 Food Purchasing (3,3,0) Prerequisites: None
In this course students will study the standards of quality and quantity in purchasing as applied to all phases of the food service operation. Students will gain experience in the proper selection of all types of food service equipment ranging from place settings in the dining room to a broiler in the kitchen. All types of food and grocery selection will also be covered. Particular emphasis will be placed on standardized procedures and specifications for each purchase.
FOREIGN LANGUAGES

FL120  **Elementary French I (4,4,0)** Prerequisites: None
Fundamental training in basic language skills stressing oral and written expression as well as aural comprehension. Open to students with no French background or one year of high school French. Students electing this class should plan to take FL121 second semester.

FL121  **Elementary French II (4,4,0)** Prerequisites: FL120
A continuation of French 120

FL130  **Elementary Spanish I (4,4,0)** Prerequisites: None
This is the first half of a year long beginning Spanish course. This course is designed primarily around conversational approaches to the language, but does include instruction in the basics of Spanish grammar. Lectures and written exercises will supplement an emphasis on the oral recitation and classroom conversation. In addition, pertinent aspects of Hispanic culture will be examined.

FL131  **Elementary Spanish II (4,4,0)** Prerequisites: FL130
A continuation of Elementary Spanish 130.
HUMANITIES

HU100  Fundamentals of Music (3,3,0) Prerequisites: None
This course includes the development of the techniques necessary to the
understanding and knowledge of music fundamentals. Students shall have
the opportunity to develop basic skills in reading and writing music,
along with sight singing, ear training, rhythmic organization, and
keyboard familiarity.

HU101  Music Appreciation (3,3,0) Prerequisites: None
An introduction to the various styles of music, the course is designed to
increase the student's understanding, awareness and enjoyment of music
through the development of proper listening habits. Class presentations
will include records and demonstrations.

HU110  Music in the Elementary Classroom (3,2,1) Prerequisites: None
This course is designed to increase the student's awareness of music
programs for the elementary grades. Stressing creative experiences, use
of appropriate materials and methods pertinent to the elementary
classroom, and the development of music fundamentals is emphasized.

HU111  Teaching Drawing to Children (1,.5,.5) Prerequisites: None
This is a basic drawing course for people interested in learning to draw
what they see. Topics covered are contour, light and shadow,
perspective, and proportions of the human figure. A method of
instruction appropriate for use with children or the adult beginner in
art is also taught.

HU112  Teaching Ceramics to Children (1,.5,.5) Prerequisites: None
This is an introductory hands-on course in working with clay. Students
will learn many handbuilding techniques for making pottery and sculpture,
decorating and glazing techniques, and the loading and firing of electric
and sawdust kilns.

HU113  Teaching Sculpture to Children (1,.5,.5) Prerequisites: None
This course provides instruction and practical experience in the creation
of various types of sculpture. Emphasis will be given to modeling,
carving, and assembling techniques using low cost materials suitable for
children or the adult beginner in art.

HU114  Teaching Painting to Children (1,.5,.5) Prerequisites: None
This course provides instruction and practical experiences in the use of
color, composition, and various painting media to create paintings,
emphasizing materials and techniques suitable for children or the adult
beginner in art.

HU115  Teaching Printmaking to Children (1,.5,.5) Prerequisites: None
This course provides instruction and practical experience in the use of
various printmaking media and techniques to create designs and
prints, emphasizing materials and techniques suitable for children or the
adult beginner in art.
HU118  Art Materials and Methods—Studio (1,.5,.5)  Prerequisites: None
This course will provide the students with the opportunity to use various
art materials and techniques to make art objects. Films and examples
will be shown and demonstrations will be given by the instructor when new
ways of working are introduced.

HU120  Introduction to Art (2,1,2)  Prerequisites: None
This course provides the student who has very little background in art
with the basic information about color, design, composition, and the use
of art materials and techniques needed for the courses in drawing,
painting, and ceramics.

HU121  Sketching (2,1,1.25)  Prerequisites: None
This is a course in basic free-hand drawing techniques including:
shading, perspective and proportions. Students will learn to accurately
sketch a variety of three-dimensional forms. Emphasis will be placed on
using the sketch as a method of communication.

HU122  Drawing I (3,1,3)  Prerequisites: None
This course includes instruction in basic drawing techniques including:
shading, perspective and the proportions of the human face and figure.
Studio work will provide the student with drawing experiences using a
variety of subjects and materials.

HU123  Drawing II (3,1,3)  Prerequisites: HU122
This course provides the student with additional drawing experiences with
instruction in portraits, the figure, composition, and developing self-
expression.

HU125  Painting I (3,1,3)  Studio, Prerequisites: None
This course includes basic instruction in color mixing and the techniques
of painting with oils or acrylics. Studio work is in the student's
chosen medium.

HU126  Painting II (3,1,3)  Studio, Prerequisites: HU125
This course places emphasis on composition and color theory.

HU130  Ceramics I (3,1,3)  Studio, Prerequisites: None
This course includes instruction in the basic materials, techniques, and
aesthetics of working in clay. Studio work consists of forming,
decorating and glazing hand built pottery and sculpture.

HU131  Ceramics II (3,1,3)  Studio, Prerequisites: HU130
This course places emphasis on further development of hand built forms or
learning the basic techniques of throwing on the potter's wheel and
exploring different decorating and glazing techniques.
HU150  Beginning Photography (3,1,2) Prerequisites: None
This course includes basic instruction in the mechanics of a camera and
techniques in the dark room. It is a beginning course intended for
people who have never taken a picture in their lives; however, every
attempt will be made to allow students who have previous experiences to
pursue more advanced objectives. The emphasis will be on establishing a
basis of sound technique as a means of getting to the artistic idea.

HU151  Color Photography (3,2,2) Prerequisites: HU150, or student must have
written departmental approval.
This course is a basic color photography experience. Techniques of film
development, color printing, and color balance of color prints will be
explored.

HU185  Special Ensemble I (1,0,1) Prerequisites: None
These groups are appropriate for musicians who enjoy performing in small
select vocal ensembles. Participants will be selected after successfully
auditioning with music director. Each ensemble will meet approximately
twice a week and the rehearsal schedule will be arranged sometime after
the first week of each semester. These ensembles may include women's,
men's and/or mixed singing groups.

HU186  Special Ensemble II (1,0,2) Prerequisites: None
This course is a continuation of HU185.

HU191  Choir I (1,0,2) Prerequisites: None
This course offers the students interested in the performing arts and
opportunity to further develop musical talents. The choir performs at
several campus and community events throughout the academic year.
Opportunity is also provided to perform with small vocal ensembles whose
members are selected from choir personnel.

HU192  Choir II (1,0,2) Prerequisites: None
This course is a continuation of HU191.

HU195  Jazz Band I (1,0,2) Prerequisites: None
This group is made up of instrumentalists having previous band experience.
The class offers instrumental musicians the opportunity to continue their
education on their particular instrument in the jazz medium. The jazz
band performs at several campus and community events throughout the
academic year.

HU196  Jazz Band II (1,0,2) Prerequisites: None
This course is a continuation of HU195.

HU200  Humanities I (4,4,0) Prerequisites: None
The purpose of this course is to develop the student's understanding of
the artistic, literary and philosophical nature of man. Viewed
historically, selected topics integrate material from the fields of art,
literature, music, philosophy and religion.
HU201 Humanities II (4,4,0) Prerequisites: None
This course is a continuation of HU200. Completion of HU200 before enrolling in HU201 is recommended but not required. Humanities II places emphasis on the modern historical development of thought in art, literature, music, philosophy, and religion.

HU220 Introduction to Philosophy (3,3,0) Prerequisites: None
This course is designed to acquaint the student with some fundamental questions concerning the nature of man and the way in which the most profound thinkers of the past and present have dealt with those questions. Though not a prerequisite, the completion of HU200 before enrolling in Introduction to Philosophy is strongly recommended.

HU222 Bioethics (3,3,0) Prerequisites: None
This course is designed for the study of some of the major ethical theories and their relevance to the decision-making process in the biologically or health-care related fields. Topics to be included in this course are issues related to: 1) conception/birth, 2) life/death, and 3) patient's or individual's rights, etc.

HU225 Art for the Elementary Teacher-Lecture and Studio (2,1,2)
Prerequisites: None
This course combines instruction in the practice and philosophy of teaching arts and crafts to children, with studio work in a variety of materials and techniques suitable for their use.

HU227 Painting III (3,1,3) Studio, Prerequisites: HU126
This course places emphasis on exploration of traditional or experimental painting techniques.

HU228 Painting IV (3,1,3) Studio, Prerequisites: HU227
This course places emphasis on development of individual expression.

HU230 Watercolor Painting (2,5,1.5) Prerequisites: None
This course includes basic instruction in color mixing and the techniques of painting with watercolor.

HU232 Ceramics III (3,1,3) Studio, Prerequisites: HU131

HU233 Ceramics IV (3,1,3) Studio, Prerequisites: HU232

HU240 American Art Seminar (1,0,1) Prerequisites: None
In this course, students will read and report orally on major American Artists and movements. The artists' works will be examined critically in class. Subsequent class discussions will explore the derivations, significances, meaning, and trends evident in their artistic expressions.

HU241 American Art Seminar II (1,1,0) Prerequisites: None
In this course students will read and report orally on major American artists and movements of the Twentieth Century. The artists' works will be examined critically in class. Subsequent class discussions will explore the significances, meanings, and trends evident in their artistic expressions.
HU245  French Impressionism (1.1.0) Prerequisites: None
This course offers an opportunity to explore the artists, techniques, and
environments of the Impressionist movement in painting. It took place in
France, one hundred years ago, and is one of the most beautiful and
popular periods in art history.

HU287  Special Ensemble III (1.0.2) Prerequisites: HU185
This course is a continuation of HU186.

HU288  Special Ensemble IV (1.0.2) Prerequisites: HU186

HU293  Choir III (1.0.2) Prerequisites: HU191
This course is a continuation of HU192.

HU294  Choir IV (1.0.2) Prerequisites: HU192
This course is a continuation of HU293.

HU297  Jazz Band III (1.0.2) Prerequisites: HU195
This course is a continuation of HU196.

HU298  Jazz Band IV (1.0.2) Prerequisites: HU196
This course is a continuation of HU297.
INDUSTRIAL TECHNOLOGY

IT100 Machine Tool Theory (2,2.25,0) Prerequisites: Student Must Have Written Departmental Approval.
This is a lecture course consisting of the definition, history, operation and application of the various tool room machines. Emphasis is placed on specific and special operations such as threading, taper turning, indexing, electro-chemical machining, and cutting tool geometry. Other non-traditional machining will be mentioned. The machinist handbook will be reviewed and used throughout the course as a reference for information needed in the operation of machine tools.

IT102 Basic CNC Operation (2,2.25,0) Prerequisites: Student Must Have Written Departmental Approval.
This course provides a hands-on experience in programming Computer Numerical Control systems used with machine tools. Topics covered include: circular and linear interpolation, absolute programming, Preparatory (G) and Miscellaneous (M) functions. Students will write their own programs and transfer them from the computer to the CNC machine and make the parts.

IT104 Statistical Process Control (1,1,0) Prerequisites: None
Commonly known as SPC, this course will include a brief history of SPC; a few of the statistical concepts which support it; an explanation of why it works; and why it is becoming more popular. Emphasis will be given to sampling methods, control charts, case studies, and tips for getting SPC started in the plant environment.

IT105 Statistical Problem Solving (1,1,0) Prerequisites: IT104, Or Student Must Have Written Departmental Approval
This course will include a brief refresher on the basic statistical concepts learned in IT104; a more in-depth explanation of the relationship between process variation and process problems; includes advanced application toward a better understanding of machine and process capability in terms of improvement through reductions in the common causes of variation. Emphasis will be applied to problem-solving techniques for correcting process nonconformities.

IT121 Plastic Injection Molding (2,2,0) Prerequisites: None
A new course under development at press time. Lecture/demonstration on processes, machines, and materials used in modern injection molding companies. Students will personally experience set-up and operational challenges.

IT130 Metallurgy and Heat Treatment (2,2.25,0) Prerequisites: None
Studied in this course are properties of metals and the tests to determine their use, chemical metallurgy, producing iron and steel, physical metallurgy, shaping and forming of metals, properties and non-ferrous alloys, study of properties of steel, surface treatments, powder metallurgy, and classifications of steels. Stress, strain, and strength of materials will be included throughout the course.
IT155  Safety and First Aid (2,2.25,0) Prerequisites: None
This course covers basic industrial safety practices, and includes
samples of lessons learned the hard way. Personal and plant safety
topics include: fire, electrical, moving machinery, lifting, vision and
hearing, and overhead work. An eight hour basic first-aid section is
taught by a certified Red Cross instructor, and successful students are
eligible for Red Cross Certification.

IT220  Basic Machine Operations (3,2,2) Prerequisites: None
This course covers the theory and practice in the operation of typical
machine tools as well as the use of bench tools and layout equipment.
The course is designed to provide practical knowledge of machine
processes rather than machine shop skill.

IT221  Advanced Machine Operations (3,2,2) Prerequisites: IT220
This course covers advanced operations on grinders, mills, presses and
lathes. Students will set up and perform machining operations using
typical machine shop equipment. They will be assigned special projects
to insure a full understanding of the operation of this equipment.

IT253  Hydraulics and Fluid Mechanics (3,2,2) Prerequisites: None
This course includes applied physics, hydraulic principles and formulas,
fluid characteristics and basic circuits and theory. In practice the
units of the hydraulic system are disassembled, inspected, and tested.
The piping, tubing, hose and common trouble sources in hydraulic systems
are covered through laboratory demonstrations and experiments on
specialized fluid power equipment.

IT260  Manufacturing Processes (2,2,0) Prerequisites: None
This is a study of the modern methods and processes used in manufacturing
a product. Individual and group tours of industry, viewing several video
tapes, and a survey of technical literature comprise the basis for this
course.

IT270  Industrial Quality Control (2,2.25,0) Prerequisites: None
This course defines the changing quality concepts of modern-day industry;
further defines quality organization, quality costs, data collection,
process control, customer relations, and product reliability. Encompasses theory and practical application of Statistical Process
Control (SPC).
LA100  Freshman English I (3,3.0) Prerequisites: None
This course introduces the student to the nature and function of the
English language. The successful student will attain a basic competency
in oral and written communication.

LA101  Freshman English II (3,3.0) Prerequisites: LA100, or student must have
written departmental approval
This course is to develop the student's ability to analyze the various
processes or formal and informal communication and to improve the ability
to recognize and utilize effective argumentative and expository prose.

LA160  Journalism (3,3.0) Prerequisites: None
This is an introduction course which includes the basic techniques in
writing, the principles of effective news writing, a survey of newsroom
organization and practical experience provided through laboratory
sessions. (Normally offered only at the prison extensions.)

LA161  Journalism Lab I (1.0.2) Prerequisites: None
This course provides practical experience on a newspaper.

LA162  Journalism Lab II (1.0.2) Prerequisites: None
Advanced practical experience on a newspaper.

LA200  American Thought and Literature I (3,3.0) Prerequisites: None
This course introduces the student to American literature through the
"thematic" approach. The student, while required to know the traditional
historical framework, actually reads modern literature as well as the
older literature, guiding his/her reading according to the recurring
themes, problems, and "continuing causes" which have concerned Americans
from the beginning to the present day.

LA201  American Thought and Literature II (3,3.0) Prerequisites: None
This is a survey of American literature arranged according to thematic
concerns (recurring themes, problems, "causes"), and which emphasizes
writing of the twentieth century.

LA210  Speech (3,2.1) Prerequisites: None
This is an introductory course in public speaking, designed mainly to
provide practice in speaking with interest and purpose before an audience.
Through presenting a series of brief talks before peers, the student will
become familiar with the basic principles of speech organization,
preparation, and delivery.

LA212  Oral Interpretation (3,2.1) Prerequisites: None
Through analyzing and reading aloud selected prose, poetry, and drama, the
students will improve their own understanding of these works and increase
their ability to communicate with others. The course will relate
interpretive reading to the other areas of speech: public address,
television, theater, speech improvement, and the teaching of literature.
LA220 English Literature from the Beginning to 1798 (3,3,0) Prerequisites: None
This is a systematic study of English literature which stresses the principal authors and their works. Reading and discussion will include representative writings of the period from the beginning to the end of the eighteenth century and will also survey current critical approaches.

LA221 English Literature from 1798 to Present (3,3,0) Prerequisites: None
This is a systematic study of English literature which emphasizes the principal authors of the nineteenth and twentieth centuries. Readings and discussion will include representative works and will also review current critical attitudes.

LA230 Short Story (3,3,0) Prerequisites: Student must have written departmental approval
This is a study of the strengths and limitations of the short story, which the student learns to read with delight and understanding.

LA235 Children's Literature (3,3,0) Prerequisites: None
This is a survey of literature for children in the elementary grade, aimed at developing techniques for using books with children, storytelling, and the criteria for book selection.

LA236 Children's literature-Fairy Tales (1,1,0) Prerequisites: None
This course includes the examination of patterns in a variety of traditional fairy tales and a close look at the world's best known fairy tale, Cinderella. Students will also examine and debate conflicting theories about the value and function of fairy tales.

LA240 The Novel (3,3,0) Prerequisites: None
This is a study of the novel with dual intent: to increase the benefits one receives from reading through systematic discussion of each novel; and to better understand how the "more than casual" reader approaches fiction through study of the several schools of literary criticism.

LA250 Creative Writing (3,1,2) Prerequisites: None
The purpose of this course is to allow the students to sharpen their ability to use the English language in expressing creative thought in any or all of the traditional genres. The student will be encouraged to greater achievement in types of writing they have already tried and will be expected to attempt work in new areas. A workshop atmosphere with common exchange of ideas will prevail.

LA260 Drama (3,3,0) Prerequisites: None
This course is an introduction to drama as a literary form and requires the student to read representative writings of the period from classical times to present.

LA261 Drama--As a Performing Art (3,1,2) Prerequisites: None
Students are involved in the producing, acting, staging, and directing of plays.

LA270 Poetry (3,3,0) Prerequisites: None
This course compares contemporary and classic examples of poetry to historically durable examples of structure and content.
A Survey of Black American Literature (3.3.0) Prerequisites: None
This is a chronological survey of Black American writing from 1760 to the present with emphasis on twentieth century examples of poetry, fiction, drama, and autobiography.
MA100 Elementary Algebra (3,3,0) Prerequisites: None
This course is a review of the properties of the basic number systems, using the tools of beginning algebra. Additional topics include first degree equations and inequalities, special products and factoring, graphs and linear systems, radicals and quadratic equations.

MA102 Trigonometry (3,3,0) Prerequisites: MA104, or the student must have written departmental approval
The right triangle is studied to introduce the students to the trigonometric functions. Further topics include trigonometric identities, additional formulas, law of sines, law of cosines, complex numbers and De Moivre's Theorem.

MA104 Intermediate Algebra (3,3,0) Prerequisites: MA100
This course will provide students with the algebraic skills, including manipulation and proofs, necessary for the study of college algebra and analytic geometry. Topics covered include the usual topics through quadratics plus the exponential and logarithmic functions, the binomial theorem, sequences, systems of equations, complex numbers, permutations and combinations with an introduction to probability.

MA110 Shop Mathematics I (2 credit hours, 36 clock hours) Prerequisites: None
This course covers the arithmetic of common fractions, decimals, percents, square roots, and the use of simple formulas. Also, the use of metrics is introduced.

MA111 Shop Mathematics II (2 credit hours, 36 clock hours) Prerequisites: MA110
Algebraic manipulations necessary for the solving of formulas and applied geometry, geometric constructions and applications, metrics and the use of the calculator are covered in this course.

MA112 Shop Mathematics III (2 credit hours, 36 clock hours) Prerequisites: MA111
Solid geometric applications, shop trigonometry, and an introduction to the use of computers in design and machining are covered.

MA116 Managerial Mathematics (3,3,0) Prerequisites: MA104
This is a study of mathematics relating to various business situations involving matrix algebra, sets, probability, linear programming and statistics.

MA151 Math for Elementary Teachers (3,3,0) Prerequisites: MA100
This course will provide the elementary teacher with the necessary background to teach mathematics in the elementary school. Such subjects as the origin of systems of numeration, sets, systems of whole numbers, bases other than ten, systems of integers, rational and real numbers will be discussed.

MA159 College Algebra (3,3,0) Prerequisites: MA102
Topics include the quadratic equation in two variables, sequences and series, complex numbers, De Moivre's theorem, synthetic division, mathematical induction, matrices, combinations and permutations.
MA160 Analytic Geometry (3,3,0) Prerequisites: MA159
This course covers the straight line, the circle conics, algebraic curves, transcendental curves, parametric equations, planes and lines, and quadratic surfaces.

MA190 Elementary Statistics (3,3,0) Prerequisites: Student must have departmental approval
This course introduces students to basic statistical techniques. Topics studied include: mean, standard deviation, frequency, probability, binomial distribution, the normal curve, sample means, confidence limits, hypothesis testing, chi-square, linear correlation and regression. Each topic is introduced with examples and problems. Practice in the use of appropriate tables will be sufficient to insure confidence in their use.

MA250 Calculus I (4,4,0) Prerequisites: MA160
This course covers functions and continuity, limits differentiation, applications, integration, and the definite integral applications.

MA251 Calculus II (4,4,0) Prerequisites: MA250
This course covers logarithms and exponentials, arc length, polynomials, partial fractions, Taylor's series, special methods of integration, and partial differentiation.
NATURAL SCIENCES

NS100 Biological Science (4.3,2) Prerequisites: None
This course provides a basic general education in some major biological sciences (botany, ecology, genetics, and zoology) and also a basis for the individual to relate to his total environment. It presents an opportunity for the student to evaluate his own interest and potential in the biological sciences.

NS101 Physical Science (4.3,2) Prerequisites: None
The purpose of this course is to provide basic general education in the physical science areas of physics and chemistry so that the student will be better able to understand and evaluate the results of scientific and technological achievement and their impact upon society. It also provides a basis for the student to evaluate his own interest and potential in the physical sciences.

The science department recommends that students who have weak high school science backgrounds or who have been out of school for several years should take NS100-101 sequence before enrolling in any other college science classes. Other students should select from the biological and physical science courses listed below in order to fulfill the science requirements at Montclair Community College.

NS102 Physical Geography/Earth Science (3.3,0) Prerequisites: Student must have written departmental approval
A study of the earth-sun relationship, climatic factors on the earth, the geographic grid, land forms, rocks, and minerals. Opportunity will also be provided to gain skills in map reading. The course will also include the study of the earth's natural resources and man's impact on these resources.

NS103 Anatomy and Physiology I (4.3,2) Prerequisites: NS100, or the student must have written departmental approval
This course introduces the structural organizations and gross functional roles of the major components of the human body. The concept of the dependence of one system on another and the contribution of each system to the total well-being of the individual will be emphasized. Lab includes some dissection and basic physiology experiments.

NS105 Introductory Chemistry (4.3,2) Prerequisites: None
This course is for students entering nursing, dental hygiene, home economics, other allied health science fields and for non-science majors. Students will become familiar with basic principles of chemistry as applied to the health sciences and with nuclear, organic and biochemistry. (Students working toward a bachelor's degree should take the two-semester college chemistry course--NS220-NS221.)

NS108 Problem-Solving (3.3,0) Prerequisites: None
This course in general problem-solving skills deals with the techniques used in solving a variety of problems that occur in all aspects of college courses and in all walks of life. This is an elementary course which assumes non-prior knowledge beyond basic reading, writing, and arithmetic skills.
NS110 Botany (4,3,2) Prerequisites: NS100
This is a survey of the plant kingdom from the simplest to the more complex. Students will study plant structure, classification, and ecological relationships. Students will have an opportunity to submit a collection from the local flora and special attention will be given to taxonomic principles and collection procedures along with the use of keys. The major portion of class time is spent out-of-doors.

NS111 Introduction to College Physics I (3,2,2) Prerequisites: MA100
This is a study of the physical concepts of force, work, rate, and resistance as they apply to several forms of energy.

NS112 Introduction to College Physics II (3,2,2) Prerequisites: NS111
This is a study of the physical concepts of power, potential and kinetic energy, energy converters, vibrations, and waves as they apply to several forms of energy.

NS115 Zoology (4,3,3) Prerequisites: NS100
This is a general survey of the animal kingdom including comparative studies of the structure, function, and behavior of representatives of animal groups. Laboratory work includes dissection of representative animals from each phylum.

NS201 Microbiology (4,3,2) Prerequisites: NS100, NS101, or the student must have written departmental approval
This is a study of the biology of various micro-organisms, including viruses, bacteria, fungi, algae, and protozoa. The interactions of certain pathogenic micro-organisms and their animal, human and plant hosts are studied as well as microbial ecological relationships in general.

NS203 Anatomy and Physiology II (4,3,2) Prerequisites: NS103, NS105, or the student must have written departmental approval
This is a study of cellular anatomy and physiology of the major body systems in more detail than NS103. Topics include basic chemistry, metabolism, an expanded discussion of renal function, fluid and electrolyte balance, acid-base balance, the immune system and stress. It includes more clinical applications. Lab includes more extensive physiology and dissection experiments.

NS208 Nature Study (4,2,3) Prerequisites: None
This is a field course which provides students with a background of information enabling them to go into the out-of-doors with a degree of confidence knowing they will be able to recognize and know something about many of the common plants and animals found in the local area. The laboratory used is the out-of-doors and the purpose of the course is to aid students to better understand the environment in which they find themselves.

NS220 College Chemistry I (4,4,3) Prerequisites: NS101, or the student must have written departmental approval
Fundamental theories, principles, and problems of chemistry will be emphasized.
NS221  College Chemistry II (4.4.3) Prerequisites: NS220
This course is a continuation of NS220. Organic chemistry and
biochemistry will be introduced and the last five weeks will cover
qualitative analysis.

NS230  Introductory Physics I (4.3.2) Prerequisites: Student must have written
departmental approval
This course is for students interested in the life sciences, e.g. biology,
medical technology, pre-medicine, pre-dentistry, etc. The course covers
concepts of light, force and motion, and energy as they apply to
biological mechanism and instrumentation.

NS231  Introductory Physics II (4.3.2) Prerequisites: NS230
This course is a continuation of NS230 and covers fluids, elasticity of
matter and membranes, sound, electromagnetism, quantum theory, and
radioactivity.
NURSING

NUR100 Nursing Skills I (4,3,2) Prerequisites: None
NUR100 is a 4 credit hour course designed to provide the student with the information and skills necessary to build a foundation for efficient bedside nursing. Students will not only gain skill in the basic nursing procedures they are to perform but also increase their ability to utilize the nursing process in meeting the basic needs of patients and improve communication skills with both patients and members of the health team.

NUR101 Nursing Skills II (2,1,2) Prerequisites: None
NUR101 is a 2 credit hour course designed to assist the student to perform sterile procedures, administer first aid, assist the doctor with technical procedures, administer medications, and develop expertise in utilizing the nursing process.

NUR110 Food in Health and Disease (2,2,0) Prerequisites: None
Basic nutrition facts are presented with their relationship to health. The student becomes familiar with food nutrients, good nutrition, and variations of diet therapy.

NUR115 Clinical Practicum I (3,0,9) Prerequisites: None
Clinical experience is provided so the student can apply the basic knowledge and skills essential to basic bedside care in the actual practice setting. Student assignments, supervision, and evaluation are carried out by the instructor, and the student is expected to begin the process of applying classroom theory to meet the basic needs of the patients. This course includes five weeks of simulated lab demonstration experience, and eleven weeks of actual clinical experience.

NUR116 Clinical Practicum II (10,0,20) Prerequisites: NUR115
Clinical experience is provided to further the development of the student in nursing. As advanced procedures are learned, the student will have the opportunity to perform them in the hospital setting. Skills which require use of sterile technique and assisting with more technical procedures will be emphasized. To develop a concept of the total nursing process, assessment, planning and implementing total care, will be the goal. Students will be assigned the care of geriatric, pediatric, medical, surgical, obstetrical, and CCU-ICU patients.

NUR117 Clinical-Practicum III (6,0,12) Prerequisites: NUR115, NUR116
This course is the final clinical course in Level I of the nursing program. The student will draw from previous clinical experience in applying the nursing process. Each student will participate in the total process of administration of drugs to patients.

NUR120 Concepts of Interpersonal Relationships (2,2,0) Prerequisites: None
The person as a nurse is studied in this course to help students identify and meet emotional needs. At the completion of this course, the student will be able to identify basic dynamics of human behavior and differentiate among patterns of behavior. The correlation between physical and emotional needs is considered as a factor in planning patient care in conjunction with other health team members.
NUR125 Nursing Seminar (1,1,0) Prerequisites: None
Current trends in nursing related to education, nurse practice acts, and professional organizations will be the focus of this course.

NUR145 Maternal-Child Nursing I (3,3,0) Prerequisites: None
This course is a study of the psychologic and physiologic basis of maternity care. The client and her significant others' needs for support during ante, intra, and post partum periods are emphasized. Parental-infant bonding and education for childbirth and parenting are stressed topics. Complications during pregnancy and in the newborn period are related to the processes underlying these problems. The class also includes the study of health care problems of children, the proper assessment for each, and the identification of appropriate nursing measures.

NUR150 Introduction to Medical-Surgical Nursing (2,2,0) Prerequisites: None
This introductory course in medical-surgical nursing presents the causes and effects of disease, body defenses, and prevention of disease. Common specific, long-term illnesses are discussed, with appropriate nursing actions.

NUR151 Medical-Surgical Nursing II (3,3,0) Prerequisites: None
This course presents the more common medical and surgical conditions, and the treatment involved in providing nursing care. The course is intended to present the concept of assessing and meeting the total needs of the patient including the patients return to normal functional life.

NUR152 Medical-Surgical Nursing III (1,1,0) Prerequisites: None
A continuation and review of the previous Medical-Surgical Nursing courses.

NUR160 Pharmacology (2,2,0) Prerequisites: None
This course offers instruction in pharmacology and safety factors essential to dosages and drug administration. Upon completion of the course, the graduate will be able to participate appropriately in the total process involved in the administration of a drug to a patient, including preparing, observing, recording, and reporting the effects of the drug.

NUR200 Role Transition (2,2,0) Prerequisites: Admission to the second year of the nursing program
This course is designed to facilitate the student's adaptation to the associate degree nurse role. The focus will be utilization of the nursing process. Advanced standing students entering Level II will have an opportunity to update nursing skills.

NUR225 Leadership Role in Nursing (3,1,4) Prerequisites: None
This course was designed to assist the student, within the framework of the nursing process, to develop professional leadership skills, to delegate appropriate tasks to others, to set priorities in nursing practice, and to further develop independent accountability.
NUR245 Maternal-Child Nursing II (6,2,8) Prerequisites: None
This course is a study in more detail than NUR145 of the physiologic and psychologic bases of maternity care. Parental-infant bonding and education for childbirth and parenting continue to be stressed. The high-risk mother and infant problems with necessary treatments, including nursing care, are presented. Embryology and genetic problems are considered.

NUR251 Advanced Medical-Surgical Nursing (10,4,12) Prerequisites: None
Using the nursing process in giving care to adults who are acutely ill or have multiple health problems is the focus of this lecture/clinical course. Nursing intervention in assisting the client and family in their holistic adaptive responses to illness and stress is discussed. Emphasis is placed on the nurse's role in disease prevention, health maintenance, and teaching. Information is designed to build upon the theory learned in all other prerequisite courses and will enable the student to apply previously learned knowledge and skills.

NUR255 Community Mental Health (6,2,8) Prerequisites: SS220
This course will introduce the student to man's psycho-social adaptation to stressors in his environment. Recent developments in treatment methods, such as family therapy, behavior modifications, reality orientation, will be presented. The nurse, using nursing process to work with clients with varying degrees of dysfunction in a wide variety of settings, will be discussed. She/he will work with clients in a mental health center, day care center, substance abuse center, and/or a hospital setting. The content is focused on helping the student enhance her/his understanding of human behavior during both sickness and health, and to acquire skill in interpersonal relationships.

PN281 Basic Concepts of Pharmacology and the Administration of Medicine (4,4,2) Prerequisites: None (Open to Licensed Practical Nurses or those who are eligible to write licensure exam.)
This course offers advanced instruction in the field of pharmacology and safety factors essential to dosage and drug administration. The course is offered with the approval of the National Association for Practical Nurse Education and Service, Inc. (NAPNES). The student must take a Pharmacology test and achieve on this national final test a specified percentile to be issued a certificate from NAPNES. Thirty-two (32) hours of supervised clinical practicum will be arranged with the student's employer* so that practical application of classroom instruction will be experienced (66 contact hours of instruction, 32 clock hours of clinical practicum arranged).

*Students must be employed to fulfill the requirements of this course.
OFFICE EDUCATION

OE100  Beginning Typing (3,2,2) Prerequisites: None
This is an introduction to and a mastery of the typewriter keyboard. Personal and business letters, elementary tabulation, simple outlines, and manuscript writing are included.

OE101  Intermediate Typing (3,0,4) Prerequisites: OE100
This is a course in the writing of business letters with practice in proofreading, tabulation, special communication forms, reports, and application/employment procedures. Open-lab course.

OE102  Machine Shorthand (4,3,2) Prerequisites: OE100
This is a course which introduces the theory and operation of the Stenograph Shorthand Machine. This course is designed to develop a knowledge of stenographs, computer-compatible theory, machine dexterity, fluent reading ability and the ability to take dictation.

OE103  Shorthand I (4,4,1) Prerequisites: OE100
A course in the elementary principles of Gregg Shorthand

OE104  Shorthand II (4,3,2) Prerequisites: OE100, OE103
Intensive training in theory of shorthand, the development of shorthand outlines, and the ability to take new-matter dictation.

OE120  Business Mathematics (3,3,0) Prerequisites: None
This course reviews fundamental arithmetic processes and their business and consumer applications, and includes cash and trade discounts, markups, depreciation, inventory, valuation, interest calculations, payroll deduction, metric system, statistics, and probability.

OE129  Business Communications I (3,3,0) Prerequisites: OE100
The basic communications skills are developed through a review of language structure. Attention is given to grammar, English for business use, vocabulary, punctuation, capitalization, and numbers.

OE130  Business Communications II (3,3,0) Prerequisites: OE100, OE129
This is a study of effective correspondence in business.

OE175  Records Management (3,0,4) Prerequisites: OE100
This course presents the principles of the alphabetic, numeric, geographic, and subject systems of records management, as well as records maintenance, decision-making, and career opportunities in the field of records management. Open-lab course.

OE202  Advanced Typing (3,0,4) Prerequisites: OE101
This course presents continued speed-building techniques, advanced production typewriting techniques, skill in business letters, tabulations, manuscript writing, legal documents, and business forms. Open-lab course.

OE203  Advanced Shorthand (4,0,4) Prerequisites: OE101, OE104
Further development of the ability to write new-matter dictation with increasing emphasis on speed and accuracy in transcription. Open-lab course.
OE205 Legal Terminology and Transcription (3,0,4) Prerequisites: OE101, OE220
This is a study of legal terminology as transcription skills are
developed. This course will help the student develop a marketable skill
in the use of office transcribing machines. Client and court documents
will be prepared. Open-lab course.

OE206 Legal Office Procedures (3,0,4) Prerequisites: OE101, OE205
This is a study of medical terminology as transcription skills are
developed. This course will help the student develop a marketable skill
in the use of office transcribing machines. Case histories, reports, and
medical correspondence will be transcribed. Open-lab course.

OE207 Medical Terminology (3,0,4) Prerequisites: None
This is a study of medical terminology, which is designed to assist the
beginning medical secretarial student master medical terms. With an
understanding of basic terms, the student can proceed to functional
vocabulary while pursuing a career specialty. Open-lab course.

OE208 Medical Office Procedures (3,0,4) Prerequisites: OE101, OE207
This is a course covering the duties of the medical secretary which
involves bookkeeping, insurance, medical ethics, legal responsibilities,
scheduling and record keeping. In addition, the student will develop a
marketable skill in the use of office transcribing machines. Case
histories, reports, and medical correspondence will be transcribed. Open-
lab course.

OE220 Voice Transcription (3,0,4) Prerequisites: OE101, OE202
Development of transcription skill is stressed with the operation of
cassette-tape transcribers. Emphasis is placed on typing skills, the
correct use of grammar and punctuation, and building efficient
transcription skills. Open-lab course.

OE225 Word Processing I (4,4,1) Prerequisites: OE101
This is a lecture course which introduces basic concepts, terminology, and
the emergence of information processing into the modern office. Spelling,
grammar, punctuation, and vocabulary, are drawn together in practical
application on the IBM-compatible microcomputers. New career paths, which
have emerged as a result of information processing, are also covered.

OE226 Word Processing II (3,0,4) Prerequisites: OE101, OE225, OE220
Development of increased keyboarding skills on the Lanier word processors
and Apple microcomputers are emphasized in this open-lab course. Students
are introduced to word processing simulation procedures through
handwritten, rough-draft, and dictated documents. Open-lab course.

OE227 Word Processing III (3,0,4) Prerequisites: OE101, OE225, OE220
Advanced-level concepts and varied office simulations are stressed in this
course. In addition to developing machine competency on the NBI shared
logic word processor and IBM microcomputers, students develop the skill of
dictating using cassette dictation equipment. Open-lab course.
OE230 Office Procedures (3,3,1) Prerequisites: OE101
This is a course in which subject matter and skill development are drawn together in practical application. The following concepts are stressed: telephone techniques, editing, composing, processing mail, filing reprographics, information processing, travel, communications, interviewing, and career paths in the modern office.

OE240 Business Calculators (3,0,4) Prerequisites: OE120
This is an introductory course in the operation of the electronic display and electronic printing calculators. The instruction applies the basic functions of the machines with practical applications to business problems.

OE290 Field Experience (3,0,6) Prerequisites: OE206, OE208, OE230
This is a course consisting of a carefully planned cooperative work experience in the office. To receive credit for the course, the student must meet the following requirements: (1) complete approved work experience arranged by the instructor, (2) show evidence of satisfactory progress through employer reports and instructor visitations at the office site, and (3) complete a minimum of 96 clock hours during the semester. (Permission of instructor required.)
PE122  **Beginning Skiing (1,0,2) Prerequisites: None**
This course teaches the basic ski maneuvers. Students will be instructed through wide-stance parallel turns. This course includes information on ski maintenance and waxing, a study of different types of skis and bindings and offers a basic knowledge of ski equipment.

PE123  **Intermediate Skiing (1,0,2) Prerequisites: None**
This course includes all intermediate ski maneuvers with special emphasis on parallel skiing plus an introduction to ski racing, including a study of different types of courses with styles. Ski maintenance and technical information on skis and bindings will be studied also.

PE124  **Advanced Skiing (1,0,2) Prerequisites: None**
This course teaches the fundamentals of ski instruction and advanced ski techniques. This course will consist of the theory of ski mechanics, theory of teaching skiing, theory of basic ski maneuvers, practice teaching and advanced ski techniques.

PE130  **Beginning Swimming (1,0,2) Prerequisites: None**
This course will cover the backstroke, breaststroke, butterfly, sidestroke, crawl and human stroke. The course will also include safety, rescue and drownproofing.

PE131  **Intermediate Swimming (1,0,2) Prerequisites: PE130**
This course is designed to improve the swimmer's skill in the basic swimming strokes. Water safety, diving, water games, and elementary teaching techniques will also be covered.

PE133  **Advanced Lifesaving and Water Safety (1,0,2) Prerequisites: PE130, PE131**
This course will train the student to work as a lifeguard in those situations where a Red Cross Advanced Lifesaving and Water Safety certificate is required.

PE134  **Water Safety Instructors Certification (1,0,2) Prerequisites: PE131, PE133**
This course will train the student to work as a Red Cross certified swimming instructor. Basic stroke evaluation as well as teaching techniques and water safety will be covered.

PE135  **Skin and Scuba Diving (2,1,2) Prerequisites: None**
This course teaches the student those skills needed to become a safe scuba diver. Students successfully completing the course will be encouraged to take certification tests.

PE205  **Emergency Health Care (2,2,0) Prerequisites: None**
This course covers first aid for wounds, shock, burns, poisoning, etc., as well as CPR. Students successfully completing the course will qualify for the Red Cross Standard First Aid certification.

PE231  **Swimming Fitness (1,0,2) Prerequisites: PE131 or student must have written departmental approval**
This course will provide the student with the knowledge and guidance to improve health and physical fitness through exercise and training in a swimming program. This conditioning course will cover the advantages and benefits of swimming; principles of training, evaluation and motivation; minor health annoyances and stroke mechanics.
STUDENT DEVELOPMENT

SD100 Human Potential (1,0,1) Prerequisites: None
Attention will be given to increasing personal acceptance and understanding of self and others through structured small group activities.

SD108 Problem Solving (3,3,0) Prerequisites: None
A course in general problem-solving skills. The techniques used in solving a variety of problems that occur in all aspects of college courses and in all walks of life will be covered. This is an elementary course which assumes no prior knowledge beyond basic reading, writing, and arithmetic skills.

SD110 Career Development (1,0,1) Prerequisites: None
This is an overview of career/life style planning. Values, skills, interviews, occupational information, resumes, interest inventories, decision making and placement are topics that are covered in this course.

SD120 Dealing with Stress (1,0,1) Prerequisites: None
This course is designed to introduce the student to the topic of stress and how it affects behavior and to help the student identify alternative methods of dealing with stress.

SD130 Women's Awareness (1,0,1) Prerequisites: None
This course is designed to offer women new skills for improving self-awareness and understanding and to increase their ability to plan and set goals. Such topics as women in history, stereotyping in our society, career options and family relationships will be discussed.

SD140 Reading for Fun and Profit (1,0,1) Prerequisites: None
This course is designed to help students develop a keener appreciation of reading: (1) for fun—leisure time activity which is not only entertaining, but also thought provoking; and, (2) for profit—activity that can help one develop a fuller personality, grow intellectually, become more aware of the world and one's place in it, and enhance one's self worth and one's value to others in society. Students study a selection of reading material and meet periodically with each other and the instructor to discuss, interpret, and evaluate that material.

SD145 Keyboarding (1,0,2) Prerequisites: None
This course is an introduction to the computer keyboard. The concept of typing the alphabet, numbers, and symbols by touch is stressed. Open-lab course.

SD150 Developmental Reading I (1,0,1) Prerequisites: None
The purpose of this course is to assist students in the development and improvement of reading skills. In a lab format, students will receive testing to identify reading skill levels, programmed materials to improve reading skill levels and individual assistance from a reading specialist as needed. A grade of "S" (satisfactory) will be used to indicate satisfactory completion of the course.
SD151 Developmental Reading II (1.0,1) Prerequisites: None
This course is designed for students who have successfully completed SD150 and wish to develop more sophisticated reading skills.

SD152 Developmental Reading III (1.0,1) Prerequisites: None
This course is designed for students who have successfully completed SD151 and wish to develop more sophisticated reading skills.

SD153 Developmental Reading IV (1.0,1) Prerequisites: None
This course is designed for students who have successfully completed SD152 and wish to develop more sophisticated reading skills.

SD156 Efficient Study (2.2,0) Prerequisites: None
For the student seeking a thorough review of the principles of efficient study, this course provides instruction and practice in textbook study, note-taking, test-taking, study environment and memory techniques.

SD158 Efficient Reading (1.0,1) Prerequisites: None
This course is designed to enable students to develop faster and more flexible reading rates, as well as improve comprehension and vocabulary skills. Basic techniques covered will be reading in thought units, varying rates to purpose, identification of main idea, and relationship patterns, and vocabulary development through use of context. Individual growth in rate and comprehension will be measured by the use of timed pre and post tests.

SD160 Developmental Mathematics I (1.0,1) Prerequisites: None
This course is recommended to students not intending to enroll in courses requiring advanced math proficiency, but who wish to develop basic arithmetic skills. Emphasis is placed on computations with whole numbers, fractions, decimals, percentages, and the metric system. In a lab format, students work individually to complete units for which a specific weakness has been diagnosed. A grade of "S" will be used to indicate satisfactory completion of the course.

SD161 Developmental Mathematics II (1.0,1) Prerequisites: None
This course is available to students who have successfully completed SD160 and would like to continue developing basic arithmetic skills.

SD162 Developmental Mathematics III (1.0,10) Prerequisites: None
This course is recommended to students intending to specialize in business, natural science, mathematics, automotive, secretarial, or nursing programs. In addition to computations with whole numbers, fractions, decimals, percentages, and the metric system, students will receive instruction in consumers applications of basic mathematics, exponential notation, square roots, signed numbers, plane geometry, and solving equations.

SD163 Developmental Mathematics IV (1.0,1) Prerequisites: None
This course is available to students who have successfully completed SD162 and would like to continue developing their math skills.
SD170 Basic Writing Skills (2.0.2) Prerequisites: None
This course provides the successful student with the skills necessary to write concise, correctly punctuated sentences using standard English. In a lab format, students learn to write complete sentences utilizing the common sentence patterns employed in English. Major aspects of the course will be: grammar as it relates to punctuation and clarity, spelling, and sentence combining.

SD175 Improving Reading and Writing (3,3,0) Prerequisites: None
This course offers the student an opportunity to improve communication skills in both reading and writing. Throughout the course, the relationship between good writing and reading for comprehension will be stressed. Emphasis will be placed on grammar, sentence structure, vocabulary development, spelling and paragraph construction.

SD250 Travel Seminar (1,1,0) Prerequisites: None
This course provides the student with a chance to learn about a variety of subjects through organized travel experiences to points of interest throughout the world. A group tour will be formed to be conducted by various members of the faculty having expertise in the particular location or topic being investigated.
SOCIAL SCIENCES

SS110 Introduction to Social Science I (4,4,0) Prerequisites: None
This course introduces the student to the interdisciplinary approach to the study of society and human behavior. Methodology, the development of skills necessary to study and research in the social sciences, is emphasized. Attention is given to the study of power, its use and distribution, as an overall framework for examining the nature of our society's strengths and weaknesses. Materials will be drawn primarily from economics and political science. Special emphasis will be given to the rights and responsibilities of citizenship and the form and functions of government at the National, State and Local level. (This course will satisfy the State requirement for political science.)

SS111 Introduction to Social Science II (4,4,0) Prerequisites: None
This course is a continuation of SS110. (Completion of SS110 or SS101 is recommended before enrolling in SS111, but is not required.) Materials will be drawn from history, anthropology, sociology and psychology as the study of society and human nature continues emphasizing selective aspects of culture and contemporary social problems.

SS150 Contemporary World Geography (3,3,0) Prerequisites: None
This course introduces the student to the nature and scope of the field of geography. World regions are studied. Analysis of geographic characteristics of selected regions and the relationship of natural environment, cultural background, economic conditions and world issues to national and regional problems are studied.

SS215 Principles of Economics (3,3,0) Prerequisites: None
This is a one-semester survey course in introductory economics. Although this course provides exposure to both macroeconomics and microeconomics, greater attention is given to macroeconomics, which is related to issues of national economic policy. Studies include foundations of economic analysis, the public economy, national income, stabilizations, growth, employment, and taxes.

SS220 General Psychology (3,3,0) Prerequisites: None
This course familiarizes the beginning student with the basic concepts and methods used by psychologists to study human behavior. Among the subjects covered are experimental methods, human growth and development, intelligence, perception, learning, motivation and emotion, personality disorder and therapy, and group behavior. Daytime, on-campus sections of this course are taught using a modified Keller Plan approach; other sections follow a more traditional classroom lecture-discussion format.

SS221 Child Psychology (3,3,0) Prerequisites: None
Students in this course study psychological theory and experimental findings as they apply to understanding and influencing children's growth and development. Emphasis is placed upon such basic concerns as the effects of heredity and environment, the processes of maturation, intellectual growth and development, and childhood anxiety.
SS230 Sociology (3,3,0) Prerequisites: None
This course familiarizes beginning students with the basic concepts and methods used by sociologists to study society. Among the topics covered are culture, social structure, social class, institutions, demography, deviance, and social change. Emphasis is placed upon acquainting the student with the sociological perspective of human behavior and our modes of social organization.

SS235 Social Problems (3,3,0) Prerequisites: None
Students in this course study the sociological approach to social problems. Subjects covered include mental illness, crime, poverty, family and community disintegration, violence, ecology and current events.

SS240 Political Science (3,3,0) Prerequisites: None
This course is an introduction to politics and government as they operate at the federal level. Although in many ways it is a basic traditional survey sequence in American Government, the course goes by the traditional examinations of government institutions (the executive, the legislature, and judiciary) to explore how the complex web of ideas, groups, personalities, and processes interact with those institutions to arrive at public policy. Within the larger context of the evolution of our present political system and the ongoing debate between liberals and conservatives, we will attempt to discover how the following areas relate to power, influence, and decision-making in American politics: Our political culture, our Federal structure; the Constitution; public opinion, political socialization, campaigns and voting; pressure groups and lobbying; political parties, civil rights and liberties, and international affairs. This course points out problem areas and inequities in development of our lives. This course relies on both historical and contemporary examples, stressing the present-day practice of politics to illustrate and explain the principles and processes outlined above.

SS250 United States History to 1865 (3,3,0) Prerequisites: None
This course will critically examine America's past from the period before the European takeover and domination of the North American continent until the time at which a young, but increasingly powerful United States is ripped apart by Civil War. The conflicts between individualism and collectivism, nationalism and sectionalism, as well as those conflicts between social classes, and between ethnic groups as themes are examined throughout the course. Although attention is given to the rise of our social history, which involves the effort to explore history "from the bottom-up"; through the eyes and everyday experiences of common, working-class people whose preoccupation is not with the Great Events of the day, but with the day-to-day business of living. This course will focus on the following periods in an effort to contribute to the understanding of America's infancy and early youth: American before the European invasion; native American cultures; early settlements; the variety of colonial experience and regional differences; independence, war, and nationhood; the Constitution, territorial expansion and manifest destiny; nationalism and sectionalism, North/South Conflict; and the Lincoln Presidency and the Civil War.
SS251 United States History Since 1865 (3,3.0) Prerequisites: None
This course is a continuation of SS250, with a similar emphasis on social
history and the conflicts between individualism and collectivism, between
social classes, and between ethnic groups as outlined above, as well as
new conflicts between liberals and conservatives, isolationists and
imperialists, centralists and localists, that remain with us today. The
course focuses on the following periods in our effort to understand the
factors that influence America's present behavior: racism,
reconstruction, and Jim Crow; involvement; social political and economic
reform in the Progressive period; the World Wars; the Depression and the
reform of capitalism; the Cold War, and the age of affluence; the
turbulent sixties, the self-indulgent seventies and the age of scarcity.

SS255 Michigan History (3,3.0) Prerequisites: None
This course presents the beginning student with a broad overview of the
history of the Wolverine State. Several themes (immigration, exploration,
technology, mobility, abundance, exploitation) will be explored,
especially as they relate to the broader picture of national history—
indeed our study of Michigan might serve as a case study of all America.
Several important overlapping periods of Michigan history will be examined
in detail: from the early French explorations and fur trade, through the
British occupation, the logging boom, statehood, growth of commerce and
shipping, agricultural development and the Age of the Automobile with the
consequent industrialization and growth of the tourist industry. In
addition, every effort will be made to focus on local aspects of the
state's history, as they relate to themes and periods above.

SS258 Sex in History (3,3.0) Prerequisites: None
This course proposes to examine human sexual behavior in historical
context. In that sense the course is an overview of change and continuity
in sexual attitudes, norms, and practices in several civilizations, from
prehistory to the present day, as well as how they have been reflected in
art and literature, both classic and popular. The first section of the
course will chronologically explore sexual custom in Greece and Rome,
discuss the influence of Christianity, look at China, India and the Arab
world, and then focus on Europe and the Americas through the Victorian
Age. The second section will involve a more in-depth look at the complex
interrelationship between male and female roles in modern America.

SS260 Cultural Anthropology (3,3.0) Prerequisites: None
In this course students will study about different cultures, particularly
preliterate ones. Subjects studied will include food-gathering and
settlement patterns, status and kinship systems, economic and political
organization, religion, language, art, and special concepts and methods
used by cultural anthropologists.
TECHNICAL DRAFTING AND DESIGN

TD100 Technical Drafting (3,1,4) Prerequisites: None
This laboratory/lecture course includes the knowledge and manipulative skills needed for work with drafting instruments: to create linework, lettering, geometric construction, sketching, multiview projection, sectioning, basic dimensioning, isometric, oblique and perspective projection.

TD105 Blueprint Reading I (2,5,1.75) Prerequisites: None
This course is a technical blueprint reading course for manufacturing and tool and die apprentice training. The class is structured around a workbook approach to learning, with lecture sessions proceeding workbook assignment sessions. Topics covered include: lines on blueprints, basic auxiliary projection, sections, section lining, dimensioning, sub assembly and assembly drawings, stock list, revisions, title blocks, general notes, assembly dimensions.

TD106 Layout and Precision Measurement (2,5,1.75) Prerequisites: TD105
This course is a technical blueprint reading course with practical application. The class is structured around a workbook approach to learning, with lecture sessions proceeding workbook assignment sessions. Topics covered include: general tolerancing, geometric and positional tolerancing and symbols, fits between mating parts, weldment blueprint reading and weldment assembly. The student will be required to check manufactured parts against part prints, with precision measuring devices.

TD110 Descriptive Geometry (3,1,4) Prerequisites: TD100
A laboratory/lecture course consisting of one hour of lecture session and four hours of supervised laboratory instruction each week. Topics covered include projection of points, lines, and planes, revolution of objects, intersection of planes and solids, and projection of oblique and true view surfaces.

TD120 Shop Drawing (2,5,1.75) Prerequisites: None
A condensed course covering the basic principles and techniques of shop drafting, stressing the essentials of: lettering, instrument usage, technical terms, applied geometry, freehand sketching, orthographic auxiliary and section drawings, and dimensioning practices. Pictorial drawing and presentation of engineering data through the media of charges and graphs is also included.

TD130 Technical Drafting II (3,1,4) Prerequisites: TD100
This is a lecture/laboratory course and includes one hour of lecture theory directly related to four hours of instructor supervised laboratory sessions. The course includes dimensioning, (English and metric) tolerancing, threads, springs, representation of screws, nuts, bolts, dowels, fastening devices, geometric and positional tolerancing; and detailing of assembly drawings.
TD135  Tool and Die Design I (2.5.1.75) Prerequisites: TD120
This course is structured primarily for the tool and die apprentice student. Lectures will be followed by reinforcing laboratory sessions which will consist of sketching sheet metal die components. Emphasis is not on line quality and technique, but merely the communication of ideas and design graphically. Topics covered include: basic discussion of tools, dies and punches; blanking force; standard die sets and die components; drop through blank dies; combination blank and pierce return dies; and various types of positive knock-out designs. The student will be required to maintain a notebook, which will be reviewed by the instructor at the end of the course and returned for future reference.

TD136  Tool and Die Design II (2.5.1.75) Prerequisites: TD135
This course is structured primarily for the tool and die apprentice student. Lectures will be followed by reinforcing laboratory sessions, which consist of sketching sheet metal components related to the classroom discussion. Topics covered include: basic flat part progressive dies, stock guides, pitch gauges, stock feeders, roller guides, ball bearing guide pins and bushings, strip layout; availability of various standard punches, dies, and components; and knowledge and review of tool and die standardized components and catalogs. Students must maintain notebooks. These will be reviewed by the instructor at the end of the course and returned for future reference.

TD137  Tool and Die Design III (2.5.1.75) Prerequisites: TD136
This course is structured primarily for the tool and die apprentice student. Lectures will be followed by reinforcing laboratory sessions, which consist of sketching sheet metal die components related to the classroom discussion. Topics covered include: mathematical sheet metal blank development, sheet metal draw development and redraw sleeves, progressive dies, various types of cam piece and rom dies, pilot pins, keeper blocks for pads and slides. The student will be required to maintain a notebook which will be reviewed by the instructor at the end of the course and returned for future reference.

TD140  Plastic Mold Design I (2.5.1.75) Prerequisites: None
This course covers the fundamentals of plastic molding, plastic product design, types of molds, toolmaking processes, equipment and methods, materials for model making and designing and drafting practices. Also studied are compression and transfer molds, injection molds for thermoplastics, cold mold design, extrusion dies for thermoplastics, blow mold construction and design, mold design for expanded polystyrene, and special fixtures.

TD141  Plastic Mold Design II (2.5.1.75) Prerequisites: TD140
This is a continuation of TD140 which is a prerequisite.

TD142  Plastic Mold Design III (2.5.1.75) Prerequisites: TD141
This is a continuation of TD141 which is a prerequisite.
TD215 Product Design (3,2,3) Prerequisites: TD100, TD130
This course is designed to provide the drafting technology student with the ability to analyze, design, and develop solutions to mechanical design problems. The instructional approach is to encourage the student to conceptualize and communicate using engineering graphics, mathematics, and technical science. Emphasis is placed on "manufacturability" and "producibility" of a particular new product design. Geometric dimensioning and tolerancing are also covered in this course.

TD230 Jig and Fixture Design (3,1,4) Prerequisites: TD130
This is a laboratory/lecture course and includes four hours of drafting practice and one hour of drafting lecture theory directly related to the laboratory work. The course includes the design of the following jigs and fixtures: plate jig, drill jig, closed tumble fixture, leaf type jig, indexing jig and milling fixture. Use of standard components from various catalogs is also covered.

TD250 Computer Aided Drafting (3,2,2) Prerequisites: TD100, Co-requisites: TD130
This course consists of computer-generated graphics to include: terminology, techniques and application of computer aided drafting. CAD, to engineering, tool design, architecture, and electronics. Two dimensional design drafting is stressed. Four hours lecture/laboratory combination.
WE105 Beginning Welding (2,1,2) Prerequisites: None
This survey course covering the step-by-step fundamentals of oxyacetylene and arc welding processes is for the person who always wanted to try welding but didn't know where to start. Safety procedures and practices of gas welding are emphasized.

WE106 Basic Design Fundamentals in Welding (2,1,2) Prerequisites: None
This is a running mate with WE105. Students have an opportunity to put their newfound knowledge to a practical application, making minor repairs on projects brought from home: lawn mower handles, furniture, etc.

WE107 Welding Technique and Joint Preparation (3,1,3) Prerequisites: None
This course gives the person who has a basic understanding of welding a chance to brush up on existing welding skills and pick up some proper technique, rod selection and lean the basics of out-of-position welding.

WE108 Welding and Fabrication (3,1,3) Prerequisites: WE107
This is a study of the five basic joint designs utilizing the oxyacetylene and arc process with emphasis on the 1, 2, 3, and 4 G positions.

WE110 Automotive Welding (2,1,2) Prerequisites: None
This course is intended to give students of automotive maintenance an understanding of the basic techniques, machine operations and safety rules pertaining to soldering, welding, and brazing of lighter gauge materials.

WE115 Metal Sculpture (2,1,2) Prerequisites: WE105, WE107
This is a learning adventure that lets the student control the metamorphic process. This course deals with design, fabrication and quality weldments with a relaxed informal approach.

WE120 Welding and Fabrication II (3,1,3) Prerequisites: WE108
For the returning student, this course will let the student pick up where he/she left off. Continuing on the 1, 2, 3, and 4 G weldments, testing welds by means of destructive and non-destructive methods will be used.

WE121 Advanced Welding (3,1,3) Prerequisites: WE120
This course consists of qualification type weldments in accordance with A.W.S. welding code, using S.M.A.W. process. Also included in this course is a study of T.I.G. and M.I.G. procedures.

WE122 Related Welding Skills (3,1,3) Prerequisites: WE121
Designed to cater to the needs of students whose curriculum calls for a related course in welding. This course covers the area in oxyacetylene flame cutting.

WE124 Agriculture and Construction Welding (1,.5,1.5) Prerequisites: None
This course is intended for those who must make their own repairs on machinery. Topics include: basic arc welding, basic gas welding, cast iron brazing, hard-surface application, flame cutting, and control of heat related stresses. Small student-furnished projects will be allowed but must be removed after each class.
TIG Welding (2.5.1.75) Prerequisites: None

This course is designed around the needs of industry, where gas-tungsten arc welding (TIG) is emphasized. Both classroom and lab will concentrate on the TIG process, with some oxyacetylene welding being used for manipulative practice.
DIRECTED STUDY

XY295 Modular Course (1 or 2 credit hours) Prerequisites: None
Modular courses are one or two hour units of study which contain part of
an existing course. Such courses respond to special, often one-time
needs, and usually they will be publicized by the college separate from
the regular schedules.

XY299 Directed Studies (1 or 2 credit hours) Prerequisites: Student must have
written departmental approval
Directed study courses are usually thought of in connection with advanced
students or those who have exhausted regular college offerings. The
average student pursuing an associate degree would not find time for this
type of credit. The concept does not apply to remedial studies.

The directed study cannot be used near the end of the semester to fill
requirements. It must be planned in advance. Careful attention must be
given to the description of the work proposed because there is no other
course outline or description on file to document the experience.

A student interested in Directed Study must contact an instructor who will
sponsor the proposed activities. That teacher will complete the written
plan on proper forms and will seek approval from the instructional
administrator before any work begins. The student must enroll in an
appropriately labeled section of Directed Studies 299, e.g., HU299, SS299,
etc.
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Business Data Processing
Drafting Technology
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Nursing Education
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Humanities (Art)
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Counselor
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Social Science
Business Studies
Social Science
Language Arts
Nursing Education
Mathematics
Natural Science
Developmental Studies
Natural Science
Office Education

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MONTCALM COMMUNITY COLLEGE CALENDAR

Spring, 1987

Registration
December 2 and 3
January 5, 6 and 7
January 9 through 20
January 9
March 22 through 29
April 17 (Good Friday)
May 8
May 8

Students enrolled Fall 1986
Open to all students
Late registration
Classes begin
Spring break
No classes/College closed
Classes end
Graduation

Summer, 1987

Registration
April 29 and 30
June 3 and 4
June 8 through 11
June 8
July 4 (Independence Day)
July 31

Students enrolled Spring 1987
Open to all students
Late registration
Classes begin
No classes/College closed
Classes end

Fall, 1987

Registration
August 12 and 13
August 17 through 21
August 24 and 25
August 27 through September 8
August 27
September 7 (Labor Day)
November 26 and 27 (Thanksgiving)
December 21

Returning students
New student orientation and registration
Open to all students
Late registration
classes begin
No classes/College closed
No classes/College closed
Classes end

Spring, 1988

January 16 - May 13

Fall, 1988

August 25 - December 19

Spring, 1986

January 14 - May 12

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STUDENTS, PLEASE NOTE: Campus maps identifying classroom locations are available in the Student Services Office located in the Administration building.