MESSAGE FROM THE PRESIDENT

Daily life is becoming increasingly complex as a result of seemingly unending technological and social changes which affect our lives at home, and in leisure activities. It is very apparent that success and satisfaction in life is becoming more dependent upon postsecondary education for the skills and knowledge needed to maintain or earn required career credentials - and to ensure our intellectual connectedness to a rapidly transforming society and world. To these ends, Mid Michigan Community College is committed to providing high quality and readily accessible educational programs and services. The faculty, staff, and administration are devoted to bringing this promise into daily practice.

Whether your goal is to graduate with a 2-year Associates Degree, or to take a class to hone your skills in welding or computer literacy, we are here to assist you. The moment you walk in our door we will assist you with counseling, class placement, financial aid, tutoring, developmental classes, and most importantly . . . with concern and respect for you as an individual. Our commitment to understand your unique needs and requirements allows our faculty and staff to ease the challenge between family, job, and attaining your educational goal at Mid.

I truly believe that you will find attending Mid Michigan Community College one of the best and most personally gratifying experiences in your life. On behalf of the Board of Trustees and the College staff . . . Welcome to Mid!

Ron Verch, President

MMCC’S BOARD OF TRUSTEES

Left to right: Mark D. Mann, Trustee (Harrison); Douglas A. Jacobson, Board Chair (Gladwin); Thomas W. Metzger, Treasurer (Coleman), Charles W. Buck, Trustee (Gladwin); Richard S. Allen, Jr., Secretary (Clare); Betty M. Mussell, Vice Chair, (Clare); Ronald G. Verch, MMCC President; Carolyn C. Bay, Trustee (Clare)
The 560-acre Harrison Campus of Mid Michigan Community College is located in the rural environment of northern Michigan, situated between the cities of Harrison and Clare on Old U.S. Highway 27. A 20-acre area is used for the current College facilities and the remainder of the property is in its natural state.

The Mt. Pleasant Campus of Mid Michigan Community College is located on M-20 East near the U.S. 27 freeway and adjacent to a golf course. Its suburban environment complements the modern atmosphere of the campus facility.

The Mid Michigan area is noted for four-season outdoor sports. The area has thousands of acres of public lands, many lakes and rivers, numerous golf courses, two ski hills, and hundreds of miles of snowmobile trails.
I.  INTRODUCTION
   Campus Directory, Academic Calendar, Assurance of Quality, Mission Statement & Goals, MMCC in Profile, History, Accreditation, Equal Opportunity/Affirmative Action, Americans with Disabilities Act

II. COLLEGE SERVICES AND PROCEDURES
    Admissions, Advanced Credit Options, Assessment and Advising, Enrollment Services, Financial Aid, Cost of Attending College, Grades and Graduation, Support Services, Student Activities, Student Regulations, M-TEC, Business & Industry Customized Training, SBTDC

III. ACADEMIC PROGRAMS
     General Education Requirements; Distribution Groups; MACRAO Agreement; Cancellation of Courses and Programs; Arts & Communications; Business, Management, Marketing & Technology; Engineering, Manufacturing & Industrial Technology; Health Sciences; Human Services; Natural Resources and Agriscience; Baccalaureate Studies

IV. COURSE DESCRIPTIONS
     Interpretation of Numbering System, Course Descriptions

V.  GENERAL
     Personnel Directory, Index

The contents of this catalog are subject to change; therefore, it cannot be considered a contract or agreement between an individual and Mid Michigan Community College or its administrators.

MMCC is an equal opportunity affirmative action institution and does not discriminate on the basis of race, color, origin, sex, age, or disability.
I. INTRODUCTION
**CAMPUS DIRECTORY**

Harrison Campus  
(989) 386-6622  
Fax: (989) 386-6613  
Administration (989) 386-9088  
SOAR Center (989) 386-6613  
Library (989) 386-2411  
Nursing (989) 386-6666

Mt. Pleasant Campus  
(989) 773-6622  
Fax: (989) 772-2386  
M-TEC (989) 802-0971

**BUSINESS OFFICE**  
Phone Number  Room Number

Accounts Payable  386-6610  Administration
Accounts Receivable/Cashier  386-6611  Administration
Bookstore  386-6639  Room 215
Business Office  386-6622  Administration
Campus Services/Maintenance  386-6697  Room 160
Communications & Computer Services  386-6651  Room 270
Hospitality/Food Services  386-6688  Food Service
Human Resources/Personnel  386-6606  Administration
Office of the President  386-6601  Administration
Payroll  386-6609  Administration

**INSTRUCTION**  
Business & Industry Development (BIDC)  386-6629  M-TEC
Continuing Education  773-6622  Mt. Pleasant
Computer Labs Office  386-6653  Room 290
773-6622  Mt. Pleasant
Dean of Occupational Studies  386-6642  Room 206
Faculty-Harrison  386-6667  Room 252
Health Education  386-6643  Room E233
Vice President of Academic Services  386-6607  Room 268
Vice President of Institutional Services & Technology  386-6637  Room 268

**STUDENT SERVICES**  
Admissions/Placement  386-6661  SOAR
Assessment  386-6619  SOAR
Counseling  386-6626  SOAR
Counseling  773-6622  Mt. Pleasant
Dean of Student Services  386-6626  SOAR
Financial Aid/Veterans' Services  386-6664  SOAR
Graduation  386-6626  SOAR
Academic Support Center (ASC)  386-6677  Room 219
Library/Media Center  386-6617  Library
Office of Enrollment Services  386-6659  SOAR
Touch Tone Registration  802-0225
Registrar  772-6622  SOAR
Student Educational Services/Tutoring  386-6638  Room 219
773-6622  Mt. Pleasant
Student Government Office (CSAS)  386-6634  Room 119
Transcripts  386-6659  SOAR

**ACADEMIC CALENDAR**

Winter Semester 2007
Classes Begin .................................................. January 6
Spring Break/No Classes ................................. March 3-9
Faculty Inservice/No Classes ............................. March 28
Good Friday/No Classes .................................... April 6
Classes End ..................................................... May 4
Commencement ................................................ May 5

Spring Session 2007
Classes Begin ................................................... May 14
Memorial Day/No Classes ..................................... May 28
Classes End ...................................................... June 21

Summer Session 2007
Classes Begin ..................................................... June 25
Independence Day/No Classes ............................... July 4
Classes End ...................................................... August 2

(Schedule Subject to Change)

Fall Semester 2007
Classes Begin ................................................... August 25
Labor Day/No Classes ......................................... September 3
Faculty Inservice/No Classes ............................... November 21
Thanksgiving Break/No Classes ............................ November 23-25
Classes End ...................................................... December 14

*****Winter Semester 2008
Classes Begin ................................................... January 5
Spring Break/No Classes ................................. March 1-9
Faculty Inservice/No Classes ............................. March 27
Classes End ..................................................... May 2
Commencement ................................................ May 3

Spring Session 2008
Classes Begin ................................................... May 12
Memorial Day/No Classes ..................................... May 26
Classes End ...................................................... June 20

Summer Session 2008
Classes Begin ..................................................... June 23
No Classes ......................................................... July 4
Classes End ...................................................... August 1

Fall Semester 2008
Classes Begin ................................................... August 23
Labor Day/No Classes ......................................... September 1
Faculty Inservice/No Classes ............................... November 26
Thanksgiving Break/No Classes ............................ November 27-28
Classes End ...................................................... December 12
Mid Michigan Community College is committed to graduate students of high quality, fully capable of performing the skills specified in the student’s major, and in the area of the College’s general degree requirements. Mid Michigan Community College offers assurance to its students, prospective employers, and to transferring institutions, that individuals holding degrees or certificates with a “C” average or better are fully capable of competent performance.

Transferring students, who meet specified criteria should be able to perform at a level equal to or better than those students who were admitted as freshmen at the transferring institution.

The College will, upon recommendation from the institution to which the student transferred, permit the student to retake any course or courses in areas deemed deficient. This retake shall result in no tuition charges for the student.

The College has articulation agreements with a number of Michigan institutions. These agreements guarantee the transferability of the associate degree and of specific courses within the curriculum. Students following the direction of College counselors are assured of maximal transferability of earned credits.

Non-transferring students, who earn a degree or certificate with a “C” average or better can be expected to perform competently in the area in which they were instructed. Any employer who views a Mid Michigan Community College graduate as not possessing appropriate entry level skills, and can specify such deficiencies, may request remediation. The student will be permitted to retake a specified course or courses without an additional tuition charge.

The College recognizes that unused skills decay rapidly. The assurances offered herein are made for individuals who transfer or gain employment within a year of receiving a degree or certificate.

The purpose of Mid Michigan Community College is to provide educational and community leadership for the development of human ability. To this end the College provides post-secondary education and services to enable students and the community to achieve success in a global society.
As a community college, we are committed to assisting each student meet his/her unique goals. As illustrated by the Fall 2003 profile, our student body is diverse:

<table>
<thead>
<tr>
<th>Student Credit Hour Load</th>
<th>Geographic Residence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Part-Time ...................... 54%</td>
<td>Isabella County .......... 33%</td>
</tr>
<tr>
<td>Full-Time ....................... 46%</td>
<td>Clare County ............. 22%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Class Designation</th>
<th>Residence County</th>
</tr>
</thead>
<tbody>
<tr>
<td>Freshman .......... 47%</td>
<td>Gladwin County .... 13%</td>
</tr>
<tr>
<td>Sophomore .......... 21%</td>
<td>Gratiot County ...... 7%</td>
</tr>
<tr>
<td>Other ............... 32%</td>
<td>Other Counties ...... 24%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Declared Curricula Choices</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Instruction ....... 43%</td>
</tr>
<tr>
<td>Business/Public Service .... 33%</td>
</tr>
<tr>
<td>Health Occupation .......... 19%</td>
</tr>
<tr>
<td>Trade/Industrial/Technical ... 5%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Student Age Distribution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Under 18 ................. 15%</td>
</tr>
<tr>
<td>18-21 ...................... 44%</td>
</tr>
<tr>
<td>22-35 ..................... 38%</td>
</tr>
<tr>
<td>36-50 ..................... 2%</td>
</tr>
<tr>
<td>51 &amp; over .................. 1%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>%Student Gender</th>
</tr>
</thead>
<tbody>
<tr>
<td>Males .......... 41%</td>
</tr>
<tr>
<td>Females .......... 59%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Class Times Attending</th>
</tr>
</thead>
<tbody>
<tr>
<td>Day Hours ............ 60%</td>
</tr>
<tr>
<td>Evening Hours ........ 39%</td>
</tr>
<tr>
<td>Weekend Hours .......... 1%</td>
</tr>
</tbody>
</table>

* Figures based on academic classes only

**HISTORY**

The earliest activity in providing a community college to serve the Clare County/Gladwin County area began in 1962. Two years later the concept of the College was endorsed by the two local intermediate districts and the five local school districts within the two counties. As a result of the acceptance of this basic concept, a Citizens Advisory Council was formed to determine the feasibility of establishing a community college. The report of the Council, completed in 1965, recommended the formation of a local community college to serve the residents of the two-county area. The study report was then submitted to the Michigan Department of Public Instruction and notification of approval for the College was received in July, 1965.

In September, 1965, a special election was held to obtain community authorization for establishment of the College, to elect a governing Board of Trustees, and to approve construction and operating millage of 1.5 mills to be levied against the assessed property valuation in the voting district. The favorable response of the voters resulted in official approval by the Michigan State Board of Education to establish Michigan’s 25th community college.

During 1966-67, an administrative staff was employed to develop the initial planning for the campus and for the instructional program. At the same time, the architect was developing a master plan for building construction and development of the entire 560-acre site. Construction of the initial 1.5 million instructional facility began in May, 1968.

In the Fall of 1968, the first university parallel and non-technical classes began in temporary facilities in the Clare County Building in Harrison, the Practical Nursing program was started at the Central Michigan Community Hospital in Mt. Pleasant, and the vocational and technical courses were conducted at the Area Vocational School in Mt. Pleasant. Temporary facilities for the library and audio-visual materials were obtained from the Harrison Public Library. On September 15, 1969, the first classes were moved to the present campus location and on November 24, 1969, all of the remaining classes were moved.

Construction of the Food Service/Student Center was completed in 1972; the Goldberg Orientation Center, which housed the College’s child care facilities, and a small engine repair building were added in 1973; the allied health facilities and the Automotive Technology Center were completed in 1976; and the Climate Control Center was constructed in 1979. Construction of the Technical Trades Center began in the Fall of 1982 and the facility opened for classes in the Fall of 1983.

In December of 1993, the College purchased a three story modern office building in Mt. Pleasant. The building was converted to a striking campus facility on an attractive site during 1994. The Mt. Pleasant Campus serves the Isabella County area.
In the Fall of 1998, the College opened an extensive expansion with improvements on the Harrison Campus, adding new science and health education facilities.

In the fall of 1999, MMCC was granted funding for an M-TEC Center, one of Governor Engler’s initiatives to serve business and industry and community colleges. The Center opened its doors in the Fall of 2001, and provides open-entry/open-exit training for employees and potential employees of industrial and construction trades.

Since the College opened its doors to 196 students in the Fall of 1968, it has experienced a pattern of constant growth and is now serving more than 5,000 students annually on both a full-time and part-time basis. All College facilities are barrier-free and accessible to handicapped persons.

**ACCREDITATION**

Mid Michigan Community College is approved by the Department of Education of the State of Michigan and is Accredited by The Higher Learning Commission and a member of the North Central Association, 30 North LaSalle Street, Suite 2400, Chicago, Illinois 60602-2504, 1 (800) 621-7440, www.ncahigherlearningcommission.org

The College also holds membership in:

- American Association for Higher Education
- American Association of Community Colleges
- Association of Community College Trustees
- Community College Consortium, U. of M.
- Consortium Eight (Northern Michigan Community Colleges)
- Council of North Central Community Jr. Colleges
- Michigan Community College Association

To view or obtain copies of MMCC accreditation and licensing documents, contact the Office of the President at (989) 386-6601. Written requests may be mailed to 1375 S. Clare Avenue, Harrison, MI 48625.

**AMERICANS WITH DISABILITIES ACT**

State and federal laws prohibit discrimination against individuals with disabilities. Mid Michigan Community College’s Office of Human Resources coordinates the College’s compliance with these state and federal non-discrimination laws, including the Federal Vocational Rehabilitation Act of 1973, the Federal Americans with Disabilities Act, and the amended Michigan Handicappers Civil Rights Act. The Office of Human Resources is also the grievance office designated to handle any complaints or concerns regarding the College, its programs, procedures or employees. If you believe that a violation or potential violation of these state or federal non-discriminating laws has occurred, is occurring, or will occur, please notify the Office of Human Resources, Mid Michigan Community College, 1375 S. Clare Avenue, Harrison, MI 48625; or by phone at (989) 386-6606.

**EQUAL OPPORTUNITY AFFIRMATIVE ACTION**

Mid Michigan Community College is an equal opportunity/affirmative action institution and complies with all federal and state laws and regulations prohibiting discrimination. It is the policy of Mid Michigan Community College that no person shall be discriminated against, excluded from participation in, denied the benefits of, or be otherwise subjected to discrimination on the basis of race, color, religion, national origin or ancestry, age, sex, marital status, arrest record, physical characteristics, or physical limitations in its academic and vocational programs, activities, admission, financial assistance, or employment.

MMCC has an Operational Policy that requires students who wish to enroll in college to have a high school diploma or a GED or must have completed the MEAP High School Assessment exams (or other high school examinations as established by the State Department of Education). The student must be enrolled in the tenth grade or higher and must have written approval for the application (or course enrollment) by the student’s principal, or his/her designee or the superintendent of the pupil’s home district. If home schooled, the student must demonstrate college level basic skills (reading and writing) on an approved and recognized college admission examination. Subject matter testing may be required for specific classes such as math, science, language and technology, to assure that the student has the basic skills appropriate for the level of the course. Requests for an exception to this policy must be in writing to the Dean of Student Services at least eight weeks in advance of the start of the enrollment period for which the exception is being requested.

A complainant shall: consult with the Affirmative Action Coordinator who shall resolve the complaint, or assist the complainant in compiling the formal complaint, and in referring it to the Antidiscrimination Judicial Board whose members shall resolve the complaint with the Decision and Order; appeal, if desired, the Decision and Order by presenting the case to the Board of Trustees for the final College decision on the matter.

The Affirmative Action Coordinator is the Director of Human Resources and can be reached at Mid Michigan Community College, 1375 S. Clare Avenue, Harrison, MI 48625; or by phone at (989) 386-6606.
Held on the Harrison Campus Since 1993 the Sunday following Labor Day

Nearly $300,000 raised for Scholarships and Grants
II. COLLEGE SERVICES AND PROCEDURES

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ADMISSIONS

“OPEN DOOR” ADMISSIONS POLICY

Mid Michigan Community College has an “open door” admissions policy which encourages admissions of all persons, regardless of age or educational background, who have a sincere desire to study and apply themselves so as to gain full advantage of the benefits the College has to offer. Persons planning to transfer to four-year colleges or universities should be aware that a high school diploma or GED will be required by the transfer institution. Persons applying for financial aid must have a high school diploma, a GED, or documented proof of their ability to benefit from their education program. Applicants for all allied health programs must have a high school diploma or a GED.

Students who have a felony charge on their record will be required to meet with the Dean of Student Services before admittance to Mid Michigan Community College. Based on the outcome of that meeting, Mid Michigan Community College may deny admission based on the criminal conviction. In addition, a student may be denied access to clinical training if he/she was convicted of a crime.

ADMISSIONS PROCEDURES

Applicants who have never attended another college or university:

1. Complete and return an Application for Admission. This may be obtained from high school counselors or from the Admissions Office on the Harrison Campus or Mt. Pleasant Campus. This form should be completed and returned to the Admissions Office well in advance of the semester for which the student is applying in order to allow time for assessment, orientation, academic advising, and class reservations.

2. Have forwarded to the Admissions Office a copy of the high school transcript or GED completion.

Guest Applicants:

Complete and return a Michigan Uniform Undergraduate Guest Application. This may be obtained from the Admissions Office on either campus or the Admissions Office of the home university or college one is attending. This form should be completed and returned to the Admissions Office well in advance of the semester for which the student is applying in order to allow time for assessment, orientation, academic advising, and class reservations. Guest students are not eligible for Title IV Federal Student Aid.

Transfer Applicants:

1. Complete and return an Application for Admission. This may be obtained from the Admissions Office on either campus. This form should be completed and returned to the Admissions Office well in advance of the semester for which the student is applying in order to allow time for assessment, orientation, academic advising, and class reservations.

2. Have forwarded to the Admissions Office official copies of transcripts from other colleges and universities attended.

Readmission

Former Mid Michigan Community College students who have withdrawn from classes or who have not returned for one or more semesters may be readmitted. Official copies of transcripts from other colleges or universities attended during the interim should be forwarded to the Dean of Student Services.

Dual Enrollment Program

This program is designed for high school students whose personal and intellectual maturity suggests that they are ready for college-level work. The students may enroll in Mid Michigan Community College courses while still attending high school or they may attend College during the summer session. The academic credits they earn will apply toward an associate degree and will transfer to most Michigan colleges and universities.

Students wishing to enroll in this program must have a letter signed and dated by their high school principal or the principal’s designee stating that they have approval for admission.

Students who would like to qualify for the State of Michigan dual enrollment tuition reimbursement should first check with their high school to determine eligibility and then contact the MMCC Admissions Office. Dual enrolled students are not eligible for Title IV Federal Student Aid.

Applicants for Health Programs:

1. Admission into all health programs is limited due to the number of clinical spaces available. Normally, the number of students admitted into the health programs are:

   - Level I Nursing (Practical Nursing): 70
   - Level II Nursing (ADN & StepUp): 60
   - Level II Nursing Part-Time (ADN): 20
   - Radiography: 24
   - Medical Assistant: 25

   The number of students admitted is subject to change based on the availability of clinical spaces.

2. Admissions Criteria:

   a. Nursing Program: Students are admitted based on completion of required prerequisite courses, a GPA of 2.5 or higher in the required prerequisite courses and earliest program application date when
compared with other candidates making application at the same time. Students can only attempt prerequisite courses twice (this includes drops and withdrawals) and still be eligible for the Nursing program.

b. Radiography Program: Admission is based on application to the program and completion of prerequisite courses. Upon admission to the program, students undergo training in Medical Terminology, Anatomy and Physiology, Chemistry, Computer Information Systems, English, and Basic Algebra. Upon successful completion of prerequisite courses, radiography program students undergo a two year sequence of classroom, laboratory, and clinical education classes. Graduates receive an Associate in Applied Science Radiography degree and are eligible for the American Registry of Radiologic Technologists certification examination.

c. Medical Assistant Program: Admission is based on application to the program, completion of OIS 140 (Beginning Word Processing/Keyboarding) or competency and a conference with the Dean of Nursing. Students can only attempt required courses twice and still be eligible for progression in the program.

3. All students admitted into health programs must attain grades of "C" or better in all courses required to complete the program except as follows: For Nursing and Radiography, BIO 141 & BIO 142 must be passed with a "B-" or better. The Medical Assistant program students must attain grades of "C-" or better in all OIS courses while all other grades must be grade "C" or better. If students have taken science courses prior to admission into a specific health program, the courses must have been completed within five years of the date the student formally begins the program.

For further information about any health programs, contact the Admissions Office.

Operational Policy

MMCC has an Operational Policy that requires students who wish to enroll in college to have a high school diploma or a GED or must have completed the MEAP High School Assessment exams (or other high school examinations as established by the State Department of Education). The student must be enrolled in the tenth grade or higher and must have written approval for the application (or course enrollment) by the student’s principal, or his/her designee or the superintendent of the pupil’s home district. If home schooled, the student must demonstrate college level basic skills (reading and writing) on an approved and recognized college admission examination. Subject matter testing may be required for specific classes such as math, science, language and technology, to assure that the student has the basic skills appropriate for the level of the course. Requests for an exception to this policy must be in writing to the Dean of Student Services at least eight weeks in advance of the start of the enrollment period for which the exception is being requested.

International Student Admissions

1. The Application for Admission must be filled out completely and returned at least six months prior to the semester the student plans to attend.

2. All records of any previous schooling (mark sheets, transcripts, and any documents indicating graduation) must be submitted as official documents issued directly from the institution concerned. They must show course work and grades and must be translated if the originals are not in English. The originals should also be included. Credentials should not be forwarded to the College through relatives or friends in the United States.

3. International students will be required to take either the TOEFL (Test of English as a Foreign Language) or the Michigan Test if English is NOT the native language of the student. They must achieve a minimum score of 550 on the written TOEFL or 213 on the computer-based test or a minimum score of 80% on the Michigan Test. If they do not achieve these scores, they must attend a language center in the U.S. for intensive English study. A minimum score of 80% must be achieved at the language center before admission is granted.

4. International students must demonstrate ability of financial responsibility prior to acceptance into the College. A certified bank statement from a local bank must accompany the application documenting the ability to cover one full year of residency at MMCC. Admission will not be complete until an appropriate certified bank statement is submitted (aprx. $11,000).

5. All international students must carry an approved medical insurance program to cover major medical expenses.

6. Upon admission to MMCC, an I-20 form will be issued to obtain the necessary F-1 Visa.

7. The College will apprise the students of the fact that there is no housing available. The College assumes no responsibility for student housing for any students.

8. International students will be admitted only in the fall semester with few exceptions. Students must be full-time to remain in status.

9. International students will pay the out-of-state tuition rates. International students are not eligible for Title IV Federal Student Aid.
ADVANCED CREDIT OPTIONS

ADVANCED CREDIT

Advanced credit indicates that credit will be received without enrolling in the course provided the student demonstrates expertise as evidenced by successful completion of an equivalent high school course. A per "Billable Hours" recording fee may be charged at the time of transferring the advanced credit, please contact the Business Office for more information on applicable fee.

ADVANCED PLACEMENT PROGRAM

College course credit will be granted to students who participate in the Advanced Placement Program (AP) and pass the Advanced Placement examinations with a score of 3 (qualified), 4 (well qualified), and 5 (extremely well qualified) in College approved AP exams. Only those AP courses approved by MMCC faculty will transfer in as MMCC credit. AP exam scores should be sent directly to the Office of Enrollment Services.

The AP exams measure the college level learning experience that takes place in a high school AP course, honors class, an intensive regular course, or an independent study. Grade comparability studies in various AP subject examinations have compared to college student’s performance in similar courses.

ARTICULATION

Based on mutual concern for the needs of the students pursuing occupational programs and in an effort to provide a continuing articulation that builds on past learning experiences and eliminates unnecessary duplication of instruction, high school students successfully completing career/technical training may receive college credit through articulation. For more information please contact The Office of Enrollment Services.

CREDIT BY EXAMINATION

A registered student who has had experience or background comparable to a course offered at Mid Michigan Community College may wish to receive credit for the course through the Credit by Examination procedure. The procedure should be initiated with Student Educational Services in Room 219 on the Harrison Campus or on the first floor of the Mt. Pleasant Campus to complete the Credit by Examination permission form.

The student will then pay the cashier a set fee ($15 per credit for general education courses and $20 per credit for non-general education courses) to cover testing costs, and Student Educational Services will make the necessary arrangements for the examination. After taking the College Board APS Assessment or the MMCC Math Placement Test, students who are placed in MAT 104 or above, will be given a one time opportunity to take the General Education Credit by Examination for MAT 101 free of charge. Those students placed in MAT 101 may opt to take Credit by Examination for a fee. It should be clearly understood that the student will receive credit upon successful completion of the exam and not a grade for the class in which the examination is taken. Students should be advised that MMCC Credit by Examination is unlikely to transfer to another college.

COLLEGE LEVEL EXAMINATION PROGRAM (CLEP)

It is possible for Mid Michigan Community College students to earn academic credit toward program completion through the College Level Examination Program (CLEP). Credit will be given for (CLEP) General Examinations in the mathematics and humanities provided the scores are at or above the 50th percentile. Credit will be given for all CLEP Subject Area Examinations provided they apply to the student’s declared program of study and provided the scores are at or above the 50th percentile.

The exception is that French level 2, the score must be 52 for German level 2 the score must be 63 and for Spanish level 2, the score must be 54.

Students should have their CLEP scores sent directly to the Office of Enrollment Services. Transfer students should also have their original scores sent, since CLEP credit will not be given to a transfer student on the basis of inclusion on another institution’s transcript.

MILITARY TRAINING CREDIT

All veterans having a certified DD Form 214 on file in the Office of Enrollment Services will automatically be given credit for two semester hours of physical education and three semester hours of health and hygiene. Veterans who feel that other training received in the military is applicable to their program of study may request that such training be evaluated for credit. The veteran must produce proper documentation and the documentation will be evaluated by the Office of Financial Services based on the American Council on Education credit recommendations. Veterans planning to transfer from Mid Michigan Community College to another institution should be aware that the institution will not necessarily accept the credit for military training given by the College, but will usually wish to reevaluate the training documentation.

NON-TRADITIONAL CREDIT

Students possessing educational experiences or skills gained through non-traditional sources such as military courses, work experience programs, life experience, and so on, may request that such experiences be evaluated for credit. The student must provide proper documentation and that documentation will be evaluated by the Office of Enrollment Services. A $20 per credit hour recording fee will be charged at the time the non-traditional credit is recorded. Students should be aware that non-traditional credit usually does not transfer to another institution.
TRANSFER CREDIT

Mid Michigan Community College will accept transfer credit from other accredited institutions within the following guidelines:

An evaluation will only be done from an official transcript. An official transcript bears the appropriate signatures and seals and is mailed directly to MMCC from the issuing institution.

Courses completed with a “C” grade (2.0) or better will be accepted.

Courses which are not equivalent to MMCC courses but are in a discipline may be accepted as elective credits.

Credits, not grades, are transferred for “C” or better courses. Grades from transfer courses are not calculated in the Mid Michigan Community College cumulative grade point average.

Transfer credits will be shown on the student’s academic record.

Occasionally courses with less than a “C” average may be accepted at the discretion of the Registrar provided those courses do not conflict with any other program or institutional policies.

A minimum of one-half of the student’s credits toward a program must be taken at MMCC to be eligible to graduate from MMCC with honors.

Students who transfer to MMCC after completing a degree at an accredited institution will be given the following exemptions from MMCC’s General Education requirements:

1. From a Two-Year Institution: Students transferring to MMCC with a two-year degree from an accredited institution will be exempt from 100 Level General Education requirements. 200 Level requirements will be determined in the transcript evaluation process.

2. From a Four-Year Institution: Students transferring to MMCC with a four-year degree from an accredited institution will be exempt from both the 100 and 200 Level General Education requirements.

Normally, evaluation of transcripts takes four to six weeks after the transcript is received by the Registrar; therefore, students planning to transfer into Mid Michigan Community College should have transcripts from other institutions sent to the College well in advance of the first semester of attendance.

ASSESSMENT AND ADVISING

ASSESSMENT

Mid Michigan Community College uses APS (Assessment and Placement Services) as a placement tool. APS is not an admissions test. It is an assessment that helps students identify their present strengths and needs—information that is necessary for accurate placement in the basic areas of language usage, reading, and numerical skills.

All students in the following categories must complete the APS Assessment prior to registration:

1. New full-time students.

2. Students who plan to enroll in a college Mathematics or English course for the first time.

Prospective students having completed the ACT may contact a counselor to waive the MMCC placement test. The ACT scores must be on file at MMCC. Students with ACT scores may be required to complete a writing sample.

ASSESSMENT CENTER

The Assessment Center provides placement testing which assists new students in selecting courses that are neither too difficult nor too easy for them. New students are expected to take placement tests before orientation to assist in academic advising.

In addition to the placement tests, the center also provides assessment relating to career exploration activities. Students who are undecided about a career are strongly encouraged to visit the center for assistance.

Assessment relating to career exploration activities is also available to non-MMCC students for a modest testing and interpretation fee.

The center is normally open from 8:00 a.m. until 4:30 p.m. Monday through Friday, with some evenings scheduled throughout the academic year.

ORIENTATION

All students new to Mid Michigan Community College taking 6 or more credit hours are expected to attend an orientation session before their first registration. During orientation, students are informed about important policies and procedures, given information about services available, and receive academic advising in selecting their first semester courses.

Before orientation, students are expected to attend a placement assessment session or have approved ACT test results on file at MMCC.
ACADEMIC ADVISING

Academic advisors are available to students throughout the academic year and between sessions. They are trained to assist students on a one-to-one basis with career selection, program planning, course reservations, and to provide counseling for students experiencing academic difficulties. New students are generally advised by a licensed counselor or trained Academic Advisor, returning students also have the option to work with an assigned faculty advisor in their field of study. Returning students may see an advisor at scheduled times during each course reservation period to set up a class schedule. Appointments may also be made with academic advisors by stopping in or telephoning the Counseling Center on the Harrison Campus, or at the main desk on the Mt. Pleasant Campus, or setting up an appointment with the faculty advisor. Hours are posted. Faculty advisor’s availability varies each semester and session.

The following students are required to see an advisor prior to registration:

1. All full-time students who have accumulated less than 12 MMCC credits (as displayed on the transcript).
2. Students enrolling in entry level English or math courses (exempted: students who have Assessment scores noted on the data base).
3. All academic probation or reentering academically dismissed students.

MMCC is committed to helping all students with academic advising needs. Any student who needs assistance or has a question is encouraged to see an academic advisor.

CAREER PLANNING

Career planning activities are designed to assist students who are undecided at the time of registration or who are considering changing career plans during their enrollment period. Career planning assistance is provided through career planning classes or with the Assessment Center counseling staff. The center has a variety of career assessment instruments designed to assist with career decision making. Activities are centered around career assessment and exploration designed to provide an organized career selection process.

PERSONAL COUNSELING

Personal counseling is available on a limited basis. The College maintains a list for referral to local crisis centers and mental health clinics qualified and available for personal counseling. Personal counseling is helpful in situations where problems are persistent and bothersome to the point that another person is needed to discuss the situation. For information, contact the Counseling Center.

ENROLLMENT SERVICES

REGISTRATION

Registration at Mid Michigan Community College begins by
1) Students must first fill out an application for admission, 2) see an academic advisor, 3) register for the course, and 4) secure the registration by paying the required enrollment fee(s) the day of registration. All students must complete the process by paying tuition in full or activating a financial aid approved charge by the published date in the class schedule.

Returning students may opt to register by telephone, online, or on a walk-in basis. The first week of each registration period permits students who have completed 12 MMCC credits to register. All returning students may register by telephone. New students need to see an advisor and register during orientation with the exception of those new students taking very limited course work of 6 credits or less (they may register by telephone or walk-in).

Students who register during the late registration period will pay the full Enrollment Fee and tuition the day of registration. Advisors are available during the late registration period. Since class selection is more limited, students are advised to register earlier. The late registration period is listed in the course schedule.

Full information regarding tuition and fees is given in the section, “Cost of Attending College.”

STUDENT CREDIT HOUR LOAD

The normal credit hour load for a full-time student consists of 15-17 semester credit hours, including physical education. A student may not elect more than 17 semester credit hours without prior special permission from the Director of Counseling/Advising. A request to enroll for 20 or more semester credit hours must also be approved by the Vice President of Academic Services.

Twelve or more credit hours are considered full-time, 9-11 credit hours are considered three-quarter-time, and 6-8 credit hours are considered half-time.

Students earning 0 through 23 credit hours are designated as “freshmen”; students earning 24 through 62 credit hours are designated as “sophomores”; students earning 63 or more credit hours are designated as “other”.

HONORS SECTION

Students with a minimum of a 3.0 GPA may elect to register for a course in the honors section. Honors classes are intended to challenge highly motivated and academically talented students. Permission of instructor is required.
**HONORS OPTION**

Students may apply to take a course with an honors option. The student meets with the instructor one additional hour per week in addition to the regularly scheduled class. The student and the instructor will develop an extra project together. Such options will also be marked “Honors” on the student’s transcript. Only a minimum number of honors options will be permitted each year. Students interested in this option should contact both the individual instructor and the Honors Program Coordinator, and must apply and be approved prior to the beginning of the semester the honors option will be taken.

**ADDING COURSES**

Students may add courses to their schedule after registration by completing the Add Form obtained from the Office of Enrollment Services. A course may be added without permission of the instructor during the 1st week of classes. After this period of time, written permission from the instructor must be obtained.

**DROPPING COURSES**

Students may drop classes from their schedules after registration by completing a Drop Form obtained from the Office of Enrollment Services. Refund of tuition will be based on the Tuition Refund policy found in “The Cost of Attending College.” If courses are dropped after the official enrollment period and before the last week of the semester, a grade of “W” is assigned with no grade point average penalty and appears on the transcript. If classes are dropped during the last half of the total of class sessions, permission of the instructor must be obtained and the signed Drop Form must be submitted to the Office of Enrollment Services.

The instructor may give permission to withdraw or may refuse such permission. If permission is given, the instructor will assign a grade of “W” (Withdrawal) or may assign a grade of “A”, “B”, “C”, “D”, or “F”. If permission is refused, the instructor will assign a letter grade of “A”, “B”, “C”, “D”, or “F” at the end of the semester or session. All such grades appear on the transcript.

Dropping courses must be initiated by the student through the Office of Enrollment Services and may be initiated throughout the semester with the EXCEPTION of the last week. Students may not drop courses the last week of the semester. Students who stop attending a class but do not initiate a drop will be given a letter grade, not a withdrawal grade, by the instructor at the end of the semester or session. Students receiving financial aid should check with the Financial Aid Office to see if dropping a course will affect their aid amount.

**AUDITING A COURSE**

A course in which a student enrolls for no grade and no credit is regarded as an Audit. Permission of the instructor must be obtained and the regular tuition and fees paid. Audited courses are not computed into the GPA and do not count toward graduation. A course cannot be changed from audit to credit or from credit to audit after the official drop/add period is over.

**REPEATING A COURSE**

When a course is repeated for the purpose of improving a grade, the lower grade with its credit hours and points will be removed from the existing GPA; the higher grade with its credit hours and honor points will be computed into the GPA. The Grade Point Average (GPA) is found by dividing the total honor points earned by the hours attempted. Credit cannot be earned more than once for any given course. An equivalent course taken at another institution will not remove the MMCC equivalent from the MMCC transcript.

**SAME COURSE RE-ENROLLMENT**

In an effort to avoid potential same course re-enrollment abuse, the following conditions apply:

1. Regardless of grade(s) earned in a course(s) previously, a student will be allowed to re-enroll for this same course for a second time without conditions unless it is in a restricted enrollment program which requires written approval to re-enroll by the program director.
2. Regardless of grade(s) earned in course(s) previously, a student will not be allowed to re-enroll for a course for a third time unless the re-enrollment request is written by the student and has a plan for success.
3. For a student to be allowed to re-enroll in a course for a fourth time or more the student must make a request in writing and receive approval of the Dean of Student Services or the Vice President of Instruction, plus agree in writing to pay the complete course cost explained below.

   **In-District Student:**
   
   In-District Tuition X 3 + all Fees = Total Cost*
   
   **Out-District Student:**
   
   Out-District Tuition X 3 + all Fees = Total Cost*
   
   * The purpose for requiring three times the tuition is to ensure the student pays the total course cost thus, freeing the local and state taxpayers of any financial contribution.

**WITHDRAWING FROM COLLEGE**

Students who withdraw totally from the College other than at the end of a semester or session must initiate formal withdrawal procedures with the Office of Enrollment Services to claim any possible refunds and avoid the posting of failing grades for all courses not completed.

Students who receive Title IV Federal Student Aid funds and withdraw totally prior to completion of 60% of a semester or session may have to repay a portion of the
INDEPENDENT STUDY COURSE WORK
A student may, at the discretion of the instructor, register for course work independently. All independent study course work must be approved by the appropriate Instructional Administrator.

CHANGE OF PROGRAM
At the time of application, the student is required to declare a program and is given a student program guide to follow, which outlines all courses required for completion of the degree or certificate. If a student decides to change his/her program of study, the Office of Enrollment Services must be notified and a new student program guide should be picked up to assure that the student completes the necessary courses required on the new program.

FINANCIAL AID
Mid Michigan Community College, in conjunction with federal and state programs and private and civic organizations, offers a variety of scholarships, grants, loans, and employment opportunities to assist students in financing their education.

No student should hesitate to apply for admission because of financial circumstances. Approximately 65% of all Mid Michigan Community College students carrying 6 credits or more receive some form of financial assistance. The purpose of financial aid is to make it possible for students of all degrees of financial capability to pursue their educational goals.

The following information is provided to inform prospective and current students of the various alternatives available.

HOW FINANCIAL NEED IS DETERMINED
Need is determined by subtracting a student’s expected family contribution from the student’s school budget. If the Financial Aid Office considers the student eligible for assistance from a source other than the College, it subtracts the estimated amount of this assistance from the student’s estimated total financial need.

Expected Family Contribution: In determining a student’s eligibility for need-based assistance, the College considers the appropriate contributions from the student, student’s spouse, and from the parents of the student if the student is not independent.

The information provided in the Free Application for Federal Student Aid (FAFSA) is used to determine a fair contribution from each family taking into account the family’s income and some net assets, the number of dependents, and other factors.

The office uses federally required and approved computation analysis guidelines and, if necessary, makes adjustments.

FINANCIAL AID ELIGIBILITY FOR FEDERAL & STATE AID PROGRAMS
To be eligible for federal and state gift aid, employment and loan programs, students must meet all of the following requirements:

• be admitted to or enrolled in an academic program leading to a degree or certificate;
• be a U.S. citizen or National, permanent resident or have other qualifying status;
• all adult males between the ages of 18-26 years of age must be registered with Selective Service (if required to register) and sign statements of compliance;
• not be in default on any loan program or in over-payment status on any federally funded aid program at any college or university;
• have a high school diploma, a GED or have the ability to benefit;
• establish and maintain satisfactory academic progress;
• meet any additional requirements established for specific federal and state programs.
• have financial need, except for some loan programs;
• have a valid social security number;
• sign a statement on the Free Application for Federal Student Aid (FAFSA) certifying that you will use federal student aid only for educational purposes.

Conviction for drug distribution or possession may make a student ineligible for aid. Contact the Financial Aid Office for additional information about these requirements.

FINANCIAL AID PACKAGE
Normally, the financial aid package consists of a combination of gifts (scholarship and grant) and self-help (job or loan) aid. The proportion is determined annually.

Students receiving need-based assistance who have also been awarded non-need-based scholarships will have the scholarship funds included in the financial aid package.

HOW TO APPLY FOR FINANCIAL AID
The student must submit the Free Application for Federal Student Aid (FAFSA). This application can be submitted over the internet using FAFSA on the web at www.fafsa.ed.gov, or by mailing the proper FAFSA directly to the federal processor.

These forms may be obtained from either a high school counselor or the College Financial Aid or Admissions Offices.
The Financial Aid Office will give priority to students who submit all required documentation by June 1. These students may expect to complete their registration process by charging tuition costs against their estimated financial aid.

Students who submit documentation after June 1 should plan on paying tuition costs from their own funds but will receive any financial aid monies for which they are eligible after all processing is complete.

Please note several types of federal and state funds are limited. Therefore, students who apply early will be given priority when those funds are awarded. Mid-year transfer students who apply for federal aid must change their school code with the Department of Education before aid can be processed.

Most College awards are made for a period of one academic year only. Reapplication must be made each year. There is limited financial aid available for the spring and summer sessions.

The Financial Aid Office reserves the right to request income and asset verification of financial statements submitted for need-based aid. Failure to provide the requested information will result in cancellation of award action. Falsification of income information submitted for the purpose of receiving financial assistance will result in cancellation of all future assistance and repayment of all prior assistance received falsely. If federal and/or state funds are involved, notification of the false information will be provided to the proper agencies (U.S. Office of Education and/or Michigan Higher Education Assistance Authority) for their future disposition.

CHANGES IN AWARDS

The Financial Aid Office notifies students of the types of aid for which the student is eligible and provides estimated amounts of aid in their award letters. It may, however, be necessary for the College either to increase or decrease the award if changes occur in enrollment status, family financial status, or the student’s own financial resources or expenses.

Changes in enrollment status include reduction of the credit hour load or withdrawing from the College before the end of the semester. Such changes normally will result in reduction or cancellation of assistance. Students should consult the Financial Aid staff before making a change of this type.

Changes in family financial status include significant discrepancies between resources described in the FAFSA and those reported in the federal income tax return and unanticipated family financial reverses lasting longer than three months. Students should consult the Financial Aid staff if changes of this nature occur.

Changes in student resources include receipt of educational benefits such as Social Security, Veteran’s benefits, and receipt of awards in amounts that differ from estimates stated in the award announcement or that were not included in the announcement. Students must report receipt of additional resources not considered in the original package.

Changes in student expenses, such as medical or emergency expenses, may be experienced by some students. If expenses change, students should discuss their budget with a financial aid officer. It may be possible to adjust the self-help portion of the award to recognize additional allowable expenses.

STANDARDS OF SATISFACTORY ACADEMIC PROGRESS FOR FINANCIAL AID RECIPIENTS

To receive financial aid, students must maintain satisfactory academic progress toward their degree or certificate. The Mid Michigan Community College (MMCC) Standards of Satisfactory Academic Progress governs all federal and state financial aid, grant, loan, and workstudy programs. Financial Aid Student academic records are reviewed each semester for satisfactory academic progress.

There are 3 Elements in the MMCC Standards of Satisfactory Academic Progress:

1. The grade point average (GPA) students must maintain;
2. The number of credit hours students must complete each semester; and
3. The maximum credit hours for which students may receive financial aid.

Element 1

Students must maintain a grade point average (GPA) of a 2.0 or above on a cumulative basis.

Element 2

Students must satisfactorily complete two-thirds of attempted credit hours each semester rounded up to the nearest number as defined in the semester completion table below.

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<th>Semester Completion Table</th>
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<tr>
<td>Enrolled Credits</td>
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<td>3 - 5</td>
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FINANCIAL AID ACADEMIC PROBATION

Student financial aid recipients will be placed on probation the first time they do not meet the Satisfactory Academic Progress criteria. Students will be allowed one probation-
any semester of assistance to meet the requirements of Elements 1 and 2.

Students who do not meet the requirements of Elements 1 or 2 after one semester of probation will have aid eligibility suspended. The reinstatement or appeal process described below may be used to regain financial aid eligibility.

REINSTATEMENT

Students can have their financial aid reinstated by attaining the minimum cumulative grade point average and semester credits earned requirements (See Elements 1 & 2). Students seeking reinstatement must then advise the Financial Aid Office in writing that they meet the requirements.

APPEALS

A. Students who have been suspended from financial aid for failure to meet Standards of Academic Progress have the right to appeal. All appeals must be submitted in writing on the Satisfactory Academic Progress Appeal Form to the Financial Aid Office. Students submitting appeals should state the reasons why satisfactory progress was not made and discuss actions that have been or will be taken to meet satisfactory progress requirements in the future. Documentation supporting the reasons for the appeal must be attached. Appeals submitted without documentation will not be considered. Mitigating circumstances beyond the control of students, such as injury, illness, death of an immediate family member, or other special circumstances may be grounds for successful appeals.

If appeals are approved, students will receive one additional semester of aid. During this semester students must complete all courses in which they register with grades of "C" (2.0) or better (no C-,D+,D,E or NC grades), with no withdrawal (W), and no Incomplete (I) grades. Students meeting this criteria will continue on probationary status until the student meets the MMCC Standards of Academic Progress.

Students who fail to meet these requirements will have aid eligibility suspended.

B. If the first appeal is not resolved to the satisfaction of the student, a second appeal may be made in writing to the Director of Financial Aid, who will convene the Financial Aid Advisory Committee to review the second appeal. The Director will inform the student of the Advisory Committee's decision within ten business days. The Committee's decision will be final.

1. The Financial Aid Advisory Committee is made up of the following membership:

   Dean of Student Services
   Financial Aid Director
   1 Financial Aid Officer
   1 Admissions Office Representative
   1 Faculty Member

   A minimum of three members is required to review a student appeal.

Element 3

Federal Regulations state that a student can not receive Title IV funds for more than one and one-half times the required credit hours needed to complete a specific degree or program. In other words, if an Associate Degree normally takes 64 credit hours to complete, a student can not attempt more than 96 credit hours toward that degree and still receive aid (64 x 150% = 96).

Attempted credits hours include incomplete, withdrawals, repeated, and remedial courses and transfer credits.

DISBURseMENT OF AWARDS

Financial aid monies from scholarships, grants, and loans are usually divided in half and credited directly to the semester bill. If there are more credits than charges, a check will be issued to the student for the balance. It is the student’s responsibility to verify the accuracy of the billing charges and credits and remaining aid balance.

The availability date of remaining balance checks varies, but they are disbursed prior to the end of each semester. Students should plan to have sufficient funds for meeting their expenses until checks are available. These checks are disbursed through the College Business Office.

STATEMENT OF STUDENT FINANCIAL AID RIGHTS AND RESPONSIBILITIES

Rights of Financial Aid Applicants

1. You have the right to know what financial aid programs are available.

2. You have the right to know the deadlines for submitting applications for each of the financial aid programs available.

3. You have the right to know how financial aid will be distributed, how decisions on that distribution are made, and the basis for these decisions.

4. You have the right to know how your financial need was determined.

5. You have the right to know what resources (such as parental contribution, other financial aid, your assets, etc.) were considered in the calculation of your need.

6. You have the right to know how much of your financial need as determined by the institution has been met.

7. You have the right to request an explanation of the various programs in your student aid package.

8. You have the right to know the MMCC refund policy.
9. You have the right to know what portion of the financial aid you received must be repaid, the payback procedures, the length of time you have to repay, and when repayment is to begin.

10. You have the right to know how MMCC determines whether you are making satisfactory academic progress and what happens if you are not.

For an explanation of any of the above rights, please review the information in this catalog or come in to the Financial Aid Office and meet with a Financial Aid Representative.

Responsibilities of Financial Aid Applicants
1. You must complete all application forms accurately and submit them on time to the right place.
2. You must provide correct information. In most instances, misreporting information on financial aid application forms is a violation of law and may be considered a criminal offense which could result in indictment under the U.S. Criminal Code.
3. You must return all additional documentation, verification, corrections, and/or new information requested by either the Financial Aid Office or the agency to which you submitted your application.
4. You are responsible for reading and understanding all forms that you are asked to sign and for keeping copies of them.
5. You must accept responsibility for all agreements that you sign.
6. You must perform the work that is agreed upon in accepting a Work Study job.
8. You are responsible for reporting the type and amount of any assistance you have received from any source outside of your MMCC aid.

**MID MICHIGAN COMMUNITY COLLEGE AID PROGRAMS**

**Eugene W. Gillaspy Honors Scholarships:** These $600 scholarships ($300 per semester) are offered to any high school senior whose cumulative GPA is 3.5 or higher. Application for this award is made through the college Admissions Office. The number awarded is based on early submission of high school transcripts. To be eligible, the student must have a cumulative high school GPA of 3.0 to 3.5. Students should apply for these scholarships through their school counselor. To retain the scholarships, the student must attend Mid Michigan Community College on a full-time basis (12 or more credit hours) and must maintain a cumulative GPA of 3.0 to 3.5. These non-need based scholarships are renewed on a semester-by-semester basis to a maximum of four semesters and must be used for the semester for which they are awarded and cannot be held for attendance in a different semester.

**Mid Michigan Community College Trustees' Scholarships:** Recipients of these $400 scholarships ($200 per semester) Application for this award is made through the college Admissions Office. The number awarded is based on early submission of high school transcripts. To be eligible, the student must have a cumulative high school GPA of 3.0 to 3.5. Students should apply for these scholarships through their high school counselors. To retain the scholarships, the student must attend Mid Michigan Community College on a full-time basis (12 or more credit hours) and must maintain a cumulative GPA of 3.0 to 3.5. These non-need based scholarships are renewed on a semester-by-semester basis to a maximum of four semesters and must be used for the semester for which they are awarded and cannot be held for attendance in a different semester.

**Mid Michigan Community College Admissions Awards:** These $250 awards ($125 per semester) are offered to high school seniors whose GPAs are between 2.0 and 3.0 thus making them ineligible for scholarship assistance, but who show potential to profit from a college education based on the recommendation of their high school counselor and two of their instructors. Application for this award is made through the college Admissions Office. The number awarded is based on early submission of high school transcripts. To retain these awards, the students must attend Mid Michigan Community College on a full-time basis (12 or more credit hours) and must maintain a cumulative GPA of 2.0 or higher. These awards are renewed on a semester-by-semester basis to a maximum of four semesters. The MMCC Admissions Awards must be used for the semester for which they are awarded and cannot be held for attendance in a different semester.

**Mid Michigan Community College Technical Education Awards:** These $500 awards ($250 per semester) are offered to individuals who plan on taking classes in one of the following programs: Automotive Technology, Heating, Refrigeration & Air Conditioning, Industrial Technology/Drafting & Design, Industrial Technology/Machine Tools, Office Information Systems, Graphic Design, Welding Technology or M-Tec classes. Application for this award is made through the college Admissions Office. The number awarded is based on early submission of high school transcripts. This award can be used for tuition, fees and books. Students must have a 2.0 or higher GPA to receive the award, and if a 3.0 GPA is maintained after the first year, students may receive the award for an additional year.

**Mid Michigan Community College Adult & Alternative Education Trustees’ Award:** Recipients of these $300 scholarships ($150 per semester) are nominated by the Adult Education Director. To be eligible, the student must have a GPA of at least 3.0. Students should apply through their Adult Education Office. To retain the scholarships,
the student must attend Mid Michigan Community College on a full-time basis (12 or more credit hours) and must maintain a cumulative GPA of 3.0. These non-need based scholarships are renewed on a semester-by-semester basis to a maximum of four semesters and must be used for the semester for which they are awarded and cannot be held for attendance in a different semester.

Mid Michigan Community College Scholastic Incentive Scholarship: Students are eligible for $250 scholarships after completing a semester at full-time status (12 or more credit hours) with a cumulative GPA of 3.5 through 3.89; or are eligible for $400 scholarships after completing a semester at full-time status with a cumulative GPA of 3.90 through 4.00. To receive the scholarship, students must also be currently enrolled full-time in a regular semester. Application for these scholarships must be made each semester through the Financial Aid Office. These scholarships are non-need based, limited to five semesters, and are made possible through financial gifts from friends of the College and the Scholarship & Grant Commission.

Ellis VanDeventer Adult Incentive Award: This award is to assist adult students who are not served effectively by the Federal Pell Grant Program, but still have a relatively low income and high financial need in the Federal Formula. Most of these students are not coming directly out of high school and therefore have limited opportunities to qualify for traditional scholarships. Awards are made for one academic year and are renewable for one additional year if a student has not completed 60 credit hours. An award of $400 per semester with a maximum of $800 per year will be made to qualifying full-time students. An award of $200 per semester with a maximum of $400 per year will be made to qualifying students attending at least half-time but less than full-time.

Junior High Scholarship: The scholarship is in the amount of $250 and is presented to outstanding Junior High (8th grade) students that will be graduating into high school. This scholarship is in acknowledgment of academic excellence. To achieve this recognition, the honored recipients must have earned a cumulative GPA of 3.5 or better.

Senior Citizen’s Discount Awards: Senior citizens may enroll in any credit or non-credit course offered by the College, except those courses in a program requiring an admissions decision, and receive a 20% tuition discount. To qualify for such a discount, senior citizens must be 62 years of age or older and retired, must have their primary residence in the State of Michigan, and must be participating in U.S. Social Security retirement benefits. Senior citizens must request such a discount at the time of registration. This discount does not apply to fees, books, materials or supplies, trips, or other special events.

STATE OF MICHIGAN AID PROGRAMS

Adult Part-Time Grant: The Adult Part-Time Grant provides grant assistance for needy self-supporting undergraduate students who have been out of high school (other than GED or adult education) for at least two years. Qualifying students must enroll at an approved public or private degree-granting Michigan college on a part-time basis (3 to 11 credit hours). Grants are available for not more than two years of study.

Michigan Rehabilitation Services: Michigan Rehabilitation Services is a division of the Michigan Department of Career Development and provides rehabilitative services to vocationally handicapped or impaired individuals. Any person with an impairment such as an amputation, a cardiac condition, speech problem, deafness, blindness, orthopedic involvements, or epilepsy can make application for service through Michigan Rehabilitation Services. All services provided are individually planned to meet the established need and could include, for example, tuition, fees, books, prosthetic devices, maintenance, or other services that would be required for the completion of a rehabilitation program.

A student who feels that vocational rehabilitation services are needed may make inquiry and application for assistance by contacting the Office of the State of Michigan Rehabilitation Services serving the student’s local area.

Michigan Competitive Scholarships: These scholarships are credited to tuition and fees of Michigan residents of 18 months who are high school graduates, who qualify through a competitive examination, and who show financial need. Awards may be renewed annually for a maximum of four semesters as long as need and at least a 2.0 GPA are maintained.

More information is available from high school counselors and by writing to the Office of Scholarships & Grants, MHEAA, P.O. Box 30462, Lansing, Michigan 48909.

Michigan Educational Opportunity Grant: The Michigan Educational Opportunity Grant provides grant assistance for needy undergraduate students who enroll on at least a half-time basis at public Michigan colleges. The grant is awarded by the Financial Aid Office in accordance with federal and state guidelines.

Michigan Higher Education Assistance Authority Loans: Acts as a guarantee agency and in some cases as a direct lender for the Stafford Loan Program. For details see the Federal Family Educational Loan Program section of this catalog.

Tuition Incentive Program (TIP): The Tuition Incentive Program (TIP) pays community college tuition and fees for students from families determined by criteria set by
the State of Michigan to be lower-income. Students must apply for and be determined eligible for TIP prior to graduation from high school.

**Michigan Work-Study Program:** The Michigan Work-Study Program provides work opportunities for needy undergraduate, graduate, or professional graduate students who enroll at approved public or private degree-granting, Michigan colleges on at least a half-time basis.

### FEDERAL AID PROGRAMS

**Federal Pell Grants:** Students may apply for Pell Grants by filing a Free Application for Federal Student Aid (FAFSA).

Eligibility for Pell Grants is based on financial need as determined by a federal formula applied to all applicants. Currently awards range from $200 to $4,050. The amount of the award will be affected by costs of attendance and enrollment status.

Students must continue to meet the standards of satisfactory academic progress in the program in which enrolled. Students must not owe refunds on Pell Grants or other awards or be in default on repayment of any student loans.

Before receiving payment, the student must sign a Statement of Educational Purpose/Registration Compliance Form certifying that all money received will be used for the cost of attendance only.

**Federal College Work-Study Program (FCWS):** These work opportunities are awarded to students who meet requirements included in the Financial Aid Eligibility section. Job placement extends to most areas of College activity. Every effort is made to refer students to positions compatible with their interest and qualifications, although this is not always possible. Pay rates are commensurate with federal wage guidelines. The number of hours worked per week is limited in order to prorate the award amount a student is eligible to receive over the entire semester. Students are paid once every two weeks for hours worked. Placement of students in FCWS employment is handled through the College Employment Information Office. Application for FCWS is made through the Financial Aid Office.

**Federal Supplementary Educational Opportunity Grants (FSEOG):** These are federal grants awarded to students with the highest need according to the federal formula. The grants vary from $200 to not more than $1,000 per year for MMCC students. Students must be making satisfactory progress; and meet all other conditions outlined in the Financial Aid Eligibility section to continue receiving the grant. The FSEOG is awarded by the Financial Aid Office in accordance with federal guidelines.

**Federal Family Educational Loan Program:** These low-interest, educational loans are made by a lender such as a bank, credit union, or savings and loan association. They are insured by the guarantee agency in each state and reinsured by the federal government. You may apply for a Federal Family Educational Loan after the Financial Aid Office has determined any other financial aid for which you may be eligible. These loans are only to be used to finance the cost of education and must be repaid.

**Subsidized Stafford Loan:** Depending on financial need, first year students may borrow up to $2,625 a year and second year students may borrow up to $3,500 a year. The interest rate on your loan could change each year of repayment but, by law, it will never exceed 8.25%.

Interest on a Subsidized Stafford Loan is paid by the Federal Government while the student is in school, during a 6-month grace period following cessation of at least half-time enrollment, and for any periods of authorized deferment after the student begins repayment.

Loans will be made in multiple disbursements within the loan period. The lender will deduct up to 4% in fees from each loan check.

Students may be entitled to a temporary postponement of payments called a “deferment.” The lender has a complete listing of all authorized deferments and time limitations. (This information is also listed on the promissory note.)

If a student applies for an additional loan, the applications must be made to the original lending institution.

Six months after ceasing to be at least a half-time student, the borrower must make formal arrangements with the lending institution to begin repayment. The following regulations apply:

1. The minimum monthly payment will be $50. Under unusual circumstances the lender may permit reduced payments.

2. The maximum standard repayment period is 10 years, however there are other repayment options available for up to 30 years.

3. Repayment in whole or in part may be made at any time without penalty.

Default will occur if the borrower:

1. Fails to make scheduled loan payments; or

2. Fails to meet other terms of the promissory note.

If the student defaults on the loan, the guaranty agency will purchase the loan(s) from the student’s lender, add collection costs, report the default to national credit bureaus, and may pursue collection in the following manner:

1. Assign the student’s loan to a collection agency;

2. File suit against the student to recover the amount owed, plus court costs and fees;

3. Garnish the student’s wages; and/or

4. Withhold federal and state income tax refunds.
A defaulted loan is immediately due and payable in full. Student's credit rating will be adversely affected and may seriously jeopardize chances for qualifying for any future loans (auto, mortgage, etc.) Students who have defaulted on loans will not be eligible to receive any additional Title IV funds (which includes Pell Grants).

Unsubsidized Stafford Loan: This program is for borrowers who do not qualify for a Subsidized Stafford Loan, or who qualify for a Subsidized Federal Stafford in an amount less than the annual federal limit.

By combining both subsidized and unsubsidized loans, borrowers can receive up to their maximum annual Federal Stafford limit.

For independent students or students whose parents cannot borrow under the PLUS program, the amount a student can borrow under the unsubsidized loan program is increased up to an additional $4,000 per year.

An Unsubsidized Federal Stafford loan has all the same terms as the Subsidized Federal Stafford including deferments and interest rates. The only difference is that the student is responsible for the interest payments while in school, during periods of authorized deferment and during grace and repayment periods. Prior to repayment, this interest may be paid monthly or quarterly if agreed to by the borrower.

PLUS Loan: PLUS loans are for parents or legal guardians, who want to borrow to help pay for their dependent children's education. The child's dependency status will be determined by completing a Free Application for Federal Student Aid. Lenders must perform credit checks on PLUS borrowers. Those parents with no adverse credit history are eligible to borrow.

Parents may borrow up to the remaining need of the dependent student (cost minus aid) with no cap. PLUS loans are issued at a variable interest rate. This new rate is adjusted annually but can not exceed 9%.

Checks will be disbursed to the school at equal intervals within the loan period. Repayment on the PLUS loan normally begins within 60 days of disbursement. Repayment terms will be scheduled by the lender and usually extend from 5 to 10 years. In general, the minimum monthly payment is $50.

Eligibility: Students may be eligible for a Federal Family Educational Loan if the student meets the requirements included in the Financial Aid Eligibility section and is enrolled on an at least a half-time basis, and maintaining an overall GPA of at least a 2.0.

Applying: To apply for a Federal Family Educational Loan a student must:
1. File a Free Application for Federal Student Aid and provide the college all necessary forms to complete the financial aid file requirements. An award packet will be mailed to the student.
2. Obtain a loan application from a participating lender.
3. Complete the Borrower’s section and submit the application to the Financial Aid Office with required forms.
4. Fulfill all mandated federal and school requirements such as completing an Entrance Loan Counseling session for new borrowers.

If the loan is approved, the borrower will receive a Notice of Loan Guarantee and Disclosure Statement listing the approved amount of the loan and the approximate date(s) the loan check(s) will be sent to the school.

Borrowing Responsibilities: The lender will be making a financial commitment to the borrower by helping to finance the student's education. Borrowers will be responsible for contacting their lender immediately if they:
1. Withdraw, graduate or be enrolled less than half-time;
2. Change their name or address; and/or
3. Transfer schools.

Borrowers must complete Exit Counseling in their last semester of attendance.

Veterans Administration Benefits: Veterans should contact the Financial Aid Office to be certified for VA benefits. This should be done at least two months before the beginning of each semester to ensure prompt receipt of VA payments. Veterans must carry at least 12 credit hours during each of the fall and winter semesters to be eligible for maximum benefits; however, prorated payments are made for less than full-time enrollment. Veterans should contact the VA Regional Office for full information pertaining to VA benefits.

Veterans must make academic progress maintaining a 2.0 or better GPA. If the GPA falls below 2.0 for two consecutive semesters, as determined by the Dean of Student Services, the veteran will no longer be able to be certified for benefits. The Financial Aid Office will notify the veteran and the Veterans Administration of termination.

Veterans who have attended other schools beyond high school must have an official transcript from their previous school(s) sent to the Office of Enrollment Services for evaluation of possible transfer credit. The Financial Aid Office will notify the U.S. Department of Veterans Affairs, with a copy to the veteran, of the credit granted. This must be done during the student’s first semester or the student will no longer be certified.

Michigan Children of Veterans Tuition Grant: Dependents of deceased or disabled veterans whose injuries were a result of military service may be eligible for VA benefits. Applications may be obtained from the Financial Aid Office. Children must be between the ages of 18 and 23.

Children of deceased or disabled Michigan veterans whose injuries were a result of military service may be eligible
for tuition and fees waiver from the Michigan Veterans. Eligible students must be between the ages of 18 and 23 and attend full time. Applications may be obtained from the Financial Aid Office.

Students covered under any of the veteran’s programs must contact the Financial Aid Office each semester.

**OTHER AID PROGRAMS**

Unless otherwise noted, persons who feel they are eligible for any of the funds listed below should contact the Financial Aid Office. In addition to the listed scholarship information regarding other scholarship may be obtained through the Financial Aid Office.

**Beaverton Alumni Association Award:** This $500 scholarship ($250 per semester for 2 semesters) will be awarded to Beaverton High School graduating seniors who has a parent or grandparent who also graduated from Beaverton HS. The student must have earned a minimum 2.5 high school GPA and demonstrate some financial need. The student must also be enrolled in an associate degree program at MMCC for the upcoming Fall semester.

**Bureau of Indian Affairs:** Grants for qualified students of at least one-quarter American Indian descent are available through the U.S. Department of the Interior, Bureau of Indian Affairs. Information can be obtained by contacting: Scholarship Officer, B.I.A., Higher Education Grant Program, Michigan Intertribal Education Association, Inc., Baraga, Michigan 49908.

**Central Michigan Community Hospital Auxiliary Scholarship:** Scholarships of differing amounts are awarded to selected applicants accepted into a health career program. Recipients must be residents of Isabella County, have a GPA of at least 2.75, and exhibit financial need. Applicants who are employees of Central Mi Community Hospital will be given first priority if all other qualifications are equal.

**Chemistry Scholarships:** Two different scholarships are awarded for two consecutive semesters to students who are majoring in Chemistry. Stipends of $250 or $800 per year are awarded to two different students. Criteria for awarding is based on GPA and the number of Science/Math courses successfully completed.

**Computer Service Technician Award:** Awards a $50 reimbursement toward the cost of the CompTIAA+ Service Technician Certification Examination to students of CIS 245 who present official evidence of successfully passing both the Core Examination and the DOS/Windows Examination of the A+ Certification Program. Official evidence consists of a copy of the test results endorsed by the testing site. Such evidence must be presented on or before the staring date of the Fall semester following the semester of successful completion of CIS 245. Successful completion of CIS 245 is a minimum 2.0 GPA.

**Dan & Genevieve McDonald Excellence in Nursing Scholarship:** This $1,000 one academic year scholarship ($500 per consecutive semesters/sessions) will be awarded to a MMCC student who is enrolled in the full-time Associate in Nursing program. Scholarships will be awarded to student applicants beginning with the highest GPA then in descending order. At least half of the awards will be given to in-district students.

**Eric C. Schneider Award:** This $2,400 award, $600 per semester for up to four semesters, is awarded to a recent Clare H. S. graduate and a recent Farwell H.S. graduate with a minimum 2.0 high school grade point average or better. Additionally, the candidates must demonstrate some financial need and enroll full-time in an associate degree program at MMCC. This award of $600 per semester or session is renewable for up to a total of 4 consecutive semesters provided the student maintains a 2.0 grade point average and attends MMCC full-time.

**Federal Broach Company Scholarship:** These $500 scholarships ($250 per semester) are offered to one Harrison High School student and one Farwell High School student whose cumulative GPA falls between 2.8 and 3.5. Students must also demonstrate financial need and be enrolled in one of the following programs at MMCC: Accounting, Computer Information Systems, Management & Marketing, Office Information Systems, Computer Assisted Drafting, or Machine Tool.

**Fine Arts Scholarship:** This scholarship is awarded to a new or returning student who is enrolled in at least one fine arts class and has displayed an active interest in the fine arts program. Students must maintain a 3.0 GPA and take at least one fine arts class per semester in order to be eligible for a maximum of four semesters.

**Genevieve Sweeney Memorial Scholarship:** A $400 ($200 per semester) scholarship is awarded to a Harrison H. S. senior. Preference will be given to students who are not recipients of other financial aid and who are students of theater or literature. Students maintaining a minimum 2.0 GPA may receive the scholarship for two consecutive semesters or one semester and one summer session. This scholarship is made possible by family and friends of the Sweeney family.

**Geoffrey A. Cotter Memorial Scholarship:** This $1,200 scholarship, $300 per semester for up to four semesters, is awarded to a high school graduate from Isabella County with a cumulative GPA of 2.0 or better who is a full-time student in an allied health program.

**HRAAcademic Scholarship:** This $500 or $250 scholarship ($250 per consecutive semesters/sessions) will be awarded to a MMCC HRA student who has a minimum of a 3.0 GPA and has completed at least a minimum of 12 credits. In order to maintain the scholarship, the student must maintain full-time enrollment status in the HRA program and a minimum of a 3.0 GPA.
Isabella Bank & Trust Scholarship: This $500 award ($250 per semester) is offered to women pursuing an Associate degree in Business Administration, Management & Marketing, Small Business Management, or Accounting and who reside in Isabella, Clare, or Mecosta County. These awards are non-renewable.

Janice A. Langdon Scholarship: This $1,000 scholarship ($500 per consecutive semester/session in one academic year) will be awarded to a MMCC student who has a minimum 3.0 GPA and has been accepted into the LPN program. The recipient shall receive $500 per semester or session provided he/she maintains full-time status and an overall 2.7 GPA.

Janice E. Haskin Memorial Award: These (2) $1,000 awards ($500 per semester for up to four semesters) will be awarded to a MMCC student who has a 3.0 high school or college GPA. Preference will be given to women who are residents of Isabella County. Following the first-year award, the recipient must enroll full-time in an associate degree program in any health related field at MMCC. This award of $500 per semester or session is renewable for up to a total of 4 consecutive semesters provided the student maintains a 2.0 grade point average and attends MMCC full-time.

J. Dean & Betty L. Eckersley Scholarship: This scholarship will be awarded to a full-time student in an associate degree program who demonstrates some financial need. Preference will be given but is not limited to students majoring in an allied health field and who reside in Isabella County. Since the scholarship funds are drawn from an endowment given by J. Dean and Betty L. Eckersley, the amount of the award may vary each year and can be used up to 6 consecutive semesters provided a 3.0 GPA is maintained. Students transferring to Central Michigan University may qualify for the CMU Eckersley Scholarship depending on a major.

James & Sharon Manning Scholarship: This scholarship ($500 per semester) for a total of four consecutive semesters is awarded to students majoring in Small Business Management, Business Administration, Management & Marketing, Automotive Technology, or a related degree. The recipient must have a minimum 3.0 high school or college GPA to qualify. Applications must be submitted before June 15 for the upcoming year.

Mark E. Wilson Scholarship: This $400 scholarship ($200 per semester) will be awarded to a student who has a 3.0 high school or college GPA. Preference will be given to Farwell School District residents and/or a student who intends to be enrolled in the accounting program. The recipient must maintain a 3.0 GPA and be enrolled as a full-time student (12 credit hours or more) at MMCC. Family and friends of the late Mark E. Wilson, a former MMCC Accounting Instructor, make this scholarship possible.

MidMichigan Regional Medical Center-Gladwin Tuition Reimbursement Program: This program provides tuition reimbursement for the final year of the RN program for 3 students who are recommended by the College, have a cumulative GPA of 3.0 or higher, pass a personal interview with the Dir. of Nursing and/or established Scholarship Reimbursement Committee, and meet all criteria for employment at MRMC-Gladwin. Recipients of the tuition reimbursement must graduate from the program, pass the State Board licensure exam, work 15 hours per month at the Hospital during their final year as a Nursing Assistant or an LPN, if already licensed, and remain in the employ of MRMC-Gladwin for two years after graduation.

Ralph Myers Memorial Scholarship: A $250 scholarship will be awarded to a full-time student enrolled in an associate degree program who is a graduate of Gladwin H.S. and has a minimum 3.0 GPA from high school or college. This one time $250 scholarship may be applied toward the fall or winter semesters or sessions. The Myers Memorial Scholarship is donated by the Myers Corporation to honor the memory of Ralph Myers, a former MMCC Board of Trustees member.

Michigan Army and National Guard Tuition Waiver (MIANG/MIARNG): Eligibility criteria for this tuition waiver will be 25% of base tuition. This will include MIANG and MIARNG members, prior and non-prior service members. Member is certified to be in good standing in the MIANG or MIARNG. Member is admitted to an under graduate degree-granting program at Mid Michigan Community College. Member meets MMCC’s in-district or out-of-district residency requirements. Member maintains satisfactory academic progress as determined by MMCC. Member is responsible for the cost of tuition for courses that are repeated and the MMCC tuition waiver will not apply to the number of credits for the repeated course(s). The student is responsible for turning in the application to the Financial Aid Office prior to the end of the semester that the student is attending MMCC.

Vocational Education Assistance Program: For several years, the Michigan Department of Career Development has made available to community colleges of Michigan occupational education tuition grants for special population groups. These groups include single heads of households; displaced homemakers who have lost their means of support and must now seek employment and training; persons who wish to be trained in a field usually considered for the opposite sex; economically disadvantaged or academically disadvantaged individuals requiring special services or assistance to succeed; limited English proficiency; and persons who have a disability as defined in the ADA. These grants may be used in occupational programs only. Certain funds for educational expense (e.g. tuition, fees, books, transportation, child care) are available to allow students to enroll or continue in occupational programs.
Phi Theta Kappa (PTK) Scholarships: for distinguished PTK members only: The purpose of these $250 awards (provided PTK funds are available) is to annually recognize and reward the scholarly achievements of two Phi Theta Kappa members. To be eligible for nomination, a student must be currently enrolled at MMCC and should expect to be enrolled in the following Fall semester at MMCC. The nominee must have completed at least 12 semester hours in pursuit of an Associate in Arts, Associate in Science or Associate in Applied Science degree, prior to being nominated; and must currently post a cumulative GPA of not less than 3.25 out of a possible 4.0 in all credit course work taken at MMCC. The nominee must be a PTK member in good standing who has earned at least 100 points. Awards will be used in the Fall semester at MMCC.

Pre-Engineering Scholarship: A full-time incoming freshman who is majoring in Pre-Engineering and has a high school GPA of 3.5 may be awarded this $600 scholarship ($300 per semester) for two consecutive semesters. The recipient must take MAT 124 or higher the first semester and the sequential math courses thereafter each semester to continue the scholarship. The recipient must also maintain a 3.5 college GPA to receive the scholarship the second semester.

Rebecca & Harry Goldberg Scholarship: One $1,000 scholarship ($500 per semester or session) for a full-time student and one $500 scholarship ($250 per semester or session) for a part-time student who is pursuing studies in Early Childhood Education to be used for tuition, fees and books. To be eligible, a student must be enrolled part-time to full-time in an Early Childhood Education program at MMCC and have a minimum of a 3.0 college or high school GPA. Recipients may apply for one additional year provided they maintain a 3.0 GPA and attend at least half-time in the ECE program.

Thomas Grabmeyer CSAS Memorial Award: The purpose of this one-time award is to grant relief to students who encounter unusual circumstances while attending MMCC (pending availability of funds). Students should apply to the Financial Aid Director using the MMCC Scholarship/Grant Application and provide a written explanation of their education and/or financial circumstances. A committee consisting of the Financial Aid Director, Dean of Student Services, and the CSAS President or CSAS Advisor will make award decisions. This scholarship honoring the memory of Thomas Grabmeyer, a former MMCC Librarian, is sponsored by the Commission for Student Activities and Services (CSAS).

The Christopher Smith & Estell Bergey Smith Veteran’s Award: This scholarship provides funding for a unique award to assist first time veterans with education related expenses for up to 6 credit hours. Candidates must have been honorably discharged from active duty within the last 12 months, have completed a minimum of 12 months active duty in a branch of the military (other than Reserves or National Guard), and be in the process of applying for Veteran’s Education Benefits eligibility, and demonstrate financial need. This award is only for one semester.

Witbeck Award: These awards are offered to two residents of Beaverton, Clare, Farwell, Gladwin or Harrison School district who possess either a high school diploma or GED. Both awards are for full tuition (12 credit hours), fees and required books for one year (two semesters). To renew this award for the second semester, students must maintain a 2.0 GPA or higher and be enrolled at MMCC full-time. Candidates will be selected by random drawing each year during mid May at Witbecks Family Foods in Clare, Michigan.

THE COST OF ATTENDING COLLEGE

TUITION RATES*

In-District Resident, Out-District Resident, and Out-of-State Resident rates are printed in the current schedule of classes, and are charged per "Billable Hour(s)". Students are considered in-district residents if they meet one of the following criteria:

1. They are dependent students (according to the Department of Internal Revenue regulations) residing with a parent or guardian and the parent or guardian maintains their primary residence within one of the public school districts of Beaverton, Clare, Farwell, Gladwin, or Harrison.

2. They have resided within the State of Michigan for at least 6 months and within the College district for at least 30 days following their 18th birthday and prior to the start of the semester.

3. The student, the student’s spouse, or the parents of a dependent student hold real property within the College district against which real property taxes have been assessed in support of the College for the tax year immediately preceding registration; the tax receipt must show proof of payment of taxes which support the College.

4. The students are employees of businesses or industrial firms or governmental agencies or are members of professional organizations within the College district and the employers or organizations, by written agreement, agree to pay directly to the College all tuition and/or fees of students for employer-approved courses.


*Tuition rates are subject to change without notice by action of the Board of Trustees.
Pursuant to current state appropriation laws, students must verify residency at the time of each official registration period by providing an appropriate document such as driver’s license, voter registration card, Secretary of State identification card, or property tax receipt for the tax period immediately preceding registration.

To accommodate returning students and telephone registration, registration confirmations are mailed using the "POSTMASTER DO NOT FORWARD" label on the envelope. If a registration confirmation is returned to the College because the mail is undeliverable, the registration will not be completed until the student proves residency in person by any of the above stated methods.

Billable Hour(s): The "Excess Contact Hour Fee" has been modified. Students will no longer be charged a separate Excess Contact Hours fee. As of the summer 2002 session students will be charged tuition on "Billable Hours" instead of Academic credit hours.

Billable hours are computed by totaling the lecture + lab hours. For example:

BIO.101 4 credits (3 lecture + 2 lab) 3+2 = 5 Billable hours

This charge will be implemented over a three year period. The exceptions are: 1) a cap of 15 billable hours per class; 2) Co-op students at worksites are exempt; and 3) adjustments were made to out of formula classes such as CIS and OIS. For example: CIS.100 formerly reported 3 credits (3 lecture + 3 lab) now is adjusted to 3(3 + 1.5). Please refer to your schedule for billing credits on current course offerings.

FEES*

Assessment Fees: Anyone who is not a registered MMCC student will be charged an Assessment Fee when making use of the services of the Assessment Center. (A complete listing of fees is available in the Assessment Center). Non-MMCC students who have been assessed and subsequently enroll in courses within one year of testing will be reimbursed in full upon presenting the assessment receipt to the Dean of Student Services.

Enrollment Fee: An Enrollment Fee is required for each session with the amount based upon total credit hours taken. This fee reserves classes but does not apply to tuition. The enrollment fee covers the costs of enrolling as well as providing enrolled students access to computer labs for academic pursuits.

   Enrollment Fee: $50 (6 contact hours or more)
   $25 (5.9 contact hours or less)

Non-Resident Student Facility Fee: Funding for MMCC physical facilities and equipment for the main campus is supported by an approved levy of property taxes with the College district. Thus MMCC resident and non-resident (non-district) students alike enjoy the benefit of quality facilities supported by district taxpayers. To bring greater equity to the situation and to support facilities for off-campus as well as on-campus instruction a $10 per credit hour facility fee is charged to non-resident MMCC students. The Tuition Refund Schedule will apply to the facility fee for any drop/withdrawal.

Student Service Fee: For the fall and winter semesters only, a $10 fee is charged all students enrolling in 3 or more credit hours provided the classroom site is within 30 miles of Harrison or Mt. Pleasant. The fee is non-refundable unless a total withdrawal is made within the 100% refund period. Upon payment of the fee, students are issued I.D. cards. Exceptions: 1) theater and music performance classes when the student is enrolled on an audit basis and receiving a Board of Trustees Drama or Music Scholarship; 2) students receiving Board of Trustees Public Service Awards; 3) students enrolled solely in Academic Support Center (ASC) reading improvement classes and receiving Board of Trustees ASC Scholarships. Students with such exceptions shall have the option of paying the $5 fee and receiving a student I.D. card. PLEASE NOTE: No Student Activity I.D. Card will be issued to students under the age of 16.

*Fees are subject to change without notice by action of the Board of Trustees.

PERCENT OF TUITION AND FEE REFUND SCHEDULE

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The date the drop is initiated will be counted as the date of refund.

TUITION REFUND POLICY

Mid Michigan Community College has an established schedule for the refunding of tuition and course fees based upon the date when a student withdraws from a course. During a 15-week semester, a full refund is
allowed through the first 7 calendar days of the semester. There is no differentiation between partial and total withdrawals in terms of percentage of refund of tuition and fees. Sessions containing less than 15 weeks are prorated, as are classes that vary in length. ASC courses and Independent Study courses shall be considered to be 15 weeks in length.

**RETURN OF TITLE IV FUNDS POLICY**

The Higher Education Amendments of 1998 (Section 484B) changed the formula for calculating the amount of aid a student and school can retain when the student totally withdraws from all classes. Students who withdraw from all classes prior to completing more than 60% of a semester will have their eligibility for aid calculated based on the percent of the semester completed. For example, a student who withdraws completing only 30% of the semester will have “earned” only 30% of any Title IV aid received. The school and/or the student must return the remaining 70%. The Financial Aid Office encourages students to read this policy carefully. Students considering withdrawal from all classes PRIOR to completing 60% of the semester, should contact the Financial Aid Office to see how withdrawal will affect financial aid.

1. This policy shall apply to all students who withdraw, drop out or are expelled from MMCC, and receive financial aid from Title IV funds:

   a. The term “Title IV Funds” refers to the Federal financial aid programs authorized under the Higher Education Act of 1965 (as amended) & includes the following programs: all Family Federal Education Loans including Unsubsidized, Subsidized, & PLUS loans, also Federal Pell Grants, & Federal SEOG.

   b. A student's withdrawal date is:

      i. the date the student began the institution's withdrawal process (as described in the MMCC Catalog and Schedule of Classes Booklet) or officially notified the institution of intent to withdraw; or

      ii. the midpoint of the period for a student who leaves without notifying the institution; or

      iii. the student's last date of attendance at a documented academically related activity.

2. Refunds on all institutional charges, including tuition and fees, will be calculated using the refund policy published in the MMCC Catalog.

3. Title IV aid is earned in a prorated manner on a per day basis up to and including the 60% point in the semester. Title IV aid and all other aid is viewed as 100% earned after that point in time.

   a. The percentage of Title IV aid earned shall be calculated as follows:

   \[
   \text{Percent earned} = \left( \frac{\text{# of days completed by student}}{\text{Total number of days in (percent earned) semester/session}} \right) \times 100
   \]

   The percent of semester/session completed shall be the percentage of Title IV aid earned by the student. The percent not completed is the percentage of unearned aid by the student.

   * The total # of calendar days in a semester/session of enrollment shall exclude any scheduled breaks of more than five days.

   b. The percentage of Title IV aid unearned (i.e., to be returned to the appropriate program) shall be 100% minus the percent earned.

   c. Unearned aid shall be returned first by MMCC from the student's account calculated as follows:

   \[
   \text{Total institutional charges} \times \frac{\% \text{ of unearned aid}}{100} = \text{amount returned to Financial Aid Programs}
   \]

   Unearned Title IV aid shall be returned to the following programs in the following order:

   1. Unsubsidized Stafford Loan
   2. Subsidized Stafford Loan
   3. Parent Loans to Undergraduate Students (PLUS)
   4. Federal Pell Grant
   5. Federal SEOG
   6. Other Title IV grant programs

   Exception: no program can receive a refund if the student did not receive aid from that program.

   d. When the total amount of unearned aid is greater than the amount returned by MMCC from the student's account, the student is responsible for returning unearned aid to the appropriate program(s) as follows:

   1. Unsubsidized Stafford Loan *
   2. Subsidized Stafford Loan *
   3. Parent Loans to Undergraduate Student (PLUS) *
   4. Federal Pell Grant **
   5. Federal SEOG **
   6. Other Title IV grant programs **

   * Loan amounts are returned with the terms of the promissory note.

   ** Amounts to be returned by the student to federal grant programs will receive a 50% discount.

4. Refunds and adjusted bills will be sent to the student's home address following withdrawal. Students are responsible for any portion of their institutional charges that are left outstanding after Title IV funds are returned.

5. Institutional and student responsibilities in regard to the return of Title IV funds.

   a. MMCC responsibilities include:

      i. providing each student with the information given in this policy;
ii. identifying students who are affected by this policy and completing the Return of Title IV Funds calculation for those students;

iii. returning any Title IV funds that are due the Title IV programs.

b. The student's responsibilities include:

i. becoming familiar with the Return of Title IV policy and how complete withdrawal affects eligibility for Title IV aid;

ii. returning to the Title IV programs any funds that were disbursed directly to the student that the student was determined to be ineligible for under the Return of Title IV Funds calculation.

6. The fees, procedures, and policies listed above supersede those published previously and are subject to change at any time.

7. Any notification of a withdrawal or cancellation of classes should be in writing and addressed to the Enrollment Services Office.

If you would like examples of the refund policy, contact the Financial Aid Office.

FACTS TUITION MANAGEMENT PLAN

All students are expected to pay 100% of all assessed charges at the time of registration. Students may opt to use a convenient tuition budget plan offered by FACTS Tuition Management Company for a $25.00 per semester NON-REFUNDABLE fee.

Brochures explaining the program are available at the Office of Enrollment Services on either campus, on the MMCC web site www.midmich.edu, or you may call Mid Michigan Community College Student Accounts Office at (989)386-6611 or FACTS Tuition Management Company at (800) 609-8056.

OUTSTANDING BILLS

Any student with outstanding bills in the College Business Office from any previous semester will not be allowed to use any charge system, will not be allowed to re-enroll, and will not be able to obtain grades, transcripts, or diplomas until such time as their bill is paid in full.

COLLEGE BOOKSTORE PURCHASES

All College Bookstore purchases must be paid in full by cash or check (or Financial Aid approved charge slip) unless documented, guaranteed 100% payment by an outside agency has been provided to Mid Michigan Community College.

<table>
<thead>
<tr>
<th>Grade</th>
<th>Significance</th>
<th>Points Per Semester Hour</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Superior</td>
<td>4.0</td>
</tr>
<tr>
<td>A-</td>
<td>.</td>
<td>3.7</td>
</tr>
<tr>
<td>B+</td>
<td>.</td>
<td>3.3</td>
</tr>
<tr>
<td>B</td>
<td>Above Average</td>
<td>3.0</td>
</tr>
<tr>
<td>B-</td>
<td>.</td>
<td>2.7</td>
</tr>
<tr>
<td>C+</td>
<td>.</td>
<td>2.3</td>
</tr>
<tr>
<td>C</td>
<td>Average</td>
<td>2.0</td>
</tr>
<tr>
<td>C-</td>
<td>.</td>
<td>1.7</td>
</tr>
<tr>
<td>D+</td>
<td>.</td>
<td>1.3</td>
</tr>
<tr>
<td>D</td>
<td>Below Average</td>
<td>1.0</td>
</tr>
<tr>
<td>D-</td>
<td>.</td>
<td>0.7</td>
</tr>
<tr>
<td>F</td>
<td>Failure</td>
<td>0.0</td>
</tr>
</tbody>
</table>

I. Incomplete
Z. Deferred Grade
AU. Audit
W. Withdrawal
CR/NC CR="C" or better
NC="C-" or below
CR. Transfer credit, Advanced credit, Articulation credit, Credit by Examination and Non-Traditional credit

GRADING SYSTEM

Students have an obligation to abide by accepted standards of academic honesty which dictate that all scholastic work shall be original in nature.

Not included in computing hours and points
The Grade Point Average (GPA) for students is found by dividing the total honor points earned by the hours attempted.

Instructors may choose whether or not to use the +/- option for their students.

**INCOMPLETE GRADES**

In order to qualify for an incomplete contract the student must have completed at least 75% of the course work. It is at the discretion of the instructor to grant an incomplete grade (I).

Upon completion of the following course requirements, said instructor will change the student's grade from an "I" (Incomplete) to the regular letter grade earned by the student in the course. Failure of the student to comply with these requirements by the due date will result in an automatic change of the incomplete grade to a grade of "F" (Failure).

The following is the maximum timeline for completing an incomplete contract. If the incomplete is for the Fall semester, it must be completed by the end of the next Winter Semester. An incomplete for Winter semester, must be completed by the end of the next Fall semester. An incomplete for the Spring/Summer semester must be completed by the end of the next Fall semester.

**CREDIT / NO CREDIT**

A student may take courses on a Credit/No Credit basis subject to regulations summarized here. The option is elected (or removed) by submitting a Credit/No Credit Request on a Drop/Add form to the Enrollment Services Office during the official drop/add period for a semester.

The instructor is not notified when a course is taken credit/no credit and assigns the student a letter grade. The grade is converted to credit or no credit according to the following guidelines. The student earns credit (CR) for the course and credit toward graduation when a grade of "C" or better is assigned. No credit (NC) is recorded when the assigned grade "C-" or below. The course appears on the student's permanent records with the CR or NC grade, but the grade has no effect on the grade point average.

Departments designate which of their courses may be taken on a credit/no credit basis. A department may offer certain courses exclusively on a credit/no credit basis after approval by the appropriate curricular authorities and publication in the schedule.

A maximum of 12 semester hours of credit earned under the credit/no credit option may be applied toward a degree. Courses exclusively offered on this basis are not included in the 12-hour restriction.

Procedures and deadlines for registering for courses on a credit/no credit basis can be found in the current class schedule booklet. A student who officially elects the credit/no credit option for a course may not change the registration to a letter grade designation after the deadline.

**GRADE REPORTS**

Students receive official grade reports at the end of each semester or session of enrollment showing grades, hours attempted, hours completed, honor points, and GPA. Grade reports can be obtained on the Mid Michigan Community College MidWeb website @ www.midmich.edu or can be obtain through our touch-tone phone system @ (989) 802-0225.

Grade reports will not be released for students who have outstanding bills in the Business Office or who have overdue books in the Media Center.

**GRADE CHANGE AND REVIEW PROCEDURES**

Responsibility for resolving grading disputes is shared among the instructor, the student, the faculty, and the Vice President of Academic Services.

Under Mid Michigan Community College policy, it is the instructor’s prerogative to determine student grades. If a question is raised by a student with regard to a grade, the student should discuss the matter with the instructor. The instructor should discuss the matter willingly and, giving evidence, make clear the basis for determining the student’s grade. In turn, the student should recognize the need to demonstrate a valid basis for a grievance.

If the instructor agrees to change the grade, a Change of Grade form must be completed by the instructor, approved by the Instructional Administrator, and filed with the Dean of Student Services. Change of Grade forms may be obtained from the Office of Enrollment Services.

If, after discussion with the instructor, the student feels there is a valid justification for a grade grievance, the student should contact the Vice President. The Vice President shall arrange an informal conference with the instructor, the student, and other appropriate administrative instructional personnel for the purpose of resolving the grievance.

If, after such a conference, the student still believes there is valid justification for a grade grievance, a written grade grievance should be filed with the Vice President explaining fully all rationale and information concerning the grievance.

Upon receipt of the written grievance from the student, the Vice President shall call the Grade Review Committee into session. This committee is composed of three faculty members, the Dean of Student Services or his/her designee, and the Instructional Administrator from the Instructional division involved. The Vice President shall chair the committee and appoint a recording secretary.

The grievance session shall be informal in nature with all facts being presented by the instructor and the student. After the presentation of facts, the Grade Review Committee will deliberate in closed session with the Vice President. The Vice President shall consider the assessment of
the Grade Review Committee in rendering a decision to maintain or change the grade in question.

Prior to informing the student of the decision, the Vice President shall review the details of the grade grievance with the President or his/her designee. Within seven days of the conclusion of the hearing, the student shall be notified in writing of the decision. This written decision provided to the student is the final institutional disposition of any grade grievance. No additional appeals are available.

Grade grievances must be initiated within 60 days after the last day of the class in which the grade was received.

**ACADEMIC ALERT**

Academic Alert is a system designed for the early identification of students experiencing academic difficulty. The intent of this system is to notify the students that they are not meeting class expectations and to provide support, if needed. Support services that can be provided are educational including advising, remediation, and tutoring; and developmental including career planning, self-concept enhancement, and personal counseling.

**ACADEMIC PROBATION & DISMISSAL POLICY**

Academic Probation or Academic Dismissal occurs when a student’s cumulative grade point average falls below the following scale:

<table>
<thead>
<tr>
<th>Attempted GPA Hours</th>
<th>Academic Probation</th>
<th>Dismissal Point</th>
</tr>
</thead>
<tbody>
<tr>
<td>12 - 17</td>
<td>0.00 - 1.99</td>
<td></td>
</tr>
<tr>
<td>18 - 37</td>
<td>1.00 - 1.99</td>
<td>less than 1.0</td>
</tr>
<tr>
<td>38 - 50</td>
<td>1.50 - 1.99</td>
<td>less than 1.5</td>
</tr>
<tr>
<td>51 - 63</td>
<td>1.60 - 1.99</td>
<td>less than 1.6</td>
</tr>
<tr>
<td>64 or more</td>
<td>1.70 - 1.99</td>
<td>less than 1.7</td>
</tr>
</tbody>
</table>

Students who are on Academic Probation will be required to see a counselor for assistance and must follow the prescribed procedure(s) prepared by the counselor. The intent is to assist students in improving their GPA, thereby enabling students to experience academic success.

It is the intent of MMCC to provide assistance and support to those students with unique academic needs. If students choose not to participate or fail to make academic progress, they can no longer expect the institution to provide them with educational and support resources. A student will be subject to academic dismissal if there is scholastic evidence that he/she can no longer benefit from or successfully work toward the completion of a program at MMCC. When this happens, they will be dematriculated for a minimum of one enrollment period or until such time as they demonstrate a willingness to participate in activities that are designed to improve their academic records.

**ACADEMIC PROBATION & DISMISSAL PROCEDURES**

1. Academic Probation/Dismissal notification letters are mailed to students after grades are submitted from the Dean of Student Services with specific instructions required for each student. The student must call the identified College Counselor by the date as listed in the letter. Students are prevented from registering until contact is made with a College Counselor.

2. The procedure(s) for working with students on Academic Probation are:
   a. If a student has completed only one semester (12 credit hours), the counselor may make specific recommendations per “b.” below, but not necessarily limited to them.
   b. If a student is placed on Probation, the counselor will, in consultation with the student, identify specific activities designed to assist academic progress. These activities are not limited to, but may include:
      1) additional assessment
      2) registering for a specific class (i.e. Life Skills, ASC)
      3) repeating courses
      4) reducing credit hour load
      5) career exploration
      6) program change
      7) workshops
      8) tutoring

3. Students on Academic Probation who fall below the dismissal level as stated will be dismissed and will not be allowed to register for a minimum of one enrollment period.

4. Students who are dismissed may appeal the decision to the Dematriculation Committee.* The appeal must be initiated by the student within three weeks of the dismissal notification date.

5. Students who continue on Academic Probation can re-enroll, but will be required to meet with the same counselor to determine the schedule for subsequent semesters.

6. A dematriculated student who wishes to register for any future semester(s) must first meet with the counselor. The counselor, in consultation with the student, will determine readiness and/or appropriate activity.

Students in allied health programs must receive grades of “C” or better in all classes to remain in good standing in their particular program except as follows: For Nursing and Radiography, BIO 141 & BIO 142 must be passed
with a "B-" or better. The Medical Assistant program students must attain grades of "C-" or better in all OIS courses while all other grades must be grade "C" or better. If students have taken science courses prior to admission into a specific health program, the courses must have been completed within five years of the date the student formally begins the program.

* The Dematriculation Committee shall be composed of two faculty members, one counseling faculty member, the Vice President of Academic Services or designee, and the Dean of Student Services.

**MMCC POLICY ON ACADEMIC DISHONESTY AND PLAGIARISM**

Students have an obligation to abide by accepted standards of academic honesty which dictate that all scholastic work shall be original in nature.

**Academic Dishonesty:** No student shall:

1. Share or obtain exam questions or material not authorized by the instructor.
2. Complete exams or performance elements of a course for another student or have someone else complete it for them.

**Plagiarism:** Plagiarism is using another’s ideas as one’s own. Plagiarism has two forms, unintentional and intentional. Unintentional plagiarism is usually the result of students being unfamiliar with the academic conventions of citation and documentation. Intentional plagiarism is the result of students knowingly submitting the work of others as their own. This includes, but is not limited to:

1. Copying someone else’s work
2. Using exact quotations without proper citation.
3. Buying papers (e.g. on the internet).
4. Including paraphrased material without acknowledging its source.

All acts of plagiarism and academic dishonesty will first be dealt with by the instructor. Penalties may range from revision to failing the assignment or the course. Instructors must report all acts of intentional dishonesty or plagiarism, or any penalty resulting in failure of the course, to the Vice President of Academic Services and the Dean of Student Services. Repeated violations may result in further discipline, up to and including dismissal.

Students may appeal any grade affected by a charge of academic dishonesty or plagiarism through the Grade Grievance Procedure.

**ACADEMIC AMNESTY**

Mid Michigan Community College understands that a student may “get off to a bad start” due to circumstances beyond his/her own control. Academic Amnesty is an action of forgiveness provided to certain students who have experienced poor academic performance at MMCC. Through Academic Amnesty, a student will be awarded a “second opportunity” to achieve success at MMCC by removing the negative impact of less than “C” grade courses on the student’s academic transcript.

To be eligible for Academic Amnesty, a student must have:

1. A cumulative grade point average (GPA) of less than 2.0 for the period in question.
2. Recently completed at least 6 credit hours or more and have maintained a current 2.00 GPA or higher.
3. Allowed five (5) years to elapse between the poor academic performance and requirement number 2 listed above.

Once eligible, a student may petition the Academic Amnesty Committee by submitting a completed Application for Academic Amnesty form to the Office of Enrollment Services. The applicant must meet with the Director of Counseling and Assessment and agree to the conditions of Academic Amnesty. The applicant must sign a release form empowering the Dean of Student Services to release his/her records to the Academic Amnesty Committee.

The Academic Amnesty Committee will review all requests. If Academic Amnesty is granted by the Committee it must be for one continuous enrollment period in a program at MMCC, as indicated by the courses taken by the student that are directly attributable to that program.

Once Amnesty has been approved by the committee and applied by the Dean of Student Services to the student’s (petitioner’s) transcript, the student will not be permitted to rescind the application of Amnesty on his/her academic record. Other conditions include:

1. No course work will be removed from the transcript.
2. A special notation explaining Amnesty approval will be placed on the student’s transcript.
3. Honor points and credit hours attempted during the amnesty period will be subtracted from the current cumulative honor points and credit hours attempted. A new cumulative grade point average will then be established.
4. Courses successfully completed with a grade of “C” or better during the amnesty period can be used toward the student’s certificate or degree requirements.
5. A student receiving Academic Amnesty will not be allowed to graduate with honors.
6. Academic Amnesty, when granted, applies only to Mid Michigan Community College courses. There is no guarantee, expressed or implied, that Academic Amnesty will be recognized by any other college or university.
7. Courses previously counted to fulfill degree requirements on a completed degree cannot be considered for Academic Amnesty.

8. Academic Amnesty can be granted only once to any student.

The Dean of Student Services has the responsibility of implementing Amnesty as stated in the Academic Amnesty Policy when it is granted to a student.

**COURSE SUBSTITUTIONS**

Students are expected to take the required courses prescribed on the program of study they have declared. Occasionally, however, circumstances necessitate a substitution. If this should become necessary, the student should obtain a Waiver/Substitution form from the Office of Enrollment Services, or the counseling/advising office. This form should be completed by the student in consultation with an academic advisor, giving the required course to be waived, the course to be substituted, and the rationale for such an action. This substitution must then be approved by the instructor of the course to be waived, by the Instructional Dean, and by the Dean of Student Services. If any of the three disapproves the action, it will be necessary for the student to take the required course.

Substitutions are not encouraged and should be considered only under the most unusual circumstances. Students should be aware that course substitutions may not transfer to another institution. Students planning to transfer are strongly encouraged to consult with the transfer receiving institution for specific course requirements.

**GRADUATION REQUIREMENTS**

Graduation requirements for a certificate or associates degree are based on the regulations and requirements printed in the Mid Michigan Community College catalog in effect at the time of a student's initial registration. A catalog published after initial registration may be chosen by the student when it is to his or her advantage, provided that the student has attended at least 1 semester per academic year. There is a seven year time limitation on the use of a selected catalog; the time limitation on this is so that no student may graduate under the requirements of a catalog published more than seven calendar years prior to the date of graduation. Candidates for degrees or certificates must meet all five of the following requirements to be eligible for graduation:

1. Complete the number of credit hours of prescribed and elective courses required in the student's declared program of study—a minimum of 62 for an associate degree and a minimum of 31 for a certificate;

2. Maintain a GPA of 2.0 or higher (students enrolled in allied health programs must receive grades of “C” or better in all course work except as follows: Nursing and Radiography, BIO 141 & BIO 142 must be passed with a “B-” or better. The Medical Assistant program students must attain grades of “C-” or better in all OIS courses while all other grades must be grade “C” or better. required in their programs in order to be eligible for graduation);

3. Earn a minimum of 12 semester hours of credit while enrolled at Mid Michigan Community College;

4. Make application for graduation.

5. General education requirements must be completed as stated on the program guides.

Degrees are not awarded automatically upon completion of scholastic requirement. You must apply for graduation prior to the end of your last semester. Students are urged to apply for graduation early. Recommended dates are October 1 for Winter graduation (May), and March 1 for Spring/Summer/Fall graduation. This allows the Dean of Student Services to certify eligibility for graduation and inform the students of the courses which must be taken during the final semester to meet graduation requirements. If a student has taken classes from another college, the transcript must be received by MMCC six weeks after the scheduled graduation date in order to allow the student to graduate in said semester.

**GRADUATING WITH HONORS OR HIGH HONORS**

Graduation with honors or high honors is determined by the student’s cumulative GPA at the end of the last semester prior to graduation.

A student must have a cumulative GPA of 3.5 through 3.89 to graduate with Honors and cumulative GPA of 3.9 through 4.0 to graduate with High Honors.

Students who transfer credit into Mid Michigan Community College should note that a minimum of one-half of the student’s credits toward a program should be taken at MMCC to be eligible to graduate with honors.

**SUPPORT SERVICES**

**CAMPUS BOOKSTORE**

MMCC has bookstores at both the Mt. Pleasant and Harrison campuses.

The Harrison bookstore is open year-round. Bookstore hours may vary. Please check the Mid Michigan Community College website for hours @ www.midmich.edu.

The Mt. Pleasant Bookstore hours vary throughout semesters. Please check the Mid Michigan Community College website for hours @www.midmich.edu.

Please call (989) 386-6639 for more information.
The MMCC Bookstore stocks all required textbooks and supplies for college courses. In addition, the Bookstore carries a variety of items including MMCC printed clothing, supplies, and gifts. The Bookstore sells many office supply items such as pens, pencils, folders, paper, computer discs, and calculators. Backpacks and specialty book totes are stocked year-round. Many snack items including candy, chips, gum, and pop are also available.

COLLEGE FOOD SERVICE
The Cafeteria is located on the south end of the Harrison Campus building in the Student Union. It serves a large variety of menu items, including breakfast and lunch entrees. Soups, luncheon specials, and fresh-baked breads and desserts are produced in the food service kitchen each day.

Food service is offered daily for students, staff, and visitors from 8:00 a.m. until 5:30 p.m. Monday through Thursday and Friday from 8:00 a.m. until 1:30 p.m. Summer hours vary from the academic year schedule.

New to the Harrison Campus is the "Books-N-Beans Espresso Bar", located in the media center. Hours are Monday through Thursday 8:00 a.m. to 5:30 p.m., and Friday 8:00 a.m. to 1:30 p.m.

A wide variety of on-campus catering and banquet services is offered year-round. The Community Room just off the Student Union and the Michigan Room on the second floor can accommodate from 10 to 300 guests comfortably. For further information about catering services, contact the Hospitality Services Manager at (989) 386-6688.

COMPUTER LABORATORIES
All enrolled students have free access to an open computer lab for academic pursuits.

HOUSING
Mid Michigan Community College does not maintain housing for students on the campus, but it does make available a housing contact list from local newspapers. This list is available through the Admissions Office. The College assumes no responsibility for the supervision or administration of off-campus housing.

JOB PLACEMENT SERVICES
The Placement Office assists current students and alumni to find full or part-time employment related to their fields of study. Position vacancies received by the Placement Office are posted on the Placement Website. More information on these openings is available at (989) 386-6634.

Students interested in using Placement services must register with the Placement Office. The office will then establish a credential file for referral to prospective employers. If students need assistance in preparing a resume, informational packets are available through this office.

Students should register with the Placement Office early in their final semester before graduation.

MEDIA CENTER
The Charles A. Amble Library provides services that are designed to meet the classroom-related and general information needs of students, faculty, administration, and MMCC's service area at large.

The Library contains a book collection of over 20,000 volumes, which are arranged by the Dewey Decimal Classification System. Other resource holdings include collections of 120 current periodicals, 14 newspaper subscriptions, 94 titles in microform, and 1,550 titles in the audio and video collection.

The Media Center staff provides bibliographic instruction, library tours, electronic database searches, interlibrary loans of books and periodical articles, and assistance to students and faculty in using library resources.

Telecommunication services are provided for MMCC students, faculty, and staff, i.e. receiving satellite programming and teleconferences. Viewing facilities are available to enable those who do not have access to cable or video equipment at home to review telecourse or satellite materials on campus. Telefacsimile services are provided to share resources and transmit correspondence worldwide. Students have access to the World Wide Web for internet research.

The Media Center houses a copy machine, microfilm reader/printer and many pieces of audiovisual equipment for student and faculty use. Other services available are audio and video tape duplication and lamination of instructional material.

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Library services are supported by new technologies that provide better and faster document delivery. ProQuest's online subscription provides students access to databases with over 3,000 journals, most of which are available in full text. FirstSearch and InfoTrac, other online services, provide access to the full-text of millions of newspaper and magazine articles, citations to some 30 million books, and articles from more than 15,000 journals and newspapers. FirstSearch and InfoTrac are provided by funding from a federal Library Services and Technology Act grant. All three database services may be used on or off campus. (Note: off campus access is restricted to library cardholders).

MMCC's Charles A. Amble Library is a member of the Valley Library Consortium. This computerized network links the library to Delta College, Northwood Institute, and the public libraries of the Bay City, Midland and Saginaw

The MMCC Bookstore stocks all required textbooks and supplies for college courses. In addition, the Bookstore carries a variety of items including MMCC printed clothing, supplies, and gifts. The Bookstore sells many office supply items such as pens, pencils, folders, paper, computer discs, and calculators. Backpacks and specialty book totes are stocked year-round. Many snack items including candy, chips, gum, and pop are also available.

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Mid Michigan Community College does not maintain housing for students on the campus, but it does make available a housing contact list from local newspapers. This list is available through the Admissions Office. The College assumes no responsibility for the supervision or administration of off-campus housing.

JOB PLACEMENT SERVICES
The Placement Office assists current students and alumni to find full or part-time employment related to their fields of study. Position vacancies received by the Placement Office are posted on the Placement Website. More information on these openings is available at (989) 386-6634.

Students interested in using Placement services must register with the Placement Office. The office will then establish a credential file for referral to prospective employers. If students need assistance in preparing a resume, informational packets are available through this office.

Students should register with the Placement Office early in their final semester before graduation.

MEDIA CENTER
The Charles A. Amble Library provides services that are designed to meet the classroom-related and general information needs of students, faculty, administration, and MMCC's service area at large.

The Library contains a book collection of over 20,000 volumes, which are arranged by the Dewey Decimal Classification System. Other resource holdings include collections of 120 current periodicals, 14 newspaper subscriptions, 94 titles in microform, and 1,550 titles in the audio and video collection.

The Media Center staff provides bibliographic instruction, library tours, electronic database searches, interlibrary loans of books and periodical articles, and assistance to students and faculty in using library resources.

Telecommunication services are provided for MMCC students, faculty, and staff, i.e. receiving satellite programming and teleconferences. Viewing facilities are available to enable those who do not have access to cable or video equipment at home to review telecourse or satellite materials on campus. Telefacsimile services are provided to share resources and transmit correspondence worldwide. Students have access to the World Wide Web for internet research.

The Media Center houses a copy machine, microfilm reader/printer and many pieces of audiovisual equipment for student and faculty use. Other services available are audio and video tape duplication and lamination of instructional material.

New to the Harrison Campus Media Center is "Books-N-Beans Espresso Bar". Operating hours are Monday through Thursday 8:00 a.m. to 5:30 p.m. and Friday 8:00 a.m. to 1:30 p.m.

Library services are supported by new technologies that provide better and faster document delivery. ProQuest's online subscription provides students access to databases with over 3,000 journals, most of which are available in full text. FirstSearch and InfoTrac, other online services, provide access to the full-text of millions of newspaper and magazine articles, citations to some 30 million books, and articles from more than 15,000 journals and newspapers. FirstSearch and InfoTrac are provided by funding from a federal Library Services and Technology Act grant. All three database services may be used on or off campus. (Note: off campus access is restricted to library cardholders).

MMCC's Charles A. Amble Library is a member of the Valley Library Consortium. This computerized network links the library to Delta College, Northwood Institute, and the public libraries of the Bay City, Midland and Saginaw
region. Computers, both on and off campus can search the database of over 600,000 items held by these libraries by author, title, subject, and keyword.

Hours for the Harrison Campus Media Center are Monday through Thursday from 8:00 a.m. until 8:00 p.m., Friday from 8:00 a.m. until 4:30 p.m., and Saturday from 9:00 a.m. until 1:00 p.m. during the academic year. Between academic sessions the library hours are 8:00 a.m. until 4:30 p.m. Monday through Friday.

**STUDENTS WITH DISABILITIES**

Mid Michigan Community College is committed to making accommodations and providing services to students with documented disabilities, which interfere with the learning process. The following support services and accommodations are available to these students: readers, writer/scribes, notetakers, interpreters, instructional aides, visual aids, books-on-tape, alternative testing methods, assistance with accessibility, and referrals to college and community resources. To inquire about these services, please contact the Special Populations/Disability Services Counselor located in Room 114 on the Harrison Campus. For services on the Mt. Pleasant Campus, please contact Student Educational Services in Room 135.

Students must provide written verification of their disability before accommodations can be made. In addition, students must register for services and re-apply each semester for continued support.

**SPECIAL POPULATIONS**

The Carl D. Perkins Act is a federal program that is funded through the Michigan Department of Career Development. This grant is designed to help qualified MMCC students who are enrolled in two-year state approved occupational programs. Special population students are those students who have academic or economic disadvantages, limited English skills, physical, emotional or learning disabilities, or are involved in non-traditional training, are a single parent, or displaced homemaker. Targeted services offered to these students include all SES program services plus additional support such as: personal, academic and career counseling, college and community agency referrals, communication and liaison with instructors, needs assessment, remediation of student’s basic academic skills, registration assistance, financial assistance, and other services as needed to meet the individual student needs.

**ACADEMIC SUPPORT CENTER**

The Academic Support Center (ASC) is available to all MMCC students for a host of success-oriented services. ASC classes give students the option of taking entry-level Math and English in a more personalized and collaborative environment. In addition, if students are having difficulty in a class, they may take advantage of our additional support services. ASC writing assistance is designed to help students with their writing needs in any class. Whatever stage of the writing process a student may be at (ideas, drafts, finals), he/she may set up an appointment or drop-in for consultation.

Any MMCC student may use all Math Lab services, multimedia, and self-instructional materials, even if he/she is not enrolled in an ASC Math course. Videotapes with lectures are available for Math 101, 104, and 105. They may be viewed in the lab or at home. Also, students from any math class may go to the lab for assistance with assignments from lecture classes; simply bring an assignment and textbook for help.

Peer tutoring and Supplemental Instruction (free services to students) are also set up through the Academic Support Center. If students are falling behind in their course work, they are encouraged to talk to their instructors first. Instructors are usually very eager to help students. At peak times, tutoring is provided on a first-come/first-serve basis, but our goal is to provide assistance to all students needing help. If we cannot provide you with a tutor, please talk to the ASC staff for other types of assistance.

In addition to these services, the Academic Support Center is also the testing center for make-up and Internet classes, Credit by Exam classes, and the media site for research.

**STUDENT ACTIVITIES**

**STUDENT IDENTIFICATION CARDS**

During the fall and winter semesters, students carrying 3 or more credit hours are assessed a $5 Student Service Fee and are issued a Student Identification Card. These cards may be used to participate in many College and community events free of charge or at reduced rates. A replacement ID card will cost $5.00. For exceptions to the Student Identification Card Policy, see the section: “The Cost of Attending College.”

**COMMISSION FOR STUDENT ACTIVITIES AND SERVICES (CSAS)**

CSAS functions as an advisory body to provide activities and services to students of the College. The Commission, composed of interested student leaders and College personnel, has offered activities such as the College picnic, dances, coed sports nights, dinners, scholarship fundraisers, and many other assorted activities and services. Meetings are held every other week. Announcements of meetings are posted.

**PHI THETA KAPPA International Honor Society Alpha Omicron Omicron Chapter**

Phi Theta Kappa is an international honors organization for two-year college systems. Phi Theta Kappa has recognized academic excellence since 1918 and has become the largest and one of the most prestigious honor socie-
ies in higher education. More than 1.2 million members have been inducted at 1,200 colleges. Distinguished alumni include businessman H. Ross Perot, former UN Ambassador Jeanne Kirkpatrick, Apollo 13 Astronaut Fred Haise, Grammy-winning entertainer Rudy Gatlin and Emmy Award-winning actress Sela Ward.

Membership is primarily based upon academic achievement. Invitations to membership are extended twice a year to MMCC students who have completed at least twelve hours of coursework at MMCC leading to an associate degree program with a GPA of 3.5 or better. Letters of recommendation from two MMCC faculty members are also required.

Involvement with Mid's PTK chapter offers a myriad of opportunities for intellectual enrichment, fellowship, community service, personal development and development of leadership skills. In addition, members are eligible for scholarships on the campuses of most four-year colleges and universities.

MMCC's PTK chapter is an extremely active one that is committed to the society’s four Hallmarks: Scholarship, Leadership, Service and Fellowship, and to serving the college and surrounding communities.

BUSINESS AND INDUSTRY DEVELOPMENT CENTER

Through the College’s Business & Industry Development Center (BIDC), MMCC is able to reach out and build close and meaningful working relationships with local employers. MMCC can be a valuable resource in helping community members build and maintain an efficient, smooth-running operation.

With the College as a partner in progress, community members’ businesses can draw from a pool of many knowledgeable people with a broad range of talents and experience. The BIDC is located in the Michigan Technical Education Center (M-TEC) on the Harrison campus.

Business & Industry Development Center: The point is simply this: MMCC has a deeply vested interest in seeing that local businesses and industries stay healthy and prosperous. Contact the College’s Business and Industry Development Center to get a more complete picture of just how MMCC can help businesses train for the present, and develop for the future.

Seminar Planning: An experienced staff will work with area businesses in establishing goals, format, and outcomes. Well-informed speakers are readily available. Hospitality services, audiovisual equipment, and lodging can be arranged.

Continuing Education: More and more associations and agencies are requiring their employees to enroll in continuous learning activities to retain licensure. Educational programs can be arranged either on or off campus for up to 250 people.

Personal Development: Activities in this area address professional and personal development. Lifelong learning opportunities are available in recreation, fitness, special events, and trips.

CONTINUING EDUCATION NON-CREDIT COURSES

Mid Michigan Community College also offers a wide variety of non-credit courses*. Some course offerings include:

- Professional Development courses including topics on use of the computer, Windows, the Internet, E-Mail, Digital Cameras and Scanners, Microsoft programs such as Word, Access, Excel, Powerpoint, and much more;
- Personal Interest courses including topics on Basket Weaving, Puppy and Dog Obedience, Photography, Furniture Restoration, Kardio-Kickboxing, Karate, and more;
- Fire Officer Training, Law Enforcement, Aromatherapy, Herbology, Massage, and the list goes on. Please refer to the current Schedule of Classes for course offerings and registration details.

(*Note: some non-credit offerings may also be offered for credit)

STUDENT REGULATIONS

CAMPUS CRIME PREVENTION & SECURITY REGULATIONS

Mid Michigan Community College also pledges to comply with the regulations as specified by the Crime Awareness and Campus Security Act of 1990, as amended by Public Law 105-244 under the Department of Education’s Student Assistance General Provisions 34 CFR Part 668. It should be noted that several provisions of this law are printed in MMCC’s Schedule of Classes.

Crime Prevention

Mid Michigan Community College asks that students consider CAMPUS CRIME PREVENTION as a shared responsibility between the College and its campus community members. Public apathy is a criminal’s ally. You cannot assume that someone else has reported criminal activity. Suspicion is the only reason needed for calling the police. Students are advised to call Campus Security at Ext. 696 or alternate Ext. 698 to report a crime, suspicious activity or other emergencies on Campus.

Access to Campus Facilities

The College will post its official hours for its buildings each enrollment period. Students and non-College employees shall have access to the building only during
During times when the College is not officially open, employees or individuals entering the facility should ensure that all entries are secured.

**Campus Law Enforcement**

Students and staff on the Harrison campus should notify the Physical Plant Director, Ext. 696 or alternate Ext. 698, whenever a crime or potential crime is observed. The Mt. Pleasant Campus should call the front desk at Ext. 221 or 223, or alternate Ext. 237.

Since the College is not large enough to support its own police department, the Clare County Sheriff's Department (539-7166) or the Isabella County Sheriff's Department (772-5911) will be notified immediately by Campus Security for any crimes reported.

**Crime Reporting Procedures**

**IF YOU ARE ASSAULTED:** Call the Physical Plant Director at Ext. 696 or alternate Ext. 698, or the Isabella County Sheriff's Department (772-5911) as soon as possible. Try to remember as much about the person as possible. Important characteristics to include: sex, race, hair color (length and texture), body size, clothing description, scars and other noticeable markings, mode of travel, type of vehicle, color and license number. The Campus will be searched immediately for suspects and neighboring police agencies will be notified. In many incidents, the victim may already know the name of the person committing the assault.

**IF YOU SEE A SUSPICIOUS PERSON:** If you see anyone acting suspiciously, call the Physical Plant Director at once. Do NOT approach the person yourself. Report the type of suspicious activity and give a general description of the subjects (number of persons, sex, race, dress, vehicle, and location). The Physical Plant Director will investigate your report immediately. If all members of the campus community become security conscious and report suspicious activity, thefts and related incidents will be minimal. Remember--it is your responsibility, too!

**IF YOU RECEIVE A BOMB THREAT:** If you receive a bomb threat, it is important to obtain as much information from the caller as possible. Things to ask include: 1) location of bomb; 2) time of explosion; and 3) type of bomb. Observe the caller's voice and any background noises you may hear. Such information may assist in identifying the caller. Call the Physical Plant Director immediately. DO NOT PANIC! The Sheriff will be notified immediately and will search the area involved and, if a device is found, notify trained personnel for removal. College authorities will determine if evacuation is required.

**DRUG ABUSE POLICY AND REGULATIONS**

**Philosophy**

The MMCC Board of Trustees certifies and pledges it will provide a drug-free workplace and learning environment for employees and students. This pledge is in compliance with the Federal Drug-Free Schools and Communities Act Amendment of 1989.

MMCC recognizes that clear evidence exists that the misuse and abuse of alcohol and other illicit drugs can erode the foundation of the College's goals and objectives and can diminish the attainment of intellectual, social, physical, and moral growth and development. MMCC is committed to a healthy and productive college climate through referral and rehabilitation when possible.

**Standards of Conduct**

The MMCC Board of Trustees prohibits the possession, use, distribution, and unlawful manufacture of illegal drugs, narcotics or controlled substances on MMCC's Campus. The College also abides by all local, state, and federal laws. Alcohol is prohibited on campus with the exception of the Campus house.

**Health Risks**

Various health risks are associated with the use of illicit drugs and the abuse of alcohol. Addiction to alcohol or other drugs is a progressive disease which, if untreated, is fatal. Health risks of alcohol and drug abuse have a wide range of consequences including but not limited to liver damage and disease, psychosis, brain damage, and heart disease. The physical consequences of such abuse are serious and can be life threatening.

The psychological and social consequences of substance use and abuse can be equally devastating. Loss of friends, loss of job, divorce, and the creation of a dysfunctional family system are common consequences of substance abuse. Substance abusers often experience feelings of depression, anxiety, low self esteem, guilt and loneliness. Additional information about the physical and psychological consequences of substance abuse are available in the MMCC library and through the Substance Abuse Contact Counselor as well as various Substance Abuse Agencies. The Substance Abuse Contact Counselor can also make referrals to other agencies.

**MMCC and Legal Sanctions**

Mid Michigan Community College abides by all local, State and Federal laws and will ask an appropriate agency to impose any necessary sanctions should a violation of any stated law take place on the MMCC campus and satellite centers.

Faculty and staff who are in violation are subject to sanctions as outlined in the appropriate collective bargaining agreements.
agreement and MMCC Policy Manual. Students who are in violation are subject to sanctions as outlined in the MMCC Social Probation Policy.

Employees convicted of any criminal drug statute violation which has occurred in the workplace (campus property, vehicles, or sponsored activity) must notify the Director of Human Resources in writing within five (5) days of the conviction. In the same instance, students must notify in writing the Dean of Student Services within five (5) days.

MMCC Sanctions include: warning, censure, restitution, suspension, and immediate dismissal (should the behavior be both improper and a potential threat to the College or the College Community).

Violations by faculty, staff or students could result in disciplinary action up to and including termination or expulsion.

In addition to, or in lieu of, discipline, violators may be required to complete an appropriate rehabilitation program. Violations by faculty, staff or students may also result in referral for criminal prosecution.

Alcohol and Drug Rehabilitation/Counseling

Realizing that substance abuse is a serious and complex, but treatable condition/disease that negatively affects the productive, personal, and family lives of employees and students, MMCC is committed to addressing the problem of substance abuse.

The President of the College has a designated representative, an MMCC counselor, as the Campus Substance Abuse Contact Counselor. The Campus Substance Abuse Contact Counselor provides information, literature, and supportive services to inform students and employees of the dangers of drug abuse and to provide assistance and referral if a problem exists.

College officers, employees or students who show signs of drug misuse or abuse will be supported, educated, and aided in reversing the disease process. Those so diagnosed shall receive the same consideration and opportunity for treatment that is extended to persons with other types of illness. No adverse effects to the officer’s, employee’s, or student’s status shall result based upon diagnosis itself or request for treatment; however, if the officer, employee, or student refuses to accept diagnosis and treatment, or fails to respond to treatment, and the result of such refusal or failure is such that job performance, appropriate behavior, or learning ability is affected, that person shall be considered in violation of College policies and will be subject to discipline in the same manner & magnitude as violators of other College policies.

The MMCC Board of Trustees has also authorized the establishment of an Employee Assistance Program for College employees. Drug counseling is available through the Program.

MMCC utilizes local Substance Abuse Assistance Agencies. Sources may be obtained by contacting the MMCC Counseling Office at 989-386-6626.

SOCIAL PROBATION

In joining the academic community, the student enjoys the right of freedom to learn and shares the responsibility in exercising that freedom. The student is expected to conduct herself/himself in accordance with standards which are designed to perpetuate the educational purposes of the College. A student’s most essential right is the right to learn, and the College has a duty to promote learning. The student, in turn, has duties and responsibilities to other members of the Mid Michigan Community College community. The most important is to refrain from interfering with the rights and responsibilities of others to learn, teach, and effectively manage the institution.

Students are expected to respect the laws governing the community as well as the rules and policies of the College. Students should be familiar with all of the rules and regulations governing student conduct as set forth in this catalog and other official policy manuals. All rules and regulations pertain to the campus which is defined as any location where the College conducts classes.

Students are expected to act in a responsible manner that promotes an environment for learning. The following represent but are not limitations of examples that would constitute unacceptable student behavior and could result in the application of this policy:

1. Willful destruction, injury, or disruption of College property or operations.
2. Possession of alcoholic beverages, illegal drugs, or under the influence of these substances on campus.
3. Smoking in unapproved areas.
4. Possession of firearms, knives, or other weapons on campus.
5. Academic dishonesty, plagiarism, and cheating.
6. Sexual harassment as defined by the Michigan Civil Rights Act.
7. Discrimination on the basis of race, creed, color, sex, national origin, age, height, weight, arrest record, physical characteristics, or marital status.
8. Aggressive, hostile and/or disruptive behavior directed toward any College employee, student, or College guest.
9. Bringing a dependent child (children) to class/open lab or leaving a child (children) unattended in College facilities.
DISCIPLINARY ACTION AND SOCIAL PROBATION

The three forms of misconduct subject to disciplinary action are 1) violations of civil/criminal law, 2) disruption of the educational process and 3) violation of College rules, regulations and policies.

If a student’s conduct on Campus is improper and deemed a potential threat to the College or the College community (employees, students, or visitors), the College reserves the right to take any action that is appropriate including immediate and permanent dismissal from the College.

Persons officially associated with the College who willfully destroy or cause destruction of College property, or cause injury to a student or College employee or who disrupt the operation of the College will face immediate suspension. Please note:

Act No. 26, Public Acts of 1970, approved by the Governor June 2, 1970, and effective August 1, 1970, provides penalties for certain conduct at public institutions of higher education. No person shall enter or remain on the campus property or premises, in buildings or other structures if it is determined by the chief administrator of the college or his/her designee that the person constitutes a clear and substantial risk of physical harm or injury to other persons or of damage to or destruction of the property of the institution, or an unreasonable prevention or disruption of the customary and lawful functions of the institution by occupying space necessary therefore, or by use of force or threat of force.

Administrative implementation of the social probation procedures involving students is the responsibility of the Dean of Student Services unless there is a conflict of interest. In these cases, the Vice President of Academic Services will designate a hearing officer.

STUDENT DISCIPLINE PROCEDURES

1. Within three days after the student has been apprised of the incident, a written notice from the Dean of Student Services or his/her designee will be sent to the mailing address of a student charged with violating the rules of conduct, advising of procedural due process. The Dean shall investigate the incident and meet with the student. An informal agreement on a disciplinary matter may be arrived at by consultation between the student and the Dean or appointed designee. The consultation may include the person making the charge but his/her presence shall be at the discretion of the Dean or appointed designee. The student will be advised of his/her rights (as outlined in the catalog) regarding the formal procedures available to him/her as follows:

a. The student may plead no contest or admit the alleged violation and request that the hearing officer take whatever action the officer deems necessary.

b. The student may deny the alleged violation, in which case the hearing officer can investigate and take appropriate action. The hearing officer may refer him/her to the Judicial Board which shall meet within three school days of the referral. Should the hearing officer choose not to refer the case to the Judicial Board, the student may request a hearing with the Judicial Board. The Judicial Board shall consist of two representatives from faculty, the VP of Academic Services, two students, and the hearing officer.

c. The student will be notified of the misconduct, its consequences, and the arranged time for a hearing. Notice shall be given by first class mail to the student’s address as it appears on the student’s registration form. It will be the responsibility of the student to notify the Dean or the Judicial Board of any change in address.

2. Hearings shall be conducted in such a manner as to ensure full due process.

a. Hearings shall be private. If more than one student is involved, each has the right to request a separate hearing.

b. Procedural due process does not guarantee students the right to be represented by counsel in disciplinary cases, since campus proceedings are civil, not criminal. The institution may allow counsel if requested on a case-by-case basis. Counsel will also be allowed if it is determined by the hearing officer that counsel is necessary to ensure that a student receives a fair hearing.

c. Any party may present written affidavits, exhibits, or witnesses who may be subject to cross examination by the other parties excluding counsel.

d. The student who is charged bears all cost if he/she wishes a verbatim record or audio taping of the hearings.

3. The sanctions imposed by the Dean of Student Services or the Judicial Board may be as follows:

a. Warning: Notice given, orally or in writing, that continuation or repetition of such conduct may be the cause for more severe sanction in the event of a violation of any College regulation or policy within a stated period of time.

b. Censure: Written reprimand for violating specified regulations, including the possibility of receiving a more severe sanction in the event of a violation of any College regulation or policy within a stated period of time.

c. Restitution: Reimbursement for damage to and/or misappropriation or misuse of College property. This may take the form of appropriate community service or other compensation.
d. Suspension: Exclusion from class and/or other privileges or activities as set forth in the notice for a definite period of time, or as deemed appropriate.

4. The Judicial Board’s decision will be sent to the student within three days of the hearing. If the student wishes to appeal the Judicial Board’s decision, a written appeal must be submitted to the President within five days of the hearing. The President shall review the record to this point and may elect to meet with the student. The President shall render a decision within five school days. The President’s decision is the last step in the institution’s appeal process and is final.

STUDENT COMPLAINT POLICY

Mid Michigan Community College is committed to helping students. Should a student have a concern/complaint, he/she is encouraged to discuss it with appropriate MMCC personnel. Students should use available informal means to have decisions reconsidered before filing a grievance or complaint. No retaliation of any kind shall be taken against a student for participation in a complaint or grievance. If you have a concern, here are the numbers to contact: Billing Office (989) 386-6611, Distance Education (989) 773-6622 ext.234, Equal Opportunity/Affirmative Action: Human Resources Department (989) 386-6664, More information may be found on page 8 of the College catalog. www.midmich.edu, Financial Aid Office: (989) 386-6664. Additional information may be found on page 19 in the College catalog. www.midmich.edu, Grade Grievance Procedure: can be found on page 31 of the College catalog or on the MMCC website. www.midmich.edu. If you have a complaint or concern regarding an instructor: you should first discuss the matter with the instructor. If you do not feel comfortable discussing the issue with the instructor, please contact the appropriate Instructional Administrator. Nursing/Allied Health (989) 386-6645, Liberal S Arts, Science/Math (989) 386-6642 Occupational Studies (989) 386-6655, Radiography, PED, ECE (989) 386-6646. To contact the MTEC Director (989) 386-6624, For Non-Instructor problems contact the Dean of Student Services (989) 386-6626. The Dean will direct your call to the appropriate department. For Registration problems contact The Registrar’s Office (989) 773-6622 ext. 230. Sexual Harrassment: Human Resources Department (989) 386-6621.

SMOKING POLICY

To promote the health and well-being of its students, faculty and staff, the College has established a smoke-free environment in all its facilities and college-owned vehicles. Smoking is not permitted within fifty feet from doorways so marked; nor within ten feet of unmarked doorways, nor within any college building or college vehicle.

EMERGENCY PROCEDURES

For immediate emergency attention:

**Harrison Campus:** 911 or (989) 539-7166
(Clare County Sheriff)

**Mt. Pleasant Campus:** 911 or (989) 772-5911
(Isabella County Sheriff)

Should a student become seriously ill or injured while on Campus during the normal workday (8:00 - 5:00), the Business Office on the Harrison Campus or the Main Office on the Mt. Pleasant Campus should be notified immediately. If possible, the instructor should stay with the injured (ill) student and send someone to the Business or Main Office to report the incident. The instructor should try to make the injured (ill) student as comfortable as possible.

If the emergency is after regular business hours, the night administrator on either campus (Rm. 268 in Harrison and the Main Desk in Mt. Pleasant) should be notified of any serious injury or illness. If no administrator can be found, the instructor will make the determination of whether the student should be transported to an Emergency Room.

The instructor should give emergency care based on their training (First Aid/CPR, ACLS). Improper care can exacerbate a serious condition.

Note: While it is always possible to make a judgement error during an emergency, it is better to err in behalf of safety. Hence, **IF IN DOUBT, CALL AN AMBULANCE IMMEDIATELY.**

Special Note: While the College has a number of instructors and staff qualified to give emergency care, there is a good possibility that they will not be on Campus when an emergency arises. Hence, an instructor can send a student to seek help from the College health staff but should handle the emergency situation from the standpoint that no qualified emergency caregivers are on Campus. Even if there is a qualified emergency care person at the scene, **THE COLLEGE IS NOT A HOSPITAL OR EMERGENCY CENTER AND THE OBJECTIVE OF IMMEDIATE TRANSPORTING TO A PROPER EMERGENCY SETTING MUST NOT BE DELAYED.**

HEALTH CARE SERVICES

At present, Mid Michigan Community College does not provide or operate any health care services. The student’s responsibility is to maintain their own health care support services. Health care services are limited to Basic First Aid. If an injury or illness should arise during the operating times of the college, refer to the Emergency Procedures above.

ACCESS TO RECORDS

Mid Michigan Community College policy grants access by students to their educational records under conditions which conform to the Family Education Rights and Privacy...
Act of 1974 as amended, regulated by the appropriate federal guidelines. A copy of this policy may be obtained upon request from the Office of Enrollment Services.

Directory information will be routinely released unless a student informs the Office of Enrollment Services in writing during the first two weeks of each semester or summer session that any or all items should not be released without the student’s prior consent. Directory information includes name, address, telephone number, date and place of birth, major field of study, participation in officially-recognized activities and sports, dates of attendance, degrees and awards received, and most recent previous educational agency or institution attended.

THE FAMILY EDUCATIONAL RIGHTS AND PRIVACY ACT (FERPA)

The Family Educational Rights and Privacy Act (FERPA) affords students certain rights with respect to their education records. They are:

1. The right to inspect and review the student's education records within 45 days of the day that MMCC receives a request for access.

Students should submit to the Dean of Student Services written requests that identify the record(s) they wish to inspect. The Dean of Student Services will make arrangements for access and notify the student of the time and place where the records may be inspected. Such requests should be sent to:

   Dean of Student Services
   Mid Michigan Community College
   1375 S. Clare Avenue
   Harrison MI  48625

2. The right to request the amendment of the student's education records that the student believes is inaccurate or misleading.

Student/parents may ask the college to amend a record that they believe is inaccurate or misleading. They should write the Dean of Student Services; clearly identifying the part of the record they want changed, and specify why it is inaccurate or misleading.

   If the college decides not to amend the record as requested by the student/parent, the college will notify the student/parent of the decision and advise the student of his or her right to a hearing regarding the request for amendment. Additional information regarding the hearing procedures will be provided to the student when notified of the right to a hearing.

3. The right to consent to disclosures of personally identifiable information contained in the student's education records, except to the extent that FERPA authorizes disclosure without consent.

   One exception, which permits disclosure without consent, is disclosure to school officials with legitimate educational interests. A school official is a person employed by the college in an administrative, supervisory, academic or research, or support staff position (including law enforcement unit personnel and health staff); a person or company with whom the college has contracted (such as an attorney, auditor, or collection agent); a person serving on the Board of Trustees; or a student serving on an official committee, such as a disciplinary or grievance committee, or assisting another school official in performing his or her tasks.

   A school official has a legitimate educational interest if the official needs to review an education record in order to fulfill his or her professional responsibility.

   Upon request, the college discloses education records without consent to officials of another school in which a student seeks or intends to enroll. (NOTE: FERPA requires an institution to make a reasonable attempt to notify the student of the records request unless the institution states in its annual notification that it intends to forward records on request.)

4. Students have the right to file a complaint with the U.S. Department of Education concerning alleged failures by MMCC to comply with the requirements of FERPA. The name and address of the Office that administers FERPA is:

   Family Policy Compliance Office
   U.S. Department of Education
   600 Independence Avenue, SW
   Washington, DC  20202-4605
The M-TEC on the Harrison Campus of Mid Michigan Community College provides training in manufacturing and construction trades as well as professional development and customized business training.

M-TEC Programs
With our open entry/open exit training system you can sign up today and start training tomorrow - anytime throughout the year. Learn at your own pace using computer based training and hands-on labs. A number of courses are offered for college credit and others result in a certification.

At the M-TEC, you can learn:
- Maintenance Technology
- Robotics
- CNC Programmer
- Plastics Technology
- And much more

For more information, call 989-386-6614.

Economic Development
MMCC and the M-TEC are committed to providing economic development services to local businesses and individuals.

Customized Training & Professional Development
- Tailored training for Business and Industry
- Seminar Planning
- Paraprofessional Certification
- Certified Nurse Aide Program
- Truck Driving Training
- Computer Classes

Contact Karen Kleinhardt at 989-386-6629 or at kkleinha@midmich.edu for more information.

The Michigan Small Business & Technology Development Center is a statewide network of 12 offices providing services for small businesses that are emerging and growing throughout the state.

The SBTDC offers FREE counseling services to entrepreneurs starting and growing small businesses.
-Counseling
-Planning
-Training
-Research
-Advocacy

Call 989-386-6630 for more information.

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Getting Started

Would you like to learn new skills but you need an alternative to fixed classroom dates and times? The M-TEC is your solution!

The M-TEC’s Open Entry/Open Exit courses let you start and finish a course based on your schedule and pace. It’s flexible, easy, and designed to work around your busy lifestyle.

1. Call an Instructional Coordinator at the M-TEC.
2. Meet to develop an individual learning plan based on your training needs and the demands of your schedule.
3. Start training as soon as the next day!

Call the M-TEC at 989-386-6614 or visit: www.midmich.edu/mtec for more information.

Sign up today and start your training tomorrow.

The Training You Need, When You Need It

If you’re looking for a career opportunity in a high demand, high pay occupational area, the M-TEC can help make it happen.

The M-TEC, or Michigan Technical Education Center, on the Harrison campus of Mid Michigan Community College provides training in manufacturing and construction trades as well as professional development and customized business training.

At the M-TEC you can learn:

**Manufacturing Technology**
- CNC Operator
- Maintenance Technology
- Principles of Quality Control
- Fluid & Air Power Technology
- Robotics
- Electronics Technician
- Industrial Electrical
  - Over 250 Additional Topics

**Construction Technology**
- Carpentry
- Electrical
- Plumbing
- Masonry

The classes at the M-TEC are broken down into modules to let students learn at their own pace. Each progressive module builds on the previous one to teach the student more about their area of interest.

The Open Entry/Open Exit training system also allows students to enter and exit the program at any time during the year. That means it’s never too late to register. Enrolling is so easy you can sign up today and begin taking classes as soon as tomorrow!

We now offer some courses for college credit. Please call the M-TEC for more information.

Whether you’re currently employed and interested in upgrading your skills, or looking for training that will offer you a new and exciting career choice, the M-TEC is here for you.
Construction Technology

The M-TEC’s Construction Trades Training Program consists of a core curriculum that covers the basic fundamentals of construction. This basic knowledge can then be followed up with specific training in any of the four construction concentrations.

NCCER Core Curriculum

This program for the National Center for Construction Education and Research (NCCER) was developed by the construction industry for the construction industry. It is one of the leading nationally accredited, competency-based construction training programs in the United States. The six units in this series provide a solid foundation of general knowledge needed by all construction workers. Competency labs on each module must be completed to receive certificate of completion. Also available for college credit.

CSTR 1100 Core Curriculum Package: This program of the National Center for Construction Education and Research (NCCER) was developed by the construction industry for the construction industry. It is one of the leading nationally accredited, competency-based construction training programs in the United States. The six units (44 hours) in this series provide a solid foundation of general knowledge needed by all construction workers. Competency labs on each module must be completed to receive certificate of completion. Topics covered in this series include:

CST 1000 Core Curriculum Package for 2 credits

CSTR 1001 Math for Construction: This interactive training unit is designed to familiarize trainees with basic mathematical applications that can be used on the job. After completing this unit, trainees should be able to interpret measurements that include fractions and decimal values, measurements in English and metric units, and perform mathematical applications involving fractions and decimals. They should also be able to calculate dimensions associated with rectangles, triangles, and circles.

CSTR 1002 Construction Safety: This interactive training unit is designed to familiarize trainees with hazards they may encounter on the job and ways they can protect themselves from these hazards. After completing this unit, trainees should be able to describe causes of on-the-job accidents, explain how company safety policies can help prevent accidents, describe actions that can be taken to make a work site safe, and explain how workers can protect themselves from electrical hazards and fire hazards.

CSTR 1003 Introduction to Blueprint Reading: This interactive training unit is designed to familiarize trainees with the basic features of construction blueprints. After completing this unit, trainees should be able to describe various types of blueprints, identify lines, symbols, and abbreviations that are commonly found in blueprints, and explain how to properly care for blueprints.

CSTR 1004 Introduction to Hand Tools: This interactive training unit is designed to familiarize trainees with the proper use of various types of hand tools. After completing this unit, trainees should be able to explain how to properly use hammers, sledgehammers, wedges, punches, ripping bars, nail pullers, screwdrivers, wrenches, socket wrenches, levels, plumb bobs and chalk lines, squares, rulers, measuring tapes, saws, files, chisels, utility knives, pliers, bench vises, and C-clamps.

CSTR 1005 Introduction to Power Tools: This interactive training unit is designed to familiarize trainees with the proper use of various types of power tools. After completing this unit, trainees should be able to explain how to properly use and maintain power drills, power saws, power grinders, jackhammers, and hydraulic jacks. A glossary of key terms is included at the end of the unit.

CSTR 1006 Basic Rigging (Crane Safety): This interactive training unit is designed to familiarize trainees with the basic principles associated with moving materials and equipment from one place to another. After completing this unit, trainees should be able to describe the functions of various types of rigging equipment and explain how to select and inspect equipment for a job that involves rigging.

Basic Communication Skills: Provides trainee with techniques for communicating effectively with co-workers and supervisors. Includes practical examples that emphasize the importance of verbal and written information and instructions on the job. Also discusses effective telephone and email communication skills.

Basic Employability Skills: Identifies the roles of individuals and companies in the construction industry. Introduces trainee to critical thinking, problem-solving skills, and computer systems and their industry applications. Also reviews effective relationship skills, effective self-presentation, and key workplace issues, such as sexual harassment, stress, and substance abuse.

CSTR 10BL Core Competency: This 9 hour of hands on competency on the six modules for Core with a Subject Matter Expert.
Construction Technology

Masonry Level I

These 6 modules introduce the trainee to the Masonry trade with emphasis on construction safety practices, tools and equipment, mathematics, drawings, and specifications. The properties and material components of mortar and masonry units are presented, and trainee begins hands-on techniques of selecting cutting and laying masonry units.

**CSTR 4101 Introduction to Masonry:** Introduces the trainee to the historic and current methods and procedures used in the masonry trade. Brick and block manufacturing is explained along with the types of brick and block that are currently used in various types of masonry construction. Knowledge, skill, and ability requirements of a mason are also described.

**CSTR 4102 Safety Requirements:** Provides an overview of the basic safety practices and requirements found in the masonry trade. The trainee is directed in the use of appropriate personal protective equipment, handling hazardous materials, and general work safety.

**CSTR 4103 Tools and Equipment:** Presents and describes the tools and equipment used in the production of mortar, cutting of masonry units, and placing of masonry units. Also explains safe operation and maintenance requirements and provides demonstrations of larger pieces of power equipment. The trainee is also given the opportunity to operate each hand tool.

**CSTR 4104 Mathematics, Drawings, and Specifications:** Guides the trainee in the process of using mathematics to figure distances, areas, and volumes for masonry construction work; describes the information typically found on drawings and construction plans for residential construction; and addresses the specifications used in the construction process. This module includes a set of drawings.

**CSTR 4105 Mortar:** Explains the properties of mortar and the components that make up the mixture; describes the chemical and physical properties of cement, sand, and various types of admixtures; and discusses procedures for storing materials and mixing mortar.

**CSTR 4106 Masonry Units and Installation Techniques:** Introduces the methods and procedures used in masonry unit installation. Topics include basic techniques for laying brick and block, using mortar to bond masonry units, and patterns. Hands-on skill development in constructing wythes and courses is emphasized.

**CSTR 41ML Masonry Level One Capstone Lab:** This 50 hour "hands-on" competency lab serves as a capstone experience for year one of the apprentice curriculum. The trainee will be given a project to complete which will encompass making direct application of all of the level-one masonry modules. The capstone experience will be supervised and critiqued by a Master Mason.

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Ongoing Construction classes are offered through the pre-apprenticeship level in:
- Electrical
- Construction
- Plumbing
- Masonry
- Other Construction Trades

Call Scott Govitz at 989-386-6624 for more information
NCCER Carpentry Level I
This 8-unit series (combined with the Core Curriculum) provides training for entrance of trainee into a carpentry first-year apprenticeship. This series address the history of the trade, materials, tools, floor, wall, ceiling, and introductory roof framing. NCCER Carpentry Level I is also credit bearing and has the course reference number of: CST 1100 (4 credits)

CSTR 2000 Carpentry Level 1 Package for non credit: This 8-unit series (combined with the Core Curriculum) provides training for entrance of trainee into a carpentry first-year apprenticeship. This series address the history of the trade, materials, tools, floor, wall, ceiling, and introductory roof framing.

CSTR 2001 Orientation to the Trade: Reviews the history of the trade, describes the apprentice program, identifies career opportunities for carpentry and construction workers, and lists the responsibilities and characteristics a member of the trade should possess.

CSTR 2002 Introduction to Construction Math: From basic addition to multiplying fractions and more, this module prepares trainees to do the calculations they'll be performing on the job site. Includes multiplication tables and unit conversion charts.

CSTR 2003 Wood Building Materials, Fasteners, and Adhesives: Describes the sources and uses of various softwoods and hardwoods, explains the grading systems for lumber and plywood, and discusses the composition and uses of various engineered sheet materials and laminated lumber products. Also describes the many kinds of fasteners and adhesives used with wood and masonry.

CSTR 2004 Hand and Power Tools: Provides detailed descriptions and explanations of the use of the many hand-operated and power tools used by carpenters, including powder-actuated fasteners. Emphasis is on safe and proper operation of tools as well as care and maintenance.

CSTR 2005 Floor Systems: Covers framing basics as well as the procedures for laying out and constructing a wood floor using common lumber as well as engineered building materials.

CSTR 2006 Wall and Ceiling Framing: Describes the procedures for laying out and framing walls and ceilings, including roughing-in door and window openings, constructing corners and partition T's, bracing walls and ceilings, and applying sheathing.

CSTR 2007 Roof Framing: Describes the various kinds of roofs and contains instructions for laying out rafters for gable roofs, hip roofs, and valley intersections. Includes; both stick-built and truss-built roofs.

CSTR 2008 Windows and Exterior Doors: Describes the various types of windows, skylights, and exterior doors, and provides instructions for installing them. Also includes instructions for installing weather-stripping and locksets. (8) $102.72

CSTR 20CL Carpentry Lab Level I: This 50 hour "hands-on" competency lab serves as a capstone experience for the year-one carpentry pre-apprentice curriculum. The trainee will be given a project (or projects) that will encompass making direct application of all the level-one carpentry modules.

Print Reading for Residential and Commercial Construction
CSTR 2100: This course is designed to assist students in reading and understanding residential and commercial prints. The text is suitable for vocational students, apprentices, and building trades workers who want to increase their knowledge of construction print reading and composition. The combination text and workbook presents a thorough discussion of print reading techniques, starting with the basics of lines and symbols and then progressing to specialized prints and specifications. The 116 C-sized foldout prints included in this course will enable the student to experience realistic, on-the-job exercises that covers nearly every aspect of print reading.

MNF 2400 for 2 credits
Construction Technology

NCCER Carpentry Level II

This 9-unit series presents the second-year carpentry apprentice with intermediate blueprint reading; site leveling using transits, lasers and measuring devices; and introduces the trainee to concrete materials, placement and finishing methods; concrete form construction; and special types of concrete forms.

CSTR 2201 Reading Plans and Elevations: Builds upon the information presented in the Introduction To Blueprints module in the Core curricula. Learn techniques for reading and using blueprints and specifications. Emphasis on drawings and types of information that are relevant to the carpentry trade. The subject of quantity takeoffs is introduced.

CSTR 2202 Site Layout 1 - Distance Measurements and Leveling: Covers the principles, equipment, and methods used to perform the site layout task of distance measurement and differential leveling. Also covered is information about the layout responsibilities of surveyors, field engineers, and carpenters; understanding and using site/plot plan drawings; and methods used for on-site communication.

CSTR 2203 Introduction to Concrete and Reinforcing Materials: Describes the properties, characteristics, and uses of various types of cement, aggregates, and other materials that, when mixed together, form different types of concrete. Procedures for concrete volume estimates and testing of freshly mixed concrete, along with methods and materials for curing concrete. Reinforcement materials used in concrete: reinforcement bars, bar supports, and welded-wire fabric are described and defined.

CSTR 2204 Foundations and Flatwork: Covers the construction of forms for continuous, stepped continuous pier, and grade beam concrete footings. Also covered are edge forms used for on-grade concrete slabs and similar structures. Forming terms, parts of forms, and the procedures for constructing basic footing and edge forms are included.

CSTR 2205 Concrete Forms: Covers the applications and construction methods for various types of job-built forms, including wall, column, slab-and-beam, and stair forms.

CSTR 2206 Reinforcing Concrete: Explains the selection and uses of different types of reinforcing materials. Describes general requirements for cutting, bending, splicing, and tying reinforcing steel, as well as placement of the steel in various types of footings, columns, walls, and slabs.

CSTR 2207 Handling and Placing Concrete: Covers the tools, equipment, and procedures required for handling, placement, and finishing of concrete at the job site. Also covered is general information about joints made in concrete structures, the use of joint sealants, and form removal procedures. Safety procedures for handling, placing and finishing concrete are emphasized.

CSTR 2208 Manufactured Forms: Covers the types of manufactured forms and form hardware systems used in the construction of walls, columns, deck and roof slabs, beams and girders, culverts, and highways. Includes coverage of flying forms, slipforms, shoring, and architectural finishes.

CSTR 2209 Tilt-Up Wall Systems: Reviews the history and applications of tilt-up wall systems and describes the procedures for forming, finishing, and erecting tilt-up wall panels.

CSTR 2210 Competency Lab: This 17 hour competency on the 8 modules for Carpentry Level II with a Subject Matter Expert.

CSTR 22CL Carpentry Lab Level Two: This 50 hour "hands-on" competency lab serves as a capstone experience for the year-two carpentry pre-apprentice curriculum. The trainee will be given a project (or projects) that will encompass making direct application of all the level-two carpentry modules.

M-TEC offers open entry/open exit courses to fit your schedule. Sign up today and start your training tomorrow!
Construction Technology

NCCER Electrical Level I

This 12-unit series (combined with the Core Curricula) provides training for electrician first-year apprentices. The series addresses safety, basic equipment, wiring, and NEC regulations. Trainees are also required to complete a 17-hour competency and a 50-hour “capstone lab” experience supervised by a Master Electrician. This course is also credit bearing and is broken down into individual credit bearing modules. Please see the information below.

Prerequisite Required: Core Curriculum Package

CSTR 3000 Electrical Level I Package: This 12-unit series (combined with the Core Curricula) provides training for electrician first-year apprentices. The series addresses safety, basic equipment, wiring, and NEC regulations. Trainees are also required to complete a 17-hour competency and a 50-hour “capstone lab” experience supervised by a Master Electrician.

CST 1200 for Electrical Level I package for 6.29 Credits

CSTR 3100 Fundamentals of Electrical: The introductory open entry/open exit course covers the science that deals with electrical components and their applications in practical or applied technology. It will familiarize the student with the theory, concept and modes of operation of electrical systems. Course content covers, Ohm's law, electromagnetism, instrumentation, power supplies, output devices and many other aspects of electrical fundamentals.

CST 12LB for 1.09 credits

CSTR 3101 Electrical Safety: This interactive training unit is designed to familiarize trainees with the hazards associated with electrical maintenance and how those hazards can be controlled. After completing this unit, trainees should be able to explain what electrical shock is, and how it can affect the human body, identify hazards associated with electrical maintenance, and describe actions that can be taken to aid a shock victim and respond to an electrical fire. They should also be able to describe ways that personnel can be protected from electrical hazards.

CST 1201 for .18 Credits

CSTR 3102 Hand Bending: This interactive training unit is designed to familiarize trainees with basic concepts associated with cutting, measuring, and bending conduit. After completing this unit, trainees should be able to describe how to make accurate stub bends, offset bends, three-bend saddles, and four-bend saddles. They should also be able to describe basic procedures for measuring conduit for specific types of bends and for cutting conduit.

CST 1202 for .35 Credits

CSTR 3103 Fasteners and Anchors: This interactive training unit is designed to familiarize trainees with various types of fasteners used in electrical work. After completing this unit, trainees should be able to describe common types of threaded and non-threaded fasteners and identify applications for which each type might be used. They should also be able to describe basic procedures for installing fasteners.

CST 1203 for .26 Credits

CSTR 3104 Basic Electricity Review: This interactive training unit is designed to familiarize trainees with some of the basic principles associated with electricity and electrical circuits. After completing this unit, trainees should be able to explain where electricity comes from, what voltage, current, and resistance are, and how their values can be calculated for various types of circuits. They should be able to explain how electrical circuits are affected by induction inductance, and capacitance.

CST 1204 for .26 Credits

CSTR 3105 AC Circuits: This interactive training unit is designed to familiarize trainees with concepts associated with the operation of AC circuits. After completing this unit, trainees should be able to explain how current flows through AC circuits and how AC current and voltage are affected by inductance and capacitance. They should be able to define true power, reactive power, apparent power, and power factor, and to identify various types of single-phase and three-phase systems.

CST 1205 for .29 Credits

CSTR 3106 Electrical Test Equipment: This interactive training unit is designed to familiarize trainees with the basic operation and use of common types of electrical test equipment. After completing this unit, trainees should be able to explain how to set electrical test equipment to measure properties such as current, voltage, and resistance, how to take readings, and how to interpret readings.

CST 1206 for .27 Credits
**CSTR 3107 Introduction to the NEC:** This interactive training unit is designed to familiarize trainees with the organization and layout of the National Electrical Code. After completing this unit, trainees should be able to use the NEC to locate specific types of information.

CST 1207 for .26 Credits

**CSTR 3108 Raceways:** This interactive training unit is designed to familiarize trainees with various types of raceways used to house electrical wiring. After completing this unit, trainees should be able to describe various types of raceways, including conduit, wire ways, and cable trays. They should also be able to describe procedures for installing raceways in various types of environments.

CST 1208 for .33 Credits

**CSTR 3109 Conductors:** This interactive training unit is designed to familiarize trainees with the construction and use of various types of conductors and cables. After completing this unit, trainees should be able to describe the physical construction of conductors, explain how to determine the electrical capacity of a conductor, identify various types of conductor assemblies, and describe procedures for pulling conductors through conduit.

CST 1209 for .26 Credits

**CSTR 3110 Electrical Diagrams:** This interactive training unit is designed to familiarize trainees with various types of electrical diagrams. After completing this unit, trainees should be able to explain why symbols are used on electrical diagrams, and how to obtain information from a title block and an equipment location index. They should also be able to explain how to use each of the following types of diagrams: block, single line, schematic, wiring, connection, interconnection, and raceway.

CST 1210 for .26 Credits

**CSTR 3111 Electrical Wiring Commercial & Industrial:** This interactive training unit is designed to familiarize trainees with wiring devices and wiring techniques used at commercial and industrial sites. After completing this unit, trainees should be able to identify various types of switches, enclosures, control devices, and receptacles. They should also be able to describe basic techniques for planning and installing branch circuits, mounting boxes, and working with conductors.

CST 1211 for .33 Credits

**CSTR 3112 Electrical Wiring Residential:** This interactive training unit is designed to familiarize trainees with wiring devices and wiring techniques used in residential construction. After completing this unit, trainees should be able to identify various types of switches, boxes, services entrances, enclosures, control devices, and receptacles. They should also be able to describe basic techniques for planning and installing branch circuits, mounting boxes, and working with conductors.

CST 1212 for .36 Credits

**CSTR 3001 Electrical Level I Competency:** This 17 hour competency on the 13 modules for Electrical Level One with a master electrician.

**CSTR 31EL Capstone Electrical Lab:** This 50 hour “hands-on” competency lab serves as a capstone experience for year one of the pre-apprentice curriculum. The trainee will be given a project to complete which will encompass making direct application of all of the level-one electrical modules. The capstone experience will be supervised and critiqued by a Master Electrician.

CST 12EL for 1.82 Credits
Construction Technology

NCCER Electrical Level II

This 13-unit interactive module series provides training for second-year electrician apprentices. The series addresses Motors, Grounding, Cable Trays, Service Entrances, and Electric Lighting and expands on the modules presented in Level I. Trainees are also required to complete a 17 hour competency lab and a 50-hour "capstone lab" experience supervised by a Master Electrician.

Prerequisite Required: Core Curriculum Package
Electrical Level I Package

CSTR 3200 Electrical Level II Package: This 12-unit interactive module series provides training for second-year electrician apprentices. The series addresses Motors, Grounding, Cable Trays, Service Entrances, and Electric Lighting and expands on the modules presented in Level I. Trainees are also required to complete a 17 hour competency lab and a 50-hour "capstone lab" experience supervised by a Master Electrician.
CST 1300 Electrical Level II package for 7.98 credits

CSTR 3201 Alternating Current: This module focuses on forces that are characteristic of alternating current (AC) systems of Ohm's Law to AC Circuits.
CST 1302 for .76 credits

CSTR 3202 Motors: Theory and Application: This module covers both AC and DC motors including the main parts, circuits and connections.
CST 1302 for .76 credits

CSTR 3203 Grounding: The main focus of this interactive training module is grounding and bonding electrical systems. NEC regulations are thoroughly covered.
CST 1303 for .49 credits

CSTR 3204 Conduit Bending: This interactive training module covers all types of bends in all sizes of conduit up to 6 inches. The main focus is placed on mechanical, hydraulic, and electric benders.
CST 1304 for .62 credits

CSTR 3205 Boxes and Fittings: This interactive training module based on the NEC, explains how to select and size outlet boxes, pull boxes, and junction boxes.
CST 1305 for .40 credits

CSTR 3206 Conductor Installations: This interactive training module covers the transportation, storage, and set-up of cable reels, methods of rigging, and covers the procedures for complete cable pulls in raceways and cable tray.
CST 1306 for .40 credits

CSTR 3207 Cable Tray: This interactive training unit focuses on NEMA and NEC installation requirements for cable tray, including modifications and cable installations.
CST 1307 for .60 credits

CSTR 3208 Conductor Terminations and Splices: This interactive training module describes methods of terminating and splicing conductors of all types and sizes, including the preparation and taping of conductors.
CST 1308 for .33 credits

CSTR 3209 Installation of Electric Services: This interactive training module covers the methods and techniques for both single-and three-phase services, including metering equipment and NEC regulations.
CST 1309 for .60 credits

CSTR 3210 Circuit Breakers and Fuses: This module gives complete descriptions of fuses and circuit breakers along with their practical application. The basis of short-circuit calculation is also covered.
CST 1310 for .51 credits

CSTR 3211 Contractors and Relays: This module gives basic descriptions of various types of contractors and relays, along with their practical applications.
CST 1311 for .42 credits

CSTR 3212 Electric Lighting: This module introduces the basic principles of human vision and the characteristics of light. The focus of the module is on the handling and installation of different kinds of lamps (incandescent, fluorescent, and HID) and lighting fixtures (surface-mounted, recessed, suspended and track lighting).
CST 1312 for .42 credits

CSTR 3213 Electrical Competency Lab: This 17 hour competency on the 13 units with a master electrician.

CSTR 32EL Electrical Lab: This 50 hour "hands-on lab" serves as a capstone experience for year two of the apprentice curriculum. The trainee will be given a project to complete which will encompass making direct application of all of the level-two electrical modules. The capstone experience will be supervised by a Master Electrician.
CST 13EL for 1.82 credits
NCCER Plumbing Level I

These 12 modules provide the learner with the introduction to the plumbing craft, math for plumbers, tools of the trade, plumbing drawings, piping classifications, selection, fittings, and assembly. Includes - modules on fixtures, waste and drain systems and covers water distribution systems.

CSTR 5101 Introduction to the Plumbing Trade: This module introduces the trainee to plumbing, starting with the history of plumbing from ancient times to current plumbing training programs. Also covers professional practices, career opportunities, and some basic safety information.

CSTR 5102 Plumbing Tools: Covers the tools that plumbers use in their daily work and need in their toolboxes, including measuring tools, leveling tools, wrenches, pliers, hammers, screwdrivers, vises, saws, pipe cutters, drills, threaders, and soldering equipment.

CSTR 5103 Introduction to Plumbing Math: Trainees will review basic math principles and then move on to plumbing-specific math problems, including calculating pipe lengths, and offsets for 45-degree angles.

CSTR 5104 Introduction to Plumbing Drawings: Trainees will review the blueprints that are included in a building’s plans and then move on to specific plumbing drawings such as isometric and oblique pictorial drawings, orthographic drawings, and schematic drawings. Also covers drawings of fixtures, assembly drawings, and cutaway drawings.

CSTR 5105 Plastic Pipe and Fittings: Describes the various types of plastic piping and fittings; what each is used for; and the measuring, cutting, and joining techniques for each type. Also covers the hangers and supports used with plastic pipe.

CSTR 5106 Copper Pipe and Fittings: Describes the various types of copper piping and fittings; what each is used for; and the measuring, cutting, and joining techniques for each type. Also covers the hangers and supports used with copper pipe.

CSTR 5107 Cast Iron Pipe and Fittings: Describes the two types of cast iron pipe (hub and no-hub); what fittings are used with each; and how each is measured, cut, joined, and assembled. Also covers the hangers and supports used with cast iron pipe.

CSTR 5108 Carbon Steel Pipe and Fittings: Describes carbon steel pipe; fittings used with it; and how it is measured, cut, threaded, joined, and assembled. Also covers the hangers and supports used with carbon steel pipe.

CSTR 5109 Fixtures and Faucets: Covers the various types of fixtures that plumbers install, including sinks and lavatories, bathtubs and showers, water closets and urinals, garbage disposals and dishwashers, and laundry trays and mop basins. Also covers compression and non-compression faucets for sinks and lavatories.

CSTR 5110 Introduction to Drain, Waste, and Vent (DWV) Systems: Gives the trainee an overview of the drain, waste, and vent (DWV) system from inside the building, where the liquid drains into pipes, to the sewer and waste treatment facilities. Covers the basics of traps, drains, vents, DWV fittings, and cleanouts.

CSTR 5111 Introduction to Water Distribution Systems: Gives the trainee an overview of the water distribution system from its source — a municipal water system or a private well — to water treatment and distribution to buildings. Also covers the water distribution system within buildings as well as the basics of valves, fixtures, and faucets.

CSTR 51PL Plumbing Lab: This 50 hour “hands-on” competency lab serves as a capstone experience for year one of the pre-apprentice curriculum. The trainee will be given a project to complete which will encompass making direct application of all of the level-one plumbing modules.
The M-TEC’s Manufacturing Technology programs provide state-of-the-art training in a number of valuable fields. After developing a background of basic knowledge, the specific hands-on modules will prepare students for high-pay, high-demand careers.

Fluid & Air Power Technology

A fluid and air power specialist is a maintenance technician with concentrated interest in hydraulics and pneumatics. The fluid and air power specialist will trouble shoot line down situations and plan preventive maintenance on the hydraulic and pneumatic power sources of industrial systems. A common body of knowledge should include mechanical, computer, programmable logic control technical math and instrumentation. An entry level salary range can be $16.00-$22.00 or higher depending on geographic location.

Hydraulics I, II: The series of courses covers the science that deals with the laws governing water or other liquids in motion and thier applications in partial or applied technology. It will familiarize the student with the theory, concept and modes of operation of hydraulic components. This course is a systems approach to hydraulic circuit development and operation. The course will cover symbols, theory and lab applications. Systems design and troubleshooting takes a student deeper into this technological field. Parker components are used in the advanced series.

Pneumatics I, II: The series of courses will equip the student with the theory, concepts and modes of operation of pneumatic components. This course is a systems approach to air logic circuit development and functionality. The course will cover symbols, theory and lab application. Systems design and trouble shooting takes a student deeper into this technological field. Parker components are used in the advanced series.

Industrial Sensors + 3: The comprehensive training system provides all the components necessary to introduce students to the identification, application and design of sensing systems used in industry. The course offers instruction on limit switches, fiber optics sensors, infrared sensors and proximity sensors. Each learning activity includes an introduction to the components, principles of their use and applications. This versatile training system has been designed to interface with other M-TEC training devices relating to pneumatics, hydraulics, PLC’s and pneumatic robots. Additionally, some components can be used with motors, lighting systems, conveyors, and other available 110 VAC devices. Also to include: Pressure Indicator & Transmitters, Level Indicator & Transmitters and Flow Sensors

Fundamentals of Electrical: The open entry/open exit course covers the science that deals with electrical components and their applications in practical or applied technology. It will familiarize the student with the theory, concept and modes of operation of electrical systems. Course content covers, Ohm’s law, electromagnetism, instrumentation, power supplies, output devices and many other aspects of electrical fundamentals.

Associate In General Technology Degree

You may now use M-TEC credit bearing courses to fulfill any of the 33 electives in the Group V, Applied Arts and Sciences, of the General Technology Associate Degree Program.

All of these courses are structured as Open Entry and do not have structured classes. Students may schedule training time that will fit their needs.

All M-TEC credit bearing courses must be completed by the end of the scheduled semester in which the student has registered for the course.

You must meet with an M-TEC advisor before registering for any M-TEC courses.

NCCER Core Curriculum is now credit bearing and has the course reference number of: CST 1000 (2 credits).
CNC Programmer/Operator

CNC Programmer/Operator: A CNC or Computer Numerical Control machine operator commonly performs the following tasks in the workplace. A CNC operator has competency in mill and lathe machines using G and M codes to calculate programs, edits and make recommendations to engineering. An operator will set fixtures and tools. The operator is responsible for production runs of manufactured components and the measurement of the product must conform to customer specifications. Skills desired are; experience in programming CNC machines, knowledge in geometric dimension and tolerance, blueprint reading, industrial math, precision gages. An understanding of ISO quality systems is beneficial. Salary range can be $14.00 - $18.00 P/H depending on organization and geographic location.

MNFG 2700 Manufacturing Print Reading Basics: To provide participants with hands-on introduction to the art of reading blueprints commonly used in the manufacturing industries. The curriculum starts from basic drawing office practices through simple component drawings and ends with complex system and structural drawings currently used in the manufacturing industries. MNF 1700 for 2 credits

MNFG 5500 Geometric Dimension & Tolerance: Product engineering drawings are the primary means of communicating design requirements and true functional limits of acceptable part geometry. To ensure uniform interpretation of all drawings, each user must have a common understanding of all symbols on the drawing. This course focuses on the principles of geometric tolerance and how it complements conventional tolerance; stack up tolerances, Tolerance of Position (TOP) Controls, Concentricity and Symmetry Controls, Run out Controls, and Profile Controls. GD&T techniques are described according to the definition in the ASME Standards and through application examples in various drafting standards. Classroom exercises provide participants with opportunities to become conversant in the GD&T language by converting design requirements into symbol form and performing geometric tolerance calculations. This course is designed for a small team to work on an actual production or in-design product. MNF 1900 for 2 credits  DRF 105 Equivalent

MNFG 9300 Statistical Process Control: Statistical Process Control (SPC) is a method of monitoring, controlling and, ideally, improving a process through statistical analysis. Its four basic steps include measuring the process, eliminating variances in the process to make it consistent, monitoring the process, and improving the process to its best target value. MNF 2000 for 2 credits

MNFG 5603 Manual Mill/Lathe: Basic Milling Procedures: Covers the setup and use of the horizontal milling machine, and describes the functions of basic cutters and attachments. Uses “hand-on” projects so trainees actually gain experience on the milling machine. Includes, a component project that can have practical value in the shop when finished. Competency is demonstrated by machining a component to industry standards. Machine Shop Turning Operations: Covers the major types of lathes and their attachments, safety, maintenance, job preparation and basic lathe operations. Discusses all facets of drilling and boring, types of drills and drill presses, and job bores. Explains reaming and reamer terms. Covers threads and threading. Competency is demonstrated by machining a component to industry standards. MNF 2100 for 2 credits

MNFG 6500 Introduction to CNC Programming: This is a self-paced comprehensive training module in which the student will be introduced to CNC programming codes using the EMCO PC Mill 50 CNC machine and FANUC 0 software. This course will familiarize the student in learning G and M codes, translating print drawings into CNC programming codes, become familiar with general CNC principles and its functions. This is a pre-requisite to MNFG 6501 CNC Programming. Training manual is included in this course. MNF 2200 for 2 credits  IND 113 Equivalent
MNFG 6501 Intermediate CNC Programming: Pre-Requisite: Introduction to CNC Programming. Students will be introduced to the HAAS Model VF 1 Machine Center and its functions. Coursework will include textbook, supporting workbook, and supplemental video instruction in CNC operation. Students will gain sufficient knowledge in the structure and operation of the Haas and Mazak CNC machines. Students will perform a number of structured exercises until they become competent in the programming and operation of these machines. Final project will require the student to design their own machined part drawing with supporting documentation and tolerances to be inspected by the Subject Matter Expert before actual machining is to be done
MNF 2300 for 4 credits  IND 116 Equivalent

MNFG 2400 CNC Machine Tool Practices: This course is designed to offer the student a complete breakdown of machine tool practices. Using the textbook in association with its project oriented workbook, students will gain knowledge in shop safety, hand tools, dimensional measurement and how to accurately use precision tools, understanding and identification of materials, layout practices, preparation for machining operations, sawing machines, drilling machines, turning machines, vertical milling machines, horizontal spindle milling machines, grinding processes, and computer numerical control processes. (2 CD’s on gages)
MNF 1800 for 3 credits

Note: This is the minimum core curriculum required. You have the option to select the following (or any other) course(s) available to enhance your CNC skills and/or your employment opportunities:

*Note: Any optional course(s) added to the above curriculum will result in an increase of tuition for the cost of selected optional course(s) and any book charges incurred.

MNFG 2100 Fundamentals of Pneumatics: The open entry/open exit course will familiarize the student with the theory, concepts and modes of operation of pneumatic components. This course is a systems approach to air logic circuit development and functionality. The course will cover symbols, theory and lab application.
MNF 1000 for 3 credits

MNFG 4200 Fundamentals of Hydraulics: The open entry/open exit course covers the science that deals with the laws governing water or other liquids in motion and their applications in partial or applied technology. It will familiarize the student with the theory, concept and modes of operation of hydraulic components. This course is a systems approach to hydraulic circuit development and operation. The course will cover symbols, theory and lab application.
MNF 1200 for 3 credits

MNFG 5401 Basic Application of Industrial Sensors: This course will introduce the students in the identification, application, and design of sensing technologies used in today’s industry. This course offers instruction using fiber optic sensors, infrared sensors, proximity sensors, and limit switches. This is a comprehensive course that progresses the student through the identification of sensor components, their principles, applications, and functionality of these sensors by mean of theory and concept and hands-on lab applications. (Pressure Indicator & Transmitters, Level Indicator & Transmitters and Flow Sensors.)
MNF 1500 for 2 credits

MNFG 2210 Basic Introduction to Robotics: This open Entry/Open Exit course will familiarize the student with the basic function and operation of the MICROBOT TeachMover II Robot and its axes of motion. This course introduces the student in basic programming using the MICROBOT’s teach pendant to operate the pick & place robot, the auxiliary turntable and numerous outputs by performing a variety of “hands-on” lab exercises.
MNF 1600 for 2 credits
Manufacturing Technologies

Electronics Technician

Electronic Technicians assemble, install, maintain, and repair electronic devices and equipment. Such electronic devices and equipment include a broad range of industrial, business, communications, and consumer products ranging from missile, radar, and automotive control systems; to computer-assisted design and drafting (CADD) machinery; to personal computers and the routers and switches that direct Internet traffic; to public transportation signaling systems; to telephones, fax machines, and pagers; to radios, televisions, and home entertainment systems; to children's toys. Often working under the direction of more formally educated electronic engineers, computer engineers, and others, electronics technicians in all fields are the essential workers who help keep the American economy innovative and productive. Salary range can be $15.00 - $17.00 P/H depending on organization and geographic location.

MNFG 1510 Safety: Safety and health add significant value to the bottom line of a business. The benefits extend to employees and employers, businesses and communities, government and private industry alike. Safety and health management systems significantly reduce both the extent and severity of work-related injuries and illnesses. They also empower employers and employees alike to focus on growing a successful business while enjoying healthy and fulfilling lives. This course supports the OSHA philosophy.

MNFG 7500 Basic Electrical Theory: The course covers basic rules for AC/DC circuits including how Kirchoff’s laws are applied to circuit analysis. Students will be exposed to a comprehensive, systematic approach to the study and application of basic operations of electrical circuits. Activities include inductive troubleshooting, safe circuit operation, analyzing electronic components and circuits.

MNF 1300 for 3 credits

MNFG 8800 Electronics: This course covers Basic Electronic Components & Their Measurements, Electronic Circuits, Electronic Maintenance, and Digital Electronics.

MNFG 3300 Programmable Logic Controllers: The hands-on training allows students to develop competence in operating, programming, and troubleshooting an actual industrial programmable logic controller. The hardware in combination with a student manual creates a curriculum that begins with basic wiring concepts and continues incorporating circuits, ladder logic, programming, and troubleshooting. Additionally, the trainer can be combined with other products relating to hydraulics, pneumatics, sensors, and pneumatic robots. The course through intensive hands-on activity will help the student rapidly attain an understanding of PLC use, as well as programming competency.

MNF 1100 for 3 credits

MNFG 8000 Motor & Motor Controls: These maintenance training courses form a learning resource, which will enable students to understand the fundamentals of Motor controls. This course is designed to familiarize the student with the subject of basic controls, overload and time delay relays, schematic symbols, wiring diagrams; starting methods for squirrel cage, Wye-delta, synchronous, and wound rotor controls and installing and troubleshooting techniques.

MNFG 8100 Motor Drives: This series of courses forms a learning resource which will enable students to understand the fundamentals of Motor Drives. This six-part series is designed to familiarize the student with the fundamentals of motor drive operation and setup. The programs also offer in-service maintenance personnel the opportunity to review basic information.

MNFG 8500 Wiring: This series of courses forms a learning resource which will enable the student to understand the fundamentals of Wiring. The topics in this course are: Industrial Electricity; Conductors, Wiring and Installation, Distribution & Lighting.

MNFG 8700 Electrical Control Systems: This course will enable the student to understand the fundamentals of Mechanical Electrical Control Systems. The topics in the course include: Intro to Control Schematics, Creating Schematic, Electrical Lockout, Design & Troubleshooting, Energy Management and Electronic Controls.

MNFG 5401 Basic Application of Industrial Sensors: This course will introduce the students in the identification, application, and design of sensing technologies used in today’s industry. This course offers instruction using fiber optic sensors, infrared sensors, proximity sensors, and limit switches. This is a comprehensive course that progresses the student through the identification of sensor components, their principles, applications, and functionality of these sensors by mean of theory and concept and hands-on lab applications. (Includes: Pressure Indicator & Transmitters, Level Indicator & Transmitters, and Flow Sensors)

MNF 1500 for 3 credits
Maintenance Technology

Maintenance Technicians are responsible for the installation, maintenance, troubleshooting and repair of several types of industrial machinery. The Maintenance Technician must be competent in installation, scheduling and performing maintenance, troubleshooting and repair of various types of industrial systems such as: pneumatics, hydraulics, industrial sensors, electrical/electronic systems, mechanical and industrial drive systems, programmable logic control systems, and robotics (automated systems). Salary range can be $14.00 - $23.00 or higher depending on geographic location.

MNFG 2100 Fundamentals of Pneumatics: The open entry/open exit course will familiarize the student with the theory, concepts and modes of operation of pneumatic components. This course is a systems approach to air logic circuit development and functionality. The course will cover symbols, theory and lab application.

MNFG 4200 Fundamentals of Hydraulics: The open entry/open exit course covers the science that deals with the laws governing water or other liquids in motion and their applications in partial or applied technology. It will familiarize the student with the theory, concept and modes of operation of hydraulic components. This course is a systems approach to hydraulic circuit development and operation. The course will cover symbols, theory and lab application.

MNFG 4901 Industrial Drives & Mechanisms: This module is for students who wish to gain basic knowledge in the use of industrial drives and mechanisms. Students will familiarize themselves with various types of industrial drives and mechanical components, and their applications in practical and applied technology through both theory and concept and hands-on lab applications. (Includes 6 Industrial Drive CD's.)

MNFG 7500 Basic Electrical Theory: The course covers basic rules for AC/DC circuits including how Kirchhoff's laws are applied to circuit analysis. Students will be exposed to a comprehensive, systematic approach to the study and application of basic operations of electrical circuits. Activities include inductive troubleshooting, safe circuit operation, analyzing electronic components and circuits.

MNFG 3300 Programmable Logic Controllers: The hands-on training allows students to develop competence in operating, programming, and troubleshooting an actual industrial programmable logic controller. The hardware in combination with a student manual creates a curriculum that begins with basic wiring concepts and continues incorporating circuits, ladder logic, programming, and troubleshooting. Additionally, the trainer can be combined with other products relating to hydraulics, pneumatics, sensors, and pneumatic robots. The course through intensive hands-on activity will help the student rapidly attain an understanding of PLC use, as well as programming competency.

MNFG 5401 Basic Application of Industrial Sensors: This module will introduce the students in the identification, application, and design of fiber optic sensing technologies used in today's industry. Students will become familiar with various fiber optic sensing units, limit switches, and their applications in practical and applied technology through both theory and concept and hands-on lab applications. (Pressure Indicator & Transmitters, Level Indicator & Transmitters and Flow Sensors.)

MNFG 2210 Basic Introduction to Robotics: The course will familiarize the student with the basic function and operation of the MICROBOT TeachMover II Robot and its axis of motion. Students will learn the basic principles of programming using the MICROBOT's teach pendant to program the robot to perform specified tasks to operate the pick and place robot, auxiliary turntable device, and numerous outputs. (Includes: Time Delay Relays, Variable Speed AC Drivers and Servo Stepper Motors)

MNFG 1300 for 3 credits

MNFG 1200 for 3 credits

MNFG 1400 for 3 credits

MNFG 1500 for 2 credits

MNFG 1600 for 2 credits
Principles of Quality Control

A quality control technician will perform sampling and inspection of all incoming material purchased from vendors in accordance with established specifications and standards. They monitor and verify component production and completed assembly product against purchase orders, work orders, engineering drawings and process specifications. A technician documents all quality audit results, including any deviations from standards and works with engineering to initiate drawing changes and assures dimensional call-outs are measurable. They must be familiar with precision measurement gages a working understanding of statistical process control is desirable. Salary range can be $14.00-$20.00 P/H depending on organization and geographic location.

MNFG 2400 CNC Machine Tool Practices: The course is designed to meet the needs of production personnel, process technicians, quality assurance specialists, and others requiring an understanding of metrology. Many of the terms used are explained or defined throughout the course, so the students are not required to have an extensive technical vocabulary to understand the content. Students will gain hands on experience with a wide assortment of quality assurance resources including micrometers, optical comparator, calipers and Go/No go gages.
MNF 1800 for 3 credits

Internal Auditing QS/ISO: This course will provide the student with the skills required to carry out the internal auditing process within ISO certified quality systems. The course issues a certificate when satisfactorily completed. (This is a certificate bearing workshop)

MNFG 5500 Geometric Dimension & Tolerance: Product engineering drawings are the primary means of communicating design requirements and true functional limits of acceptable part geometry. To ensure uniform interpretation of all drawings, each user must have a common understanding of all symbols on the drawing. This course focuses on the principles of geometric tolerance and how it complements conventional tolerance, stack up tolerances, Tolerance of Position (TOP) Controls, Concentricity and Symmetry Controls, Runout Controls, and Profile Controls. GD&T techniques are described according to the definition in the ASME Standards and through application examples in various drafting standards. Classroom exercises provide participants with opportunities to become conversant in the GD&T language by converting design requirements into symbol form and performing geometric tolerance calculations. This course is designed for a small team to work on an actual production or in-design product.
MNF 1900 for 2 credits  DRF 105 Equivalent

M-TEC offers open entry/open exit courses to fit your schedule. Sign up today and start your training tomorrow!
This 12-unit series (combined with the Core Curricula and Electrical Level I Curricula) provides training for electrician first-year apprentices. The series addresses safety, basic equipment, wiring, and NEC regulations. Trainees are also required to complete a 17-hour competency and a 50-hour “capstone lab” experience supervised by a Master Electrician. Additional responsibilities of an electrician may include installing, maintaining, and repairing electrical wiring, equipment, machines and fixtures. An electrician’s role is to insure that electrical work is in accordance with relevant codes. The electrician may install or service high and low voltage systems, or electrical control systems. Salary range can be $14.00 - $23.00 or higher depending on geographic location.

**MNFG 2210 Basic Introduction to Robotics:** The open-entry/open-exit course covers the technology that deals with pneumatic robotic components, programming maneuvers, work envelope, rotary actuators and their applications in practical or applied technology. This training will familiarize the student with the theory, concept and modes of operation as they relate to elevation and grip, reach and grip, base rotation, control valves and selecting and running a program up to 2000 steps. The theory is enhanced through lab exercises. (Includes: Time Delay Relays, Variable Speed AC Drives, and Servo & Stepper Motors)

**MNFG 3300 Programmable Logic Controllers:** The hands-on training allows students to develop competence in operating, programming, and troubleshooting an actual industrial programmable logic controller. The hardware in combination with a student manual creates a curriculum that begins with basic wiring concepts and continues incorporating circuits, ladder logic, programming, and troubleshooting. Additionally, the trainer can be combined with other products relating to hydraulics, pneumatics, sensors, and pneumatic robots. The course through intensive hands-on activity will help the student rapidly attain an understanding of PLC use, as well as programming competency.

**MNF 1100 for 3 credits**
Robotics

Robotics Technologists or Technician design, develop, and manufacture robots for all industry sectors. Robots are used in a variety of industry from manufacturing to space. Robotic Technologists use their computers to design the robot. They assemble the robot, and then test it to make sure that it conforms to the task at hand. Technicians can program robotic maneuvers within the work envelope. Train new employees and troubleshoot system malfunctions. They often work side by side to the plant electrician or manufacturing engineer. Salary range can be $14.00 - $20.00 P/H depending on organization and geographic location.

MNFG 4200 Fundamentals of Hydraulics: This open entry / open exit course covers the science that deals with the laws governing water or other liquids in motion and their applications in practical or applied technology. It will familiarize the student with the theory, concept and modes of operation of hydraulic components. This course is a systems approach to hydraulic circuit development and operation. The course will cover symbols, theory and lab application. MNF 1200 for 3 credits

MNFG 2100 Fundamentals of Pneumatics: This open entry / open exit course will familiarize the student with the theory, concepts and modes of operation of pneumatic components. This course is a systems approach to air logic circuit development and functionality. The course will cover symbols, theory and lab application. MNF 1000 for 3 credits

MNFG 3300 Programmable Logic Controllers: This hands-on training allows students to develop competence in operating, programming, and troubleshooting an actual industrial programmable logic controller. The hardware in combination with a student manual creates a curriculum that begins with basic wiring concepts and continues incorporating circuits, ladder logic, programming, and troubleshooting. MNF 1100 for 3 credits

MNFG 5401 Basic Application of Industrial Sensors: (Was Industrial Sensors + 3) This course will introduce the students in the identification, application, and design of sensing technologies used in today’s industry. This course offers instruction using fiber optic sensors, infrared sensors, proximity sensors, and limit switches. This is a comprehensive course that progresses the student through the identification of sensor components, their principles, applications, and functionality of these sensors by mean of theory and concept and hands-on lab applications. (Includes: Pressure Indicator & Transmitters, Level Indicator & Transmitters and Flow Sensors) MNF 1500 for 2 credits

MNFG 2210 Basic Introduction to Robotics: This open entry / open exit course covers the technology that deals with pneumatic robotic components, programming maneuvers, work envelope, rotary actuators and their applications in practical or applied technology. This training will familiarize the student with the theory, concept and modes of operation as they relate to elevation and grip, reach and grip, base rotation, control valves and selecting and running a program up to 2000 steps. The theory is enhanced through lab exercises. (Includes: Time Delay Relays, Variable Speed AC Drivers and Servo & Stepper Motors) MNF 1600 for 2 credits

MNFG 7500 Basic Electrical Theory: The course covers basic rules for AC/DC circuits including how Kirchoff’s laws are applied to circuit analysis. Students will be exposed to a comprehensive, systematic approach to the study and application of basic operations of electrical circuits. Activities include inductive troubleshooting, safe circuit operation, analyzing electronic components and circuits. MNF 1300 for 3 credits
BUSINESS & INDUSTRY
Customized Training

- Has your business recently upgraded or changed computer software?
- Does your business or organization have a common training need?
- Is your employee group going through a major operational change?
- Do you need supervisory skills training?

If the answer to any of these questions is yes, we can help! We will work in partnership with you to provide Customized Training to meet your organization’s needs.

Call Karen Kleinhardt at:
989-386-6629
For More Information

- Workforce Training
- Community Education
- Customized Training

Benefits of Customized Training

- You choose the time, dates and location
- Professional training to meet your needs
- Flexible
- Low cost per participant

Additional Programs to Assist Business & Industry

State Training Funds
The Michigan Economic Development Job Training Fund offers assistance to grow companies who offer competitive wages to their employees.

Visit us on the web at:
http://www.midmich.edu/mtec/B.I.D.C.htm

M-TEC Customers and Partners

- Advanced Engineering
- AVT
- Bandit Industries
- Central Michigan Community Hospital
- CME/Mitsuba
- Delfield Company, The
- DeShano Construction
- Dura Automotive
- FED Corporation
- Federal Broach
- Filcon
- Future Mold
- Hillsdale Tool
- Huhtamaki
- Isabella County Medical Care Facility
- ITW Foils
- Kyle Manufacturing
- Lear Corporation
- Lyle Industries
- Martinrea International
- Melling Products
- Michael Engineering
- Mid Michigan Industries
- Mid Michigan Regional Medical Center
- Morbark Industries
- North Woods Nursing Center
- Packaging Direct
- Pittsburg Plate Glass
- Prescott Products
- Renosol Corporation
- RWP
- Saginaw Chippewa Indian Tribe
- Saint-Gobain Performance Plastics
- StageRight Inc.
- T. B. Woods
- Unified Brands
- Vantage Plastics
- Wolfe Enterprises
Q. What is the MI-SBTDC™?
A. The Michigan Small Business & Technology Development Center is a statewide network of 12 regional offices providing services and support to the Michigan small business community in the areas of counsel, training, research, and advocacy.

Q. Who does the MI-SBTDC serve?
A. MI-SBTDC clients range from existing small businesses, new ventures and expanding companies to new technology companies, including IT, life sciences, advanced manufacturing, and innovators.

Q. What types of services does the MI-SBTDC provide?
A. Counseling
One-on-one meetings with experienced business consultants to assist small business owners with:
• Business plan for financing guidance
• Defining and quantifying marketing initiatives
• Developing sales strategies

Training
Workshops, seminars and full training programs help entrepreneurs learn about topics such as:
• How to start a small business
• Cost effective marketing and sales techniques
• Business plan development, financial, marketing, legal aspects, etc.

Q. What is the MI-SBTDC™?
A. The MI-SBTDC is funded through a cooperative agreement with the US. Small Business Administration (SBA) and matching funds from local network partners in each region.

This Cooperative Agreement is partially funded by the U.S. Small Business Administration. SBA’s funding is not an endorsement of any products, opinions, or services. All SBA funded programs are extended to the public on a nondiscriminatory basis and available to individuals with disabilities.
### III. ACADEMIC PROGRAMS

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Mid Michigan Community College offers one-year certificates and two-year associate degrees. Also available are transfer programs, career programs, and general studies programs.

Transfer programs are planned for students intending to transfer credits earned at Mid Michigan Community College to baccalaureate-degree-granting institutions. The College offers the first two years of many four-year programs. Transfer guides for many institutions are available in the counseling/advising office at both MMCC campus locations. However, students planning to transfer are strongly encouraged to consult early with the transfer receiving institution for specific course selection.

The College is a signator to the Michigan Association of Collegiate Registrars and Admissions Officers agreement (MACRAO). Students may meet requirements without obtaining an Associates degree. See page 51 in this catalog for detailed information.

Career programs are designed to provide students with the necessary skills and related knowledge to qualify for skilled, technical, and semi-professional positions in business, industry, and the allied health fields.

General studies programs are designed to allow students not necessarily planning to transfer to a four-year institution an opportunity to receive educational experiences in a variety of subject-matter areas.

In addition to the above programs, Mid Michigan Community College offers a variety of continuing education and community service courses, workshops, and seminars.

### GENERAL EDUCATION REQUIREMENTS

In August of 1993 the MMCC Board of Trustees approved a new General Education program that reflects the college’s commitment to providing our students with a first-class education to meet the challenges of tomorrow. Any student who enrolls in an associate degree program at MMCC is required to fulfill the competencies of the General Education program. General Education requirements may be met by completing the required course work, meeting equivalent competency (as stated below) or through Credit by Examination.

Students may not register for 200 Level General Education Core courses until all of the 100 Level competencies are met. Students should consult with counselors or faculty advisors to plan their academic program.

All students entering MMCC from summer 1993 session and beyond must meet the General Education Requirement.

**LEVEL I**: CIS 100, ENG 111, MAT (as specified on the degree) & SPE 101 or 257

**LEVEL II**: HUM 200, SCI 200, and SSC 200
Prerequisites: LEVEL I General Education courses

SCI 200 -or- 8 hrs in Science; 1 of which is a natural science & 1 in physical science (one class with lab required)

SSC 200 -or- 9 hrs in 2 Social Science disciplines.

HUM 200 -or- 9 hrs of Humanities with at least 3 credits at 200 level -or- 6 hrs of Humanities & 3 hrs Fine Arts one of which is at the 200 level

Students who transfer to MMCC after completing a degree at an accredited institution will be given the following exemptions:

1. From a Two-Year Institution: Students transferring to MMCC with a two-year degree from an accredited institution will be exempt from 100 Level General Education requirements. 200 Level requirements will be determined in the transcript evaluation process.

2. From a Four-Year Institution: Students transferring to MMCC with a four-year degree from an accredited institution will be exempt from both the 100 and 200 Level General Education requirements.

Assessment of student academic achievement is an institutional requirement and may be required in General Education courses.
**DISTRIBUTION GROUPS**

All regular college courses offered by Mid Michigan Community College which apply toward associate degrees and certificate programs are arranged into Distribution Groups. Many of the programs specify a certain number of prescribed and elective courses in the various groups.

The groups are as follows:

I  **Communication Skills**  
   English 101, 110,111, 222, 225, Journalism, Speech

II  **Science and Mathematics**  
   **Mathematics**: Mathematics  
   **Natural Science**: Biology, Environmental Science  
   **Physical Science**: Chemistry, Computer Science, Geology, Physical Science, Physics, Science

III  **Social Science**  
   Anthropology, Economics, Geography, History 211, 212, 223, 251, 252, Political Science, Psychology, Social Science, Sociology

IV  **Humanities and Fine Arts**  
   **Fine Arts**: Art, Music, Theatre (except MUS 275, TAI 275)  
   **Humanities**: English 112, 201, 202, 205, 206, 211, 212, 213, 281, French, German, History 101, 102, Humanities, Japanese, MUS 275, Native American Language, Philosophy, Spanish, TAI 275

V  **Applied Arts & Sciences**  

VI  **Health/Physical Education**  
   Health Education, Physical Education

VII  **Education**  
   Elementary Education, Secondary Education

**MACRAO AGREEMENT**

The College is a signator of the Michigan Association of Collegiate Registrars and Admissions Officers Agreement (MACRAO), which allows students completing the MACRAO requirements to transfer into 4-year institutions which are also signators* with 30 hours of general education requirements met.

To satisfy MACRAO requirements at Mid Michigan Community College, students must complete:

1. ENG 111 and ENG 222;
2. Eight hours of science and mathematics (Group II) electives in more than one discipline, with one course being a laboratory science. CPS and MAT courses do not fulfill laboratory requirements;
3. Eight hours of social sciences (Group III) electives in more than one discipline; and
4. Eight hours of humanities and fine arts (Group IV) electives in more than one discipline.

**AND**

At Least 12 of these credit hours must be taken at MMCC

Students graduating with an Associate in Arts, Associate in Science, or Associate in Business Administration transfer degrees will automatically have the statement "MACRAO Requirements Satisfied" affixed to their transcripts provided they have filled the courses required on these programs.

Students not graduating, or graduating with a degree other than arts or sciences who wish to have their transcripts reflect that they have met MACRAO requirements must request in writing on the "Application for Graduation" form that this be done.

*Some signators have qualifications to the MACRAO agreement. Transfer students are advised to check with their transfer receiving institution for specific course selection.

**CANCELLATION OF COURSES AND PROGRAMS**

The courses and programs listed in this publication generally represent those presently available through Mid Michigan Community College; however, new courses are being developed continuously and occasionally unavoidable circumstances necessitate the removal of courses and programs from the College’s current offerings. In addition, not all courses and programs are available during any given semester. Please check the College’s current schedule for offerings.
The transfer programs offered in the Arts and Sciences Division provide a foundation for further study toward the baccalaureate degree at four-year institutions through Associate in Arts and Associate in Science degree programs. These programs have been carefully designed for students wishing to pursue the first half of the baccalaureate degree at Mid Michigan Community College.

After completion of the associate degree, students will transfer to the four-year institution. Students are encouraged to select the four-year institution into which they wish to transfer as early as possible. Then, working with Mid Michigan Community College counselors, they can carefully check to make sure the degree requirements of the four-year school are being met.
You, as a student, are responsible for meeting requirements for your curriculum. Your advisor is available for consultation. At least 12 of these credit hours must be taken at MMCC. A minimum of 62 credits is required to complete this program.

**LEVEL I General Education Requirements:** CIS 100, MAT, ENG 111 and SPE 101-or-SPE 257

**LEVEL II General Education Requirements:**
- Humanities, Science, Social Sciences

**Communication Skills (Group I) - 9 credit hours**
- ENG 111* † (3) Freshman English Composition
- ENG 222* † (3) Expository Writing & Research
- SPE 101* (3) Fundamentals of Communication OR SPE 257 (3) Public Speaking

**Science and Mathematics (Group II) - 12 credit hours**
- Natural or Physical Science
- MAT 105 (or higher) *
- Elective (2-4) Group II
- SCI 200 † (3) Science, Technology & Society

**Social Sciences (Group III) - 15 credit hours**
Electives (15) 15 hrs in 2 Social Science disciplines.

**Humanities and Fine Arts (Group IV) - 12 credit hours**
Electives (12)
12 hrs of Humanities with at least 3 credits at the 200 level OR 9 hrs of Humanities & 3 hrs Fine Arts, with at least 3 credits at the 200 level.

**Applied Arts and Sciences (Group V) - 3 credit hours**
- Required: CIS 100 † (3) Intro to Information Processing Systems

**Electives - 11 credit hours**
- Electives (11) Groups I, II, III, IV and VI.
- Student may earn no more than 2 credit hrs in Group VI.

*Most universities require demonstrated competency by completing these courses with a grade of “C” or better.

† Prerequisite required - see course description
## Associate in Arts Degree

### Communication Studies

You as a student are responsible for meeting requirements for your curriculum. Your advisor is available for consultation. At least 12 of these credit hours must be taken at MMCC. A minimum of 62 credits is required to complete this program.

**LEVEL I General Education Requirements:** CIS 100, MAT, ENG 111 and SPE 101-or-SPE 257

**LEVEL II General Education Requirements:** Humanities, Science, Social Sciences

**Communication Skills (Group I) - 24 credit hours**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENG 111*</td>
<td>(3)</td>
</tr>
<tr>
<td>ENG 222*</td>
<td>(3)</td>
</tr>
<tr>
<td>SPE 101*</td>
<td>(3)</td>
</tr>
<tr>
<td>SPE 257</td>
<td>(3)</td>
</tr>
<tr>
<td>SPE 251</td>
<td>(3)</td>
</tr>
<tr>
<td>SPE 253</td>
<td>(3)</td>
</tr>
<tr>
<td>SPE 264</td>
<td>(3)</td>
</tr>
<tr>
<td>SPE XXX</td>
<td>(6)</td>
</tr>
</tbody>
</table>

*(see * for selections)*

**Science and Mathematics (Group II) - 9 credit hours**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Natural or Physical Science Mathematics (105 or higher)*</td>
<td></td>
</tr>
<tr>
<td>SCI 200</td>
<td>(3)</td>
</tr>
</tbody>
</table>

**Social Sciences (Group III) - 9 credit hours**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>SSC 200</td>
<td>(3)</td>
</tr>
<tr>
<td>PSY 101</td>
<td>(3)</td>
</tr>
<tr>
<td>Elective</td>
<td>(3)</td>
</tr>
</tbody>
</table>

**Humanities and Fine Arts (Group IV) - 9 credit hours**

(minimum of two disciplines)

<table>
<thead>
<tr>
<th>Course</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>CIS 100</td>
<td>† (3) Intro to Information Processing Systems</td>
</tr>
<tr>
<td>SPE 195</td>
<td>(3)</td>
</tr>
<tr>
<td>SPE 261</td>
<td>(3)</td>
</tr>
<tr>
<td>SPE 263</td>
<td>(3)</td>
</tr>
<tr>
<td>SPE 265</td>
<td>(3)</td>
</tr>
<tr>
<td>SPE 267</td>
<td>(3)</td>
</tr>
<tr>
<td>SPE 270-279†</td>
<td>(1-6)</td>
</tr>
<tr>
<td>SPE 285</td>
<td>† (1-3)</td>
</tr>
<tr>
<td>SPE 290</td>
<td>† (1-3)</td>
</tr>
</tbody>
</table>

*Most universities require demonstrated competency by completing these courses with a grade of “C” or better.*

† Prerequisite required - see course description

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**Applied Arts and Sciences (Group V) - 3 credit hours**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>CIS 100</td>
<td>† (3)</td>
</tr>
<tr>
<td>SPE XXX</td>
<td>Communication Studies Electives</td>
</tr>
<tr>
<td>SPE 195</td>
<td>(3)</td>
</tr>
<tr>
<td>SPE 261</td>
<td>(3)</td>
</tr>
<tr>
<td>SPE 263</td>
<td>(3)</td>
</tr>
<tr>
<td>SPE 265</td>
<td>(3)</td>
</tr>
<tr>
<td>SPE 267</td>
<td>(3)</td>
</tr>
<tr>
<td>SPE 270-279†</td>
<td>(1-6)</td>
</tr>
<tr>
<td>SPE 285</td>
<td>† (1-3)</td>
</tr>
<tr>
<td>SPE 290</td>
<td>† (1-3)</td>
</tr>
</tbody>
</table>

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**Electives - 8 credit hours**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electives</td>
<td>(8) Groups I, II, III, IV, or V</td>
</tr>
</tbody>
</table>

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**Special Topics in Communication**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPE 270-279†</td>
<td>(1-6)</td>
</tr>
<tr>
<td>SPE 285</td>
<td>† (1-3)</td>
</tr>
<tr>
<td>SPE 290</td>
<td>† (1-3)</td>
</tr>
</tbody>
</table>
Associate in Applied Science Degree
Graphic Design

You, as a student, are responsible for meeting requirements for your curriculum. Your advisor is available for consultation. At least 12 of these credit hours must be taken at MMCC. A minimum of 66 credits is required to complete this program.

LEVEL I General Education Requirements: CIS 100, MAT, ENG 111 and SPE 101-or-SPE 257

FIRST SEMESTER (Fall) - 18 credit hours
ART 105 (3) Drawing I - Introductory
ART 115 (3) Design I
ART 135 (3) Graphic Design I
CIS 100 † (3) Introduction to Information Processing Systems
ENG 111 † (3) Freshman English Composition
HUM 101 (3) World of Creativity I

SECOND SEMESTER (Winter) - 18 credit hours
ART 205 † (3) Drawing II
ART 215 † (3) Design II
ART 235 † (3) Graphic Design II
ART 211 (3) Page Layout I
HUM 102 (3) World of Creativity II
SPE 101 (3) Fundamentals of Communication OR SPE 257 (3) Public Speaking

LEVEL II General Education Requirements: Humanities, Science, Social Sciences

THIRD SEMESTER (Fall) - 18 credit hours
ART 110 (3) Basic Photography
ART 130 (3) Painting I
ART 210 † (3) Illustration
ART 236 † (3) Graphic Design III
ART 239 † (3) Page Layout II
MAT 101 (3) Basic Mathematics

FOURTH SEMESTER (Winter) - 12 credit hours
ART 240 † (3) Studio Problems in Graphic Design
SSC 200 † (3) The Social Sciences & Contemporary America
SCI 200 † (3) Science, Technology & Society

Elective (3) Choose ONE from the following:
ART 237 † (3) Photography II
ART 281 † (3) Internship II
ART 282 † (3) Internship II
ART 220 † (3) Figure Drawing I
ART 230 † (3) Painting II
BUS 231 (3) Principles of Advertising
DRF 120 (3) Introduction to Auto CAD
CIS 135 † (3) Intro to Website Design & Management

† Prerequisite required - see course description

Associate in Arts Degree
Theatre

You, as a student, are responsible for meeting requirements for your curriculum. Your advisor is available for consultation. At least 12 of these credit hours must be taken at MMCC. A minimum of 62 credits is required to complete this program.

LEVEL I General Education Requirements: CIS 100, MAT, ENG 111 and SPE 101-or-SPE 257

LEVEL II General Education Requirements: Humanities, Science, Social Sciences

Communication Skills (Group I) - 9 credit hours
ENG 111* † (3) Freshman English Composition
ENG 222* † (3) Expository Writing & Research
SPE 101* † (3) Fundamentals of Communication OR SPE 257 (3) Public Speaking

Science and Mathematics (Group II) - 9 credit hours
Elective (3) Group II Mathematics † (105 or higher)*
SCI 200 † (3) Science, Technology & Society

Social Sciences (Group III) - 9 credit hours - (minimum of two disciplines)
Electives (6) Group III
POL 201 (3) Intro to American Government

Humanities and Fine Arts (Group IV) - 24 credit hours
HUM 101 (3) World of Creativity I
HUM 102 (3) World of Creativity II
MUS XXX (5) MUS Elective
TAI 277 (4) Stagecraft and Stagelighting
TAI 287 (3) Costuming
Electives (6) TAI 204, 205, 206, 207, 208 only

Applied Arts and Sciences (Group V) - 3 credit hours
Required: CIS 100 † (3) Intro to Information Processing Systems

Electives - 8 credit hours
Electives (8) Groups I, II, III, IV and VI.
ART is highly recommended, especially for those interested in costume or scene design.
Students may earn no more than 2 credit hours in Group VI.

*Most universities require demonstrated competency by completing these courses with a grade of “C” or better.

† Prerequisite required - see course description
Associate in Arts Degree

You, as a student, are responsible for meeting requirements for your curriculum. Your advisor is available for consultation. At least 12 of these credit hours must be taken at MMCC. A minimum of 62 credits is required to complete this program.

LEVEL I General Education Requirements: CIS 100, MAT, ENG 111 and SPE 101-or-SPE 257

LEVEL II General Education Requirements: Humanities, Science, Social Sciences

Communication Skills (Group I) - 9 credit hours
ENG 111* † (3) Freshman English Composition
ENG 222* † (3) Expository Writing & Research
SPE 101* (3) Fundamentals of Communication OR SPE 257 (3) Public Speaking

Science and Mathematics (Group II) - 9 credit hours
Elective (3) Group II
Mathematics (105 or higher) *
SCI 200 † (3) Science, Technology & Society

Social Sciences (Group III) - 9 credit hours
(minimum of two disciplines)
Electives (6) Group III
SSC 200 † (3) The Social Sciences & Contemporary America

Humanities and Fine Arts (Group IV) - 27 credit hours
ART 105 (3) Drawing I - Introductory
ART 115 (3) Design I
HUM 101 (3) World of Creativity I
HUM 102 (3) World of Creativity II
ART XXX (15) Select from: ART 110, 130, 135, 205, 210, 215, 220, 230, 235, 280

Applied Arts and Sciences (Group V) - 3 credit hours
CIS 100 † (3) Intro to Information Processing Systems

Electives - 5 credit hours
Electives from Groups I, II, III, IV and VI. Students may earn no more than 2 credits in Group VI.

* Most universities required demonstrated competency by completing these courses with a grade of "C" or better.

† Prerequisite required - see course description

Associate in General Studies Degree

You, as a student, are responsible for meeting requirements for your curriculum. Your advisor is available for consultation. At least 12 of these credit hours must be taken at MMCC. A minimum of 62 credits is required to complete this program.

LEVEL I General Education Requirements: CIS 100, MAT, ENG 111 and SPE 101-or-SPE 257

LEVEL II General Education Requirements: Humanities, Science, Social Sciences

Communication Skills (Group I) - 9 credit hours
ENG 111 † (3) Freshman English Composition
ENG 222 † (3) Expository Writing & Research
SPE 101 (3) Fundamentals of Communication OR SPE 257 (3) Public Speaking

Science and Mathematics (Group II) - 9 credit hours
Elective (3) Group II
Mathematics (105 or higher)
SCI 200 † (3) Science, Technology & Society

Social Sciences (Group III) - 9 credit hours
(9 hrs in 2 Social Science disciplines)
Electives (9) Group III

Humanities and Fine Arts (Group IV) - 9 credit hours
Electives (9) Group IV (9 hrs of Humanities with at least 3 credits at the 200 level OR 6 hrs of Humanities & 3 hrs Fine Arts, with at least 3 credits at the 200 level.

Applied Arts and Sciences (Group V) - 12 credit hours
CIS 100 † (3) Intro to Information Processing Systems
Electives (9) Group V

Electives - 14 credit hours
Electives (14) Groups I - VII

NOTE: This transfer program does not fulfill MACRAO requirements unless electives taken from Groups III and IV are taken in at least two different disciplines per group.

† Prerequisite required - see course description
The Business Division provides instructional programs which fulfill the following student and community needs:

• Entry-level job skills and competencies for associate degree graduates in Accounting, Computer Information Systems, Legal Secretary, Marketing and Management, Medical Secretary, Medical Transcriptionist, Office Information Systems, and Small Business Management.

• Competencies necessary to advance from entry-level positions to more demanding and rewarding job assignments.

• An understanding that learning is a lifelong pursuit and continued retraining is a desired and necessary endeavor.

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### Associate in Business Degree

**Accounting**

You, as a student, are responsible for meeting requirements for your curriculum. Your advisor is available for consultation. At least 12 of these credit hours must be taken at MMCC. A minimum of 65 credits is required to complete this program.

**First Semester (Fall) - 16 credit hours**
- ACC 201   (4) Financial Accounting
- BUS 153   (3) Business Law
- CIS 100 † (3) Intro. to Information Processing Systems
- ENG 111 † (3) Freshman English Composition
- SPE 101 † (3) Fundamentals of Communication OR SPE 257 (3) Public Speaking

**Second Semester (Winter) - 16 credit hours**
- ACC 211 † (4) Managerial Accounting
- BUS 255   (3) Entrepreneurial Finance
- CIS 130 † (3) Applications with Microcomputers
- BUS 151 (3) Introduction to Business Issues
- MAT 116 † (3) Business Mathematics I

### Associate in Business Degree: Accounting - Northwood

You, as a student, are responsible for meeting requirements for your curriculum. Your advisor is available for consultation. At least 12 of these credit hours must be taken at MMCC. A minimum of 84 MMCC credits is required to complete this program.

**First Semester (Fall) - 16 credit hours**
- ACC 201   (4) Financial Accounting
- BUS 153   (3) Business Law
- CIS 100 † (3) Intro. to Information Processing Systems
- ENG 111 † (3) Freshman English Composition
- SPE 101 † (3) Fundamentals of Communication OR SPE 257 (3) Public Speaking

**Second Semester (Winter) - 16 credit hours**
- ACC 211 † (4) Managerial Accounting
- BUS 122 (3) Management Theory and Practice
- BUS 162 (3) Principles of Marketing
- CIS 130 † (3) Applications with Microcomputers
- MAT 212 † (3) Introduction to Probability and Statistics

**Third Semester (Fall) - 18 credit hours**
- ACC 205 † (3) Payroll Accounting
- ACC 251 † (3) Tax Accounting I
- ACC 261 † (3) Computerized Accounting
- CIS 260 † (3) Systems Analysis
- SCI 200 † (3) Science, Technology, & Society
- SSC 200 † (3) The Social Sciences & Contemporary America

**Third Semester (Fall) - 18 credit hours**
- ACC 205 † (3) Payroll Accounting
- ACC 251 † (3) Tax Accounting I
- ACC 261 † (3) Computerized Accounting
- CIS 260 † (3) Systems Analysis
- SCI 200 † (3) Science, Technology, & Society
- SSC 200 † (3) The Social Sciences & Contemporary America

**Fourth Semester (Winter) - 15 credit hours**
- ACC 231 † (3) Principles of Cost Accounting
- ACC 252 † (3) Tax Accounting II
- ECO 201 † (3) Principles of Economics (Macro)
- OIS 264 † (3) Business Communications II
- HUM 200 † (3) Modernity & Culture

† Prerequisite required - see course description

**Fourth Semester (Winter) - 15 credit hours**
- ACC 231 † (3) Principles of Cost Accounting
- ACC 252 † (3) Tax Accounting II
- ECO 201 † (3) Principles of Economics (Macro)
- OIS 264 † (3) Business Communications II
- HUM 200 † (3) Modernity & Culture

**Fifth & Sixth Semesters (Fall** & Winter**) - 19 credit hours**
- ECO 202 (3) Principles of Economics (Micro)
- BUS 202 (3) Legal Environment of Business
- MAT 124 † (5) Precalculus
- MAT 126 † (5) Calculus I
- PHL 220 (3) Ethical Issues

Please Note: Intermediate Accounting must be taken at another institution during this period.

** Some choices include: CMU (ACC 301 & 302) Delta College (ACC 227 & 228) SVSU (ACC 311 & 312) Northwood University (ACC 311, 312, & 313). A minimum of 90 semester hours should be completed prior to transferring to Northwood to take full advantage of the articulation agreement between Northwood and MMCC.

† Prerequisite required - see course description
You, as a student, are responsible for meeting requirements for your curriculum. Your advisor is available for consultation. At least 12 of these credit hours must be taken at MMCC. A minimum of 63 credits is required to complete this program.

**Associate in Business Administration Degree**

**CMU**

You, as a student, are responsible for meeting requirements for your curriculum. Your advisor is available for consultation. At least 12 of these credit hours must be taken at MMCC. A minimum of 63 credits is required to complete this program.

**LEVEL I General Education Requirements**: CIS 100, MAT, ENG 111 and SPE 101-or-SPE 257

**LEVEL II General Education Requirements**: Humanities, Science, Social Sciences

**Communication Skills (Group I) - 9 credit hours**
- ENG 111  
  † (3) Freshman English Composition
- ENG 222  
  † (3) Expository Writing & Research
- SPE 101  
  (3) Fundamentals of Communication OR
- SPE 257  
  (3) Public Speaking

**Science and Mathematics (Group II) – 12-14 credit hours**
- SCI 200  
  † (3) Science, Technology & Society
- MAT 212  
  † (3) Intro to Probability & Statistics
- MAT 116*  
  † (3) Business Mathematics I AND
- MAT 217  
  † (3) Business Calculus OR
- MAT 126*  
  † (5) Calculus I

**Associate in Business Administration Degree**

**Social Sciences (Group III) - 9 credit hours**
- ECO 201  
  (3) Principles of Economics (Macro)
- ECO 202  
  (3) Principles of Economics (Micro)
- Elective  
  (3) Group III - other than ECO

**Humanities and Fine Arts (Group IV) - 9 credit hours - (minimum of 2 disciplines)**
- Electives  
  (9)
  9 hrs of Humanities with at least 3 credits at the 200 level OR 6 hrs of Humanities & 3 hrs Fine Arts, with at least 3 credits at the 200 level.

**Applied Arts and Sciences (Group V) - 17 credit hours**
- CIS 100  
  † (3) Intro to Information Processing Systems
- Electives*  
  (14) ACC, BUS, CIS, or OIS only

* Requirement varies with transferring school - please check with an advisor.

† Prerequisite required - see course description

**Associate in Business Administration Degree**

**CMU**

You, as a student, are responsible for meeting requirements for your curriculum. Your advisor is available for consultation. At least 12 of these credit hours must be taken at MMCC. A minimum of 63 credits is required to complete this program.

**LEVEL I General Education Requirements**: CIS 100, MAT, ENG 111 and SPE 101-or-SPE 257

**LEVEL II General Education Requirements**: Humanities, Science, Social Sciences

**Communication Skills (Group I) - 9 credit hours**
- ENG 111  
  † (3) Freshman English Composition
- ENG 222  
  † (3) Expository Writing & Research
- SPE 101  
  (3) Fundamentals of Communication OR
- SPE 257  
  (3) Public Speaking

**Science and Mathematics (Group II) – 13-14 credit hours**
- SCI 200  
  † (3) Science, Technology & Society
- MAT 212  
  † (3) Intro to Probability & Statistics
- MAT 116*  
  † (3) Business Mathematics I AND
- MAT 217  
  † (4) Business Calculus OR
- MAT 126*  
  † (5) Calculus I

**Social Sciences (Group III) - 9 credit hours**
- ECO 201  
  (3) Principles of Economics (Macro)
- ECO 202  
  (3) Principles of Economics (Micro)
- Elective  
  (3) Group III - other than ECO

**Humanities and Fine Arts (Group IV) - 9 credit hours - (minimum of 2 disciplines)**
- Electives  
  (9)
  9 hrs of Humanities with at least 3 credits at the 200 level OR 6 hrs of Humanities & 3 hrs Fine Arts, with at least 3 credits at the 200 level.

**Applied Arts and Sciences (Group V) - 17 credit hours**
- CIS 100  
  † (3) Intro to Information Processing Systems
- Electives*  
  (14) ACC, BUS, CIS, or OIS only

* Requirement varies with transferring school - please check with an advisor.

† Prerequisite required - see course description
You, as a student, are responsible for meeting requirements for your curriculum. Your advisor is available for consultation. At least 12 of these credit hours must be taken at MMCC. A minimum of 65 credits is required to complete this program.

**LEVEL I General Education Requirements: CIS 100, MAT, ENG 111 and SPE 101-or-SPE 257**

**FIRST SEMESTER (Fall) - 15 credit hours**
- **BUS 151** (3) Introduction to Business Issues
- **CIS 100** † (3) Intro to Information Processing System
- **CIS 110** † (3) Computer Programming I (Visual Basic)
- **MAT 116** † (3) Business Mathematics I
- **SPE 101** (3) Fundamentals of Communication OR **SPE 257** (3) Public Speaking

**SECOND SEMESTER (Winter) - 16 credit hours**
- **ACC 201** † (4) Financial Accounting
- **CIS 111** † (3) Computer Programming II (Visual Basic)
- **CIS 130** † (3) Applications With Microcomputers
- **CIS 210** † (3) Desktop Publishing
- **ENG 111** (3) Freshman English Composition

**LEVEL II General Education Requirements: Humanities, Science, Social Sciences**

**THIRD SEMESTER (Fall) - 16 credit hours**
- **ACC 211** † (4) Managerial Accounting
- **CIS 246** † (3) Computer Repair-Software OR **CIS 247** † (3) Computer Repair-Hardware
- **CIS 260** † (3) Systems Analysis
- **CIS 270** † (3) Networking Essentials
- **HUM 200** † (3) Modernity & Culture

**FOURTH SEMESTER (Winter) - 18 credit hours**
- **BUS 153** (3) Business Law
- **CIS 280** † (3) Co-op (Computer Information Systems)
- **OIS 264** † (3) Business Communications II
- **CIS 255** † (3) Computer Operating Systems (Windows XP) OR **CIS 256** † (3) Microsoft Windows 2000 Professional
- **SCI 200** † (3) Science, Technology & Society
- **SSC 200** † (3) The Social Sciences & Contemporary America

**Additional Courses Available:**
**Windows Microsoft Certified Systems Engineer (MCSE)***
- **CIS 271** † (3) Microsoft Windows 2000 Server
- **CIS 272** † (3) Active Directory Services
- **CIS 273** † (3) Implementing Windows 2000 Network
- **CIS 274** † (3) Microsoft Internet Information Server

† Prerequisite required - see course description
You, as a student, are responsible for meeting requirements for your curriculum. Your advisor is available for consultation. At least 12 of these credit hours must be taken at MMCC. A minimum of 62 credits is required to complete this program.

LEVEL I General Education Requirements: CIS 100, MAT, ENG 111 and SPE 101-or-SPE 257

FIRST SEMESTER (Fall) - 17 credit hours
- CPS 175† (3) Computer Programming I OR
- CPS 150† (3) Intro to Java Programming
- CIS 100† (3) Introduction to Information Processing Systems
- ENG 111† (3) Freshman English Composition
- MAT 126† (5) Calculus I
- Elective† (3) Group IV

SECOND SEMESTER (Winter) - 15 credit hours
- CPS 176† (3) Computer Programming II OR
- CPS 151† (3) Advanced Java Programming
- MAT 230*† (3) Introduction to Linear Algebra OR
- MAT 225† (4) Calculus II
- SPE 101 (3) Fundamentals of Communication OR
- SPE 257 (3) Public Speaking
- Elective (3) Group III - Recommended: ECO 202
- Elective (3) Group IV - other than HUM

LEVEL II General Education Requirements:
Humanities, Science, Social Sciences

THIRD SEMESTER (Fall) - 12 credit hours
- ENG 222† (3) Expository Writing & Research
- Elective (3) Group III - Recommended: ECO 201
- HUM 200† (3) Modernity & Culture
- SCI 200† (3) Science, Technology & Society

FOURTH SEMESTER (Winter) - 18 credit hours
- CPS 210† (3) Introduction to Computer Systems
- Elective (4) Science with Lab
- Electives (8) Groups I, II, III, IV or VI (maximum 2 credit hrs in Group VI.)
- SSC 200† (3) The Social Sciences & Contemporary America

1. It is strongly recommended that students take math and science classes in the specific semester listed. Many of these courses are only offered fall or winter. Other courses may be adjusted.
2. Students who need CHM 105, MAT 105, MAT 124 and/or ENG 101 are encouraged to begin with these classes previous to beginning the program.
3. It is POSSIBLE for students to complete this program in a total of 2 years, however, due to the heavy science load, a student may wish to consider either an extra semester or a spring/summer session.

* Varies with transfer school - please check with an advisor.
† Prerequisite required - see course description
You, as a student, are responsible for meeting requirements for your curriculum. Your advisor is available for consultation. At least 12 of these credit hours must be taken at MMCC. A minimum of 62 credits is required to complete this program.

**LEVEL I General Education Requirements:** CIS 100, MAT, ENG 111 and SPE 101-or-SPE 257

**LEVEL II General Education Requirements:**
- Humanities, Science, Social Sciences**

**Communication Skills (Group I) - 9 credit hours**
- ENG 111 † (3) Freshman English Composition *
- ENG 222 † (3) Expository Writing & Research *
- SPE 101 (3) Fundamentals of Communication *OR SPE 257 (3) Public Speaking *

**Science and Mathematics (Group II) – 9 credit hours**
- MAT 104 † (3) Basic Algebra
- MAT 212 † (3) Intro to Probability & Statistics *
- SCI 200 † (3) Science, Technology & Society

**Social Sciences (Group III) - 9 credit hours**
- ECO 201 (3) Principles of Economics (Macro)
- Elective (3) Group II
- Elective (3) Group III - other than ECO

**Humanities and Fine Arts (Group IV) - 9 credit hours -**
- Electives (9) Group IV
  - (9 Hours of Humanities with at least 3 Credits at the 200 level OR 6 Hours of Humanities & 3 Hours of Fine Arts with at least 3 Credits at the 200 Level.)

**Applied Arts and Sciences (Group V) - 16 credit hours**
- CIS 100 † (3) Intro to Information Processing Systems
- BUS 151 (3) Intro to Business Issues
- ENT 200 (3) Business Law for Entrepreneurs
- ENT 221 (3) Marketing for Entrepreneurs
- ACC 201 (4) Financial Accounting

**Electives – 10 credit hours**
Maximum of 2 credit hours from Group VII. See suggested courses below.

**Suggested Electives:**
- BUS 250 (3) Entrepreneurial Management
- BUS 255 (3) Entrepreneurial Finance

* A grade of “C” or better is required to transfer and fulfill competency requirements at CMU

** Electives should be chosen with the assistance of an advisor to insure transferability to university programs.

† Prerequisite required - see course description
You, as a student, are responsible for meeting requirements for your curriculum. Your advisor is available for consultation. At least 12 of these credit hours must be taken at MMCC. A minimum of 65 credits is required to complete this program.

**Prerequisite to the Program:** OIS 140 (3) Beginning Word Processing/Keyboarding OR equivalent OR concurrent enrollment

**LEVEL I General Education Requirements:** CIS 100, MAT, ENG 111 and SPE 101-or-SPE 257

**FIRST SEMESTER (Fall) - 15 credit hours**
- OIS 120 (3) Office Mathematics
- CIS 100 † (3) Intro to Information Processing Systems *
- OIS 164 † (3) Business Communications I
- ENG 111 † (3) Freshman English Composition
- SPE 101 (3) Fundamentals of Communication OR SPE 257 (3) Public Speaking

**SECOND SEMESTER (Winter) - 16 credit hours**
- OIS 127 † (4) Applied Office Accounting
- OIS 136 † (3) Terminology and Proofreading
- OIS 142 † (3) Intermediate Word Processing/Keyboarding
- OIS 200 † (3) Advanced Word Processing Applications
- HUM 200 † (3) Modernity & Culture

**LEVEL II General Education Requirements:** Humanities, Science, Social Sciences

**THIRD SEMESTER (Fall) - 18 credit hours**
- BUS 153 (3) Business Law
- OIS 138 † (3) Basic Legal Terminology
- OIS 230 † (3) Transcription I
- OIS 240 † (3) Advanced Word Processing/Keyboarding
- OIS 250 † (3) Records Management
- SCI 200 † (3) Science, Technology & Society

**FOURTH SEMESTER (Winter) - 16 credit hours**
- OIS 238 † (3) Legal Transcription
- OIS 254 † (3) Office Procedures
- OIS 260 † (4) Co-op (Legal)
- OIS 264 † (3) Business Communications II
- SSC 200 † (3) The Social Sciences & Contemporary America

* OIS 130 is highly recommended for the Office Information Systems, Legal Secretary, Medical Secretary, and Medical Assistant programs. However, it is an acceptable substitute if students have already taken CIS.100.

† Prerequisite required - see course description
Associate in Business Degree
Management & Marketing

You, as a student, are responsible for meeting requirements for your curriculum. Your advisor is available for consultation. At least 12 of these credit hours must be taken at MMCC.
A minimum of 65 credits is required to complete this program.

LEVEL I General Education Requirements: CIS 100, MAT, ENG 111 and SPE 101-or-SPE 257

FIRST SEMESTER (Fall) - 15 credit hours
BUS 122  (3) Management Theory & Practice
BUS 151  (3) Introduction to Business Issues
CIS 100  † (3) Intro to Information Processing Systems
MAT 116 † (3) Business Mathematics I
OIS 140  (3) Beginning Word Processing/Keyboarding

SECOND SEMESTER (Winter) - 16 credit hours
ACC 201  (4) Financial Accounting
BUS 162  (3) Principles of Marketing
CIS 130 † (3) Applications With Microcomputers
ENG 111 † (3) Freshman English Composition
SPE 101  (3) Fundamentals of Communication OR SPE 257  (3) Public Speaking

Associate in Business Degree
Medical Secretary/Office Professional

You, as a student, are responsible for meeting requirements for your curriculum. Your advisor is available for consultation. At least 12 of these credit hours must be taken at MMCC.
A minimum of 64 credits is required to complete this program.

Prerequisite to Program: OIS 140 (3) Beginning Word Processing/Keyboarding OR equivalent OR concurrent enrollment

LEVEL I General Education Requirements: CIS 100, MAT, ENG 111 and SPE 101-or-SPE 257

FIRST SEMESTER (Fall) - 15 credit hours
OIS 120  (3) Office Mathematics
CIS 100 † (3) Intro to Computer Information Systems *
OIS 164 † (3) Business Communications I
ENG 111 † (3) Freshman English Composition
SPE 101 (3) Fundamentals of Communication OR SPE 257 (3) Public Speaking

SECOND SEMESTER (Winter) - 18 credit hours
ALH 112 † (3) Medical Terminology
OIS 127  † (4) Applied Office Accounting
OIS 136 † (3) Terminology and Proofreading
OIS 142 † (3) Int. Word Processing/Keyboarding Applications
OIS 200 † (3) Advanced Word Processing
HUM 200 † (3) Modernity & Culture

LEVEL II General Education Requirements: Humanities, Science, Social Sciences

THIRD SEMESTER (Fall) - 16 credit hours
ACC 211 † (4) Managerial Accounting
BUS 231 † (3) Principles of Advertising
BUS 250  (3) Entrepreneurial Management
ECO 201 (3) Principles of Economics (Macroeconomics) OR ECO 202  (3) Principles of Economics (Microeconomics) *
HUM 200 † (3) Principles of Economics (Modernity & Culture)

FOURTH SEMESTER (Winter) - 18 credit hours
BUS 153  (3) Business Law
BUS 255  (3) Entrepreneurial Finance
BUS 291 † (3) Business Internship
OIS 264    (3) Business Communications II
SCI 200 † (3) Science, Technology & Society
SSC 200 † (3) The Social Sciences & Contemporary America

† Prerequisite required - see course description

OIS 130 is highly recommended for the Office Information Systems, Legal Secretary, Medical Secretary, and Medical Assistant programs. However, it is an acceptable substitute if students have already taken CIS.100.

* OIS 130 is highly recommended for the Office Information Systems, Medical Secretary, and Medical Assistant programs. However, it is an acceptable substitute if students have already taken CIS.100.

† Prerequisite required - see course description
You, as a student, are responsible for meeting requirements for your curriculum. Your advisor is available for consultation. At least 12 of these credit hours must be taken at MMCC. A minimum of 68 credits is required to complete this program.

Prerequisite to Program: OIS 140 (3) Beginning Word Processing/Keyboarding OR equivalent OR concurrent enrollment

LEVEL I General Education Requirements: CIS 100, MAT, ENG 111 and SPE 101-or-SPE 257

FIRST SEMESTER (Fall) - 15 credit hours
- ALH 100 (2) Medical Terminology
- BIO 101 (4) College Biology
- CIS 100 † (3) Intro to Information Processing Systems
- OIS 120 (3) Office Mathematics
- OIS 126 † (3) Introduction to Medical Transcription
- OIS 164 † (3) Business Communications I

SECOND SEMESTER (Winter) - 18 credit hours
- BUS 151 (3) Introduction to Business Issues
- BUS 153 (3) Business Law
- CIS 130 † (3) Applications With Microcomputers
- OIS 136 † (3) Terminology and Proofreading
- OIS 142 † (3) Int. Word Processing/Keyboarding
- OIS 200 † (3) Advanced Word Processing Applications

Associate in Business Degree
Medical Transcriptionist

SECOND SEMESTER (Winter) - 18 credit hours
- BIO 131 † (3) Basic Anatomy and Physiology
- ENG 111 † (3) Freshman English Composition
- OIS 136 † (3) Terminology and Proofreading
- OIS 142 † (3) Int. Word Processing/Keyboarding
- OIS 236 † (3) Medical Transcription I
- SPE 101 (3) Fundamentals of Communication OR SPE 257 (3) Public Speaking

LEVEL II General Education Requirements: Humanities, Science, Social Sciences

THIRD SEMESTER (Fall) - 12 credit hours
- OIS 240 † (3) Advanced Word Processing/Keyboarding
- OIS 246 † (3) Medical Transcription II
- HUM 200 † (3) Modernity & Culture
- SCI 200 † (3) Science, Technology & Society

FOURTH SEMESTER (Winter) - 15 credit hours
- ALH 220 (2) Medical Law and Ethics
- OIS 254 † (3) Office Procedures
- OIS 256 † (3) Medical Transcription III
- OIS 260 † (4) Co-op (Medical Transcription)
- SSC 200 † (3) The Social Sciences & Contemporary America

† Prerequisite required - see course description

Associate in Business Degree
Office Information Systems

LEVEL II General Education Requirements: Humanities, Science, Social Sciences

THIRD SEMESTER (Fall) - 18 credit hours
- OIS 230 † (3) Transcription I
- OIS 240 † (3) Advanced Word Processing Keyboarding
- OIS 250 † (3) Records Management
- OIS 264 † (3) Business Communications II
- HUM 200 † (3) Modernity & Culture
- SCI 200 † (3) Science, Technology & Society

FOURTH SEMESTER (Winter) - 17 credit hours
- ACC 201 † (4) Financial Accounting
- OIS 234 † (3) Transcription II
- OIS 254 † (3) Office Procedures
- OIS 260 † (4) Co-op (General)
- SSC 200 † (3) The Social Sciences & Contemporary America

† Prerequisite required - see course description

* OIS 130 is highly recommended for the Office Information Systems, Legal Secretary, Medical Secretary, and Medical Assistant programs. However, it is an acceptable substitute if students have already taken CIS.100.
### Associate in Business Degree

You, as a student, are responsible for meeting requirements for your curriculum. Your advisor is available for consultation. At least 12 of these credit hours must be taken at MMCC. A minimum of 65 credits is required to complete this program.

**LEVEL I General Education Requirements:** CIS 100, MAT, ENG 111 and SPE 101-or-SPE 257

**FIRST SEMESTER (Fall) - 15 credit hours**
- BUS 250 (3) Entrepreneurial Management
- CIS 100 (3) Intro to Information Processing Systems
- ENG 111 (3) Freshman English Composition
- MAT 116 (3) Business Mathematics I
- ECO 201 (3) Principles of Economics (Macro) OR ECO 202 (3) Principles of Economics (Micro) *

**SECOND SEMESTER (Winter) - 16 credit hours**
- ACC 201 (4) Financial Accounting
- BUS 153 (3) Business Law
- BUS 162 (3) Principles of Marketing
- PSY 101 (3) Introduction to General Psychology
- SPE 101 (3) Fundamentals of Communication OR SPE 257 (3) Public Speaking

**LEVEL II General Education Requirements:** Humanities, Science, Social Sciences

**THIRD SEMESTER (Fall) - 16 credit hours**
- ACC 211 (4) Managerial Accounting
- ACC 251 (3) Tax Accounting I
- BUS 231 (3) Principles of Advertising
- HUM 200 (3) Modernity & Culture
- SCI 200 (3) Science, Technology & Society

**FOURTH SEMESTER (Winter) - 18 credit hours**
- ACC 252 (3) Tax Accounting II
- BUS 255 (3) Entrepreneurial Finance
- BUS 291 (3) Business Internship
- CIS 130 (3) Applications With Microcomputers
- OIS 264 (3) Business Communications II
- SSC 200 (3) The Social Sciences & Contemporary America

* Note that ECO 202 is a Winter course offering.
† Prerequisite required - see course description

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### Associate in General Technology Degree

You, as a student, are responsible for meeting requirements for your curriculum. Your advisor is available for consultation. At least 12 of these credit hours must be taken at MMCC. A minimum of 62 credits is required to complete this program.

**LEVEL I General Education Requirements:** CIS 100, MAT, ENG 111 and SPE 101-or-SPE 257

**LEVEL II General Education Requirements:** Humanities, Science, Social Sciences

**Communication Skills (Group I) - 9 credit hours**
- ENG 111 (3) Freshman English Composition
- Elective (3) Group I
- SPE 101 (3) Fundamentals of Communication OR SPE 257 (3) Public Speaking

**Science and Mathematics (Group II) - 6 credit hours**
- Mathematics (104 or higher)
- SCI 200 (3) Science, Technology, & Society

**Social Sciences (Group III) - 3 credit hours**
- SSC 200 (3) The Social Sciences & Contemporary America

**Humanities and Fine Arts (Group IV) - 3 credit hours**
- HUM 200 (3) Modernity & Culture

**Applied Arts and Sciences (Group V) - 36 credit hours**
- CIS 100 (3) Intro to Information Processing Systems
- Electives (33) Group V

**Electives - 5 credit hours**
- Electives (5) Groups I - VII

† Prerequisite required - see course description
You, as a student, are responsible for meeting requirements for your curriculum. Your advisor is available for consultation. At least 12 of these credit hours must be taken at MMCC. A minimum of 31 credits is required to complete this program.

**FIRST SEMESTER (Fall) - 15 credit hours**
- OIS 120 (3) Office Mathematics
- CIS 100 † (4) Intro to Information Processing Systems
- OIS 140 (3) Beginning Word Processing/Keyboarding
- OIS 164 † (3) Business Communications I
- OIS 250 † (3) Records Management

**SECOND SEMESTER (Winter) - 16 credit hours**
- ACC 201 † (4) Financial Accounting
- BUS 151 (3) Introduction to Business Issues
- OIS 142 † (3) Intermediate Word Processing/Keyboarding
- ENG 111 † (3) Freshman English Composition
- SPE 101 (3) Fundamentals of Communication OR
  - SPE 257 (3) Public Speaking

* OIS 130 is required for the Office Information Systems. However, if a student has previously completed CIS 100 that is an acceptable substitution.

† Prerequisite required - see course description
The Technical Division is comprised of programs of study covering a wide range of occupational job titles. Well-trained and experienced faculty, modern facilities, state-of-the-art equipment and programs, and courses that keep abreast of changing educational needs are several characteristics that support the Technical Division’s central theme, “Learn By Doing.”

Many varied activities demonstrate the commitment of faculty to sustain the business, industry, and college partnership. An active occupational advisory committee composed of personnel from business and industry is used with each technical program to ensure appropriate instruction is provided for entry level employment or transfer to a four-year college or university.

Partnerships between the community college and secondary schools have increased in recent years to include sharing of facilities and equipment, the provision of advanced placement credits and formally articulated occupational programs. The goal of providing students with a continuous educational development plan for successful entry level employment has increased contact and information exchange between secondary and community college faculty and administrators.

The Technical Division attempts to integrate the concepts of education for work and education for life. For the student, the division offers first-rate technical education and career-related programs to prepare students to meet their educational goals leading toward a challenging and financially rewarding career.

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### Associate in Applied Science Degree
**Automotive Technology**

You, as a student, are responsible for meeting requirements for your curriculum. Your advisor is available for consultation. At least 12 of these credit hours must be taken at MMCC. A minimum of 69 credits is required to complete this program.

**LEVEL I General Education Requirements: CIS 100, MAT, ENG 111 and SPE 101-or-SPE 257**

**FIRST SEMESTER (Fall) - 17.5 credit hours**
- AMS 104 (2) Basic Automotive Electricity
- AMS 110 (4.5) Engine Fundamentals and Overhaul
- AMS 125 (5) Engine Performance I
- CIS 100 † (3) Intro to Information Processing Systems
- MAT 101 (3) Basic Mathematics

**SECOND SEMESTER (Winter) - 18 credit hours**
- AMS 116 † (3) Electrical Systems I: Electrical Accessories
- AMS 124 (4) Automotive Heating & Air Conditioning
- AMS 126 † (5) Engine Performance II
- ENG 111 † (3) Freshman English Composition
- SPE 101 (3) Fundamentals of Communication OR SPE 257 (3) Public Speaking

### Associate in Applied Science Degree
**Heating/Refrigeration/Air Conditioning**

You, as a student, are responsible for meeting requirements for your curriculum. Your advisor is available for consultation. At least 12 of these credit hours must be taken at MMCC. A minimum of 67 credits is required to complete this program.

**LEVEL I General Education Requirements: CIS 100, MAT, ENG 111 and SPE 101-or-SPE 257**

**FIRST SEMESTER (Fall) - 18 credit hours**
- HRA 102 (3) Refrigeration Fundamentals
- HRA 106 (3) Heating Fundamentals
- HRA 116 (3) Fundamentals of Electricity
- CIS 100 † (3) Intro to Information Processing Systems
- ENG 111 † (3) Freshman English Composition
- MAT 104 † (3) Basic Algebra OR MAT 170 (3) Technical Mathematics II OR MAT 124 † (5) Precalculus *

**SECOND SEMESTER (Winter) - 17 credit hours**
- HRA 104 † (3) Residential Refrigeration
- HRA 108 † (3) Heating Systems
- HRA 205 † (2) Motors & Controls
- HRA 285 † (3) Co-op (Heating, Refrigeration & Air Conditioning)
- DRF 120 (3) Introduction to AutoCAD
- SPE 101 (3) Fundamentals of Communication OR SPE 257 (3) Public Speaking

### LEVEL II General Education Requirements: Humanities, Science, Social Sciences

**THIRD SEMESTER (Fall) - 15 credit hours**
- AMS 205 (4) Steering & Suspension Systems
- AMS 206 (4) Brakes
- AMS 223 (4) Electrical Systems II: Engine Electrical Systems
- SCI 200 † (3) Science, Technology & Society

**FOURTH SEMESTER (Winter) - 18.5 credit hours**
- AMS 214 (4.5) Automatic Transmissions
- AMS 222 (4) Manual Transmissions
- AMS 232 † (4) Automotive Co-op
- HUM 200 † (3) Modernity & Culture
- SSC 200 † (3) The Social Sciences & Contemporary America

† Prerequisite required - see course description

*Recommended for students transferring to Ferris State University

† Prerequisite required - see course description
You, as a student, are responsible for meeting requirements for your curriculum. Your advisor is available for consultation. At least 12 of these credit hours must be taken at MMCC. A minimum of 68 credits is required to complete this program.

**LEVEL I General Education Requirements:** CIS 100, MAT, ENG 111 and SPE 101-or-SPE 257

**FIRST SEMESTER (Fall) - 15 credit hours**
- CHM 111 † (4) General College Chemistry I
- ENG 111 † (3) Freshman English Composition
- MAT 126 † (5) Calculus I
- SPE 101 (3) Fundamentals of Communication OR SPE 257 (3) Public Speaking

**SECOND SEMESTER (Winter) - 16 credit hours**
- CHM 112 † (4) General College Chemistry II
- ENG 222 † (3) Expository Writing & Research
- Elective (3) SOC only
- Elective (3) Group IV
- Elective (3) Group IV - other than HUM

**LEVEL II General Education Requirements:** Humanities, Science, Social Sciences

**THIRD SEMESTER (Fall) - 19 credit hours**
- CHM 241 † (5) Organic Chemistry I
- CIS 130 † (3) Applications with Microcomputers
- ECO 201 † (3) Principles of Economics (Macroeconomics)
- PHY 211 † (5) General Physics I
- HUM 200 † (3) Modernity & Culture

**FOURTH SEMESTER (Winter) - 18 credit hours**
- CHM 201 † (5) Quantitative Analysis
- CHM 242 † (5) Organic Chemistry II
- PHY 212 † (5) General Physics II
- POL 201 (3) Intro to American Government

1. It is strongly recommended that students take math and science classes in the specific semester listed. Many of these courses are only offered fall or winter. Other courses may be adjusted.
2. Students who need CHM 105, MAT 105, MAT 124 and/or ENG 101 are encouraged to begin with these classes previous to beginning the program.
3. It is POSSIBLE for students to complete this program in a total of 2 years, however, due to the heavy science load, a student may wish to consider an extra semester or spring/summer session.

* This degree is designed to either be the first half of a baccalaureate degree OR lead directly to employment as a Chemical Technologist. Students planning to complete a Baccalaureate degree with a major in chemistry should also select MAT 225 to follow after MAT 126. Students may apply for a Co-op option at Dow Chemical Company. Students planning on a Co-op option should also take SSC 106.

† Prerequisite required - see course description
You, as a student, are responsible for meeting requirements for your curriculum. Your advisor is available for consultation. At least 12 of these credit hours must be taken at MMCC. A minimum of 63 credits is required to complete this program.

LEVEL I General Education Requirements: CIS 100, MAT, ENG 111 and SPE 101-or-SPE 257

FIRST SEMESTER (Fall) - 15 credit hours
- ENG 111 † (3) Freshman English Composition
- MAT 126 † (5) Calculus I
- Elective (4) Natural Science with Lab
- SPE 101 (3) Fundamentals of Communication OR SPE 257 (3) Public Speaking

SECOND SEMESTER (Winter) - 17 credit hours
- CIS 100 † (3) Intro to Information Processing Systems
- MAT 225 † (4) Calculus II
- PSY 101 (3) Introduction to General Psychology
- Elective (4) Physical Science
- Elective (3) Group IV

LEVEL II General Education Requirements: Humanities, Science, Social Sciences

THIRD SEMESTER (Fall) - 15 credit hours
- ENG 222 † (3) Expository Writing & Research
- MAT 230 † (3) Introduction to Linear Algebra
- Elective * (3) Group II
- Elective (3) Group I, II, III, IV, or V
- HUM 200 † (3) Modernity & Culture

FOURTH SEMESTER (Winter) - 16 credit hours
- MAT 226 † (4) Calculus III
- Elective * (3) Group II
- Elective (3) Group III
- Elective (3) Group IV - other than HUM
- SSC 200 † (3) The Social Sciences & Contemporary America

1. It is strongly recommended that students take math and science classes in the specific semester listed. Many of these courses are only offered fall or winter. Other courses may be adjusted.
2. Students who need CHM 105, MAT 105, MAT 124 and/or ENG 101 are encouraged to begin with these classes previous to beginning the program.
3. It is POSSIBLE for students to complete this program in a total of 2 years, however, due to the heavy science load, a student may wish to consider either an extra semester or a spring/summer session.

* Recommended that student take CPS 175 Computer Programming I & CPS 176 Computer Programming II—student should check with Advisor concerning specific transfer information.

† Prerequisite required - see course description
You, as a student, are responsible for meeting requirements for your curriculum. Your advisor is available for consultation. At least 12 of these credit hours must be taken at MMCC. A minimum of 67 credits is required to complete this program.

LEVEL I General Education Requirements: CIS 100, MAT, ENG 111, and SPE 101-or-SPE 257

FIRST SEMESTER (Fall) - 15 credit hours
CHM 111 † (4) General College Chemistry I
ENG 111 † (3) Freshman English Composition
MAT 126 † (5) Calculus I
SPE 101 † (3) Fundamentals of Communication OR SPE 257 † (3) Public Speaking

SECOND SEMESTER (Winter) - 17 credit hours
CHM 112 † (4) General College Chemistry II
ENG 222 † (3) Expository Writing & Research
MAT 225 † (4) Calculus II
Elective † (3) ** BIO
POL 201 † (3) Intro to American Government * OR Elective † (3) Group III

LEVEL II General Education Requirements: Humanities, Science, Social Sciences

THIRD SEMESTER (Fall) - 17 credit hours
ECO 201 † (3) Principles of Economics (Macroeconomics)
MAT 230 † (3) Introduction to Linear Algebra
PHY 211 † (5) General Physics I
CPS 175 † (3) Computer Programming I ** OR CPS 180 † (3) FORTRAN Programming ***
HUM 200 † (3) Modernity & Culture

FOURTH SEMESTER (Winter) - 18 credit hours
MAT 226 † (4) Calculus III
PHY 212 † (5) General Physics II
Elective † (3) Group IV
Elective † (3) Group IV - other than HUM
SSC 200 † (3) The Social Sciences & Contemporary America

1. It is strongly recommended that students take math and science classes in the specific semester listed. Many of these courses are only offered fall or winter. Other courses may be adjusted.
2. Students needing CHM 105, MAT 105, MAT 124 and/or ENG 101 are encouraged to begin with these classes previous to beginning program.
3. It is POSSIBLE for students to complete this program in a total of 2 years, however, due to the heavy science load, a student may wish to consider either an extra semester or a summer session.

* POL 201 is required at some universities. Please check with your counselor.
** For degree requirements—check with counselor regarding transferability to various colleges.
*** CIS 100 competency must be met in order to earn an associate degree.

† Prerequisite required - see course description

You, as a student, are responsible for meeting requirements for your curriculum. Your advisor is available for consultation. At least 12 of these credit hours must be taken at MMCC. A minimum of 35.5 credits is required to complete this program.

FIRST SEMESTER (Fall) - 17.5 credit hours
AMS 104 † (2) Basic Automotive Electricity
AMS 110 † (4.5) Engine Fundamentals & Overhaul
AMS 125 † (5) Engine Performance I
CIS 100 † (3) Introduction to Information Processing Systems
WLD 126 † (3) Basic Welding I

SECOND SEMESTER (Winter) - 18 credit hours
AMS 116 † (3) Electrical Systems I: Electrical Accessories
AMS 124 † (4) Automotive Heating & Air Conditioning
AMS 126 † (5) Engine Performance II
ENG 111 † (3) Freshman English Composition
MAT 101 † (3) Basic Mathematics

† Prerequisite required - see course description
Certificate of Achievement
Automotive Technology (2 Year)

You, as a student, are responsible for meeting requirements for your curriculum. Your advisor is available for consultation. At least 12 of these credit hours must be taken at MMCC. A minimum of 63 credits is required to complete this program.

FIRST SEMESTER (Fall) - 17.5 credit hours
- AMS 104 (2) Basic Automotive Electricity
- AMS 110 (4.5) Engine Fundamentals & Overhaul
- AMS 125 (5) Engine Performance I
- CIS 100 † (3) Introduction to Information Processing Systems
- WLD 126 (3) Basic Welding I

SECOND SEMESTER (Winter) - 18 credit hours
- AMS 116 † (3) Electrical Systems I: Electrical Accessories
- AMS 124 (4) Automotive Heating & Air Conditioning
- AMS 126 † (5) Engine Performance II
- ENG 111 † (3) Freshman English Composition
- MAT 101 (3) Basic Mathematics

THIRD SEMESTER (Fall) - 15 credit hours
- AMS 205 (4) Steering & Suspension Systems
- AMS 206 (4) Brakes
- AMS 223 (4) Electrical Systems II: Engine Electrical Systems
- SPE 101 (3) Fundamentals of Communication OR SPE 257 (3) Public Speaking

FOURTH SEMESTER (Winter) - 12.5 credit hours
- AMS 214 (4.5) Automatic Transmissions
- AMS 222 (4) Manual Transmissions
- AMS 232 † (4) Automotive Co-op

† Prerequisite required - see course description

Certificate of Achievement
Computer Assisted Drafting (CAD)

You, as a student, are responsible for meeting requirements for your curriculum. Your advisor is available for consultation. At least 12 of these credit hours must be taken at MMCC. A minimum of 33 credits is required to complete this program.

FIRST SEMESTER (Fall) - 14-15 credit hours
- DRF 101 (3) Technical Drawing
- DRF 120 (3) Introduction to AutoCAD
- IND 101 (4) Basic Machine Shop Practices
- IND 113 (2) CNC Machining
- MAT 105 † (3) Intermediate Algebra

SECOND SEMESTER (Winter) - 16 credit hours
- DRF 201 † (4) Mechanical Detail Drafting w/CAD

THIRD SEMESTER (Spring or Summer) - 3 credit hours
- DRF 105 † (2) Intro to Geometric Dimensioning & Tolerancing
- DRF 210 (3) Introduction to SolidWorks
- DRF 220 † (3) Introduction to SoftPlan
- IND 116 † (4) CNC Programming

† Prerequisite required - see course description
You, as a student, are responsible for meeting requirements for your curriculum. Your advisor is available for consultation. At least 12 of these credit hours must be taken at MMCC. A minimum of 48 credits is required to complete this program.

The following courses may be taken in any sequence, providing the necessary prerequisites have been met. Consumers Energy may recommend certain courses be taken earlier to enhance or accelerate the intern's Customer Energy Specialist development.

**BUSINESS: 16 credit hours**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Credit Hours</th>
<th>Course Title</th>
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<tbody>
<tr>
<td>ACC 201</td>
<td>(4)</td>
<td>Financial Accounting</td>
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<td>BUS 162</td>
<td>(3)</td>
<td>Principles of Marketing</td>
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<td>BUS 151</td>
<td>(3)</td>
<td>Introduction to Business Issues</td>
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<tr>
<td>BUS 153</td>
<td>(3)</td>
<td>Business Law</td>
</tr>
<tr>
<td>CIS 100</td>
<td>† (3)</td>
<td>Introduction to Information Processing Systems OR</td>
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<tr>
<td>CIS 130</td>
<td>(3)</td>
<td>Applications with Micro Computers</td>
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**COMMUNICATIONS: 9 credit hours**

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<th>Course Code</th>
<th>Credit Hours</th>
<th>Course Title</th>
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<tbody>
<tr>
<td>ENG 111</td>
<td>† (3)</td>
<td>Freshman English Composition</td>
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<tr>
<td>ENG 222</td>
<td>† (3)</td>
<td>Expository Writing &amp; Research</td>
</tr>
<tr>
<td>SPE 101</td>
<td>(3)</td>
<td>Fundamentals of Communication OR</td>
</tr>
<tr>
<td>SPE 257</td>
<td>(3)</td>
<td>Public Speaking</td>
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</tbody>
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**TECHNICAL: 22 credit hours**

<table>
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<tr>
<th>Course Code</th>
<th>Credit Hours</th>
<th>Course Title</th>
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<tbody>
<tr>
<td>DRF 120</td>
<td>(3)</td>
<td>Introduction to AutoCAD</td>
</tr>
<tr>
<td>DRF 220</td>
<td>(3)</td>
<td>Introduction to SoftPlan</td>
</tr>
<tr>
<td>DRF 210</td>
<td>† (3)</td>
<td>Introduction to SolidWorks</td>
</tr>
<tr>
<td>HRA 116</td>
<td>(3)</td>
<td>Fundamentals of Electricity OR</td>
</tr>
<tr>
<td>AMS 104</td>
<td>(2)</td>
<td>Basic Automotive Electricity OR</td>
</tr>
<tr>
<td>ELT Elective Basic Electricity (M-TEC/MNFG 7500)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MAT 104</td>
<td>† (3)</td>
<td>Basic Algebra</td>
</tr>
<tr>
<td>PHY 105</td>
<td>† (5)</td>
<td>Introductory College Physics I OR</td>
</tr>
<tr>
<td>ELT Elective Hydraulic Power Systems (M-TEC/MNFG 4200)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Electives: 1-2 credit hours**

See suggested courses below. Electives depend on the total number of other credit hours earned. A minimum of 48 credit hours is required for this program.

**Suggested Electives:**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Credit Hours</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACC 211</td>
<td>† (4)</td>
<td>Managerial Accounting</td>
</tr>
<tr>
<td>BUS 241</td>
<td>(3)</td>
<td>Supervision and Personnel Administration</td>
</tr>
<tr>
<td>BUS 222</td>
<td>† (3)</td>
<td>Labor and Management Relations</td>
</tr>
<tr>
<td>MAT 105</td>
<td>† (3)</td>
<td>Intermediate Algebra</td>
</tr>
<tr>
<td>SPE 253</td>
<td>(3)</td>
<td>Small Group Communications</td>
</tr>
</tbody>
</table>

* This program is restricted—please check with a MMCC counselor.

† Prerequisite required - see course description

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**Certificate of Achievement**

**Contracting With Business & Industry**

You, as a student, are responsible for meeting requirements for your curriculum. Your advisor is available for consultation. At least 12 of these credit hours must be taken at MMCC. A minimum of 32 credits is required to complete this program.

**FIRST SEMESTER (Fall) - 16 credit hours**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Credit Hours</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>CBI 101</td>
<td>(10)</td>
<td>Contracting With Business &amp; Industry I</td>
</tr>
<tr>
<td>CIS 100</td>
<td>† (3)</td>
<td>Intro to Information Processing Systems</td>
</tr>
<tr>
<td>Elective</td>
<td>(3)</td>
<td>ENG - Selected with the Program Coordinator</td>
</tr>
</tbody>
</table>

**SECOND SEMESTER (Winter) - 16 credit hours**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Credit Hours</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>CBI 102</td>
<td>† (10)</td>
<td>Contracting With Business &amp; Industry II</td>
</tr>
<tr>
<td>MAT 101</td>
<td>(3)</td>
<td>Basic Mathematics (or higher level)</td>
</tr>
<tr>
<td>Electives</td>
<td>(3)</td>
<td>Selected with the Program Coordinator</td>
</tr>
</tbody>
</table>

One English and one mathematics course appropriate to the student’s chosen area of study are required.

† Prerequisite required - see course description
### Certificate of Achievement
**Heating/Refrigeration/Air Conditioning**

You, as a student, are responsible for meeting requirements for your curriculum. Your advisor is available for consultation. At least 12 of these credit hours must be taken at MMCC. A minimum of 32 credits is required to complete this program.

**FIRST SEMESTER (Fall) - 15 credit hours**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>HRA 102</td>
<td>(3)</td>
<td>Refrigeration Fundamentals</td>
</tr>
<tr>
<td>HRA 106</td>
<td>(3)</td>
<td>Heating Fundamentals</td>
</tr>
<tr>
<td>HRA 116</td>
<td>(3)</td>
<td>Fundamentals of Electricity</td>
</tr>
<tr>
<td>ENG 111†</td>
<td>(3)</td>
<td>Freshman English Composition</td>
</tr>
<tr>
<td>MAT 104†</td>
<td>(3)</td>
<td>Basic Algebra OR</td>
</tr>
<tr>
<td>MAT 170</td>
<td>(3)</td>
<td>Technical Math II OR</td>
</tr>
</tbody>
</table>

**SECOND SEMESTER (Winter) - 17 credit hours**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>HRA 104†</td>
<td>(3)</td>
<td>Residential Refrigeration</td>
</tr>
<tr>
<td>HRA 108†</td>
<td>(3)</td>
<td>Heating Systems</td>
</tr>
<tr>
<td>HRA 205†</td>
<td>(2)</td>
<td>Motors &amp; Controls</td>
</tr>
<tr>
<td>DRF 120†</td>
<td>(3)</td>
<td>Introduction to AutoCAD</td>
</tr>
<tr>
<td>CIS 100†</td>
<td>(3)</td>
<td>Intro to Information Processing Systems</td>
</tr>
<tr>
<td>SPE 101</td>
<td>(3)</td>
<td>Fundamentals of Communication OR</td>
</tr>
<tr>
<td>SPE 257</td>
<td>(3)</td>
<td>Public Speaking</td>
</tr>
</tbody>
</table>

† Prerequisite required - see course description

### Certificate of Achievement
**Machine Tool Operation**

You, as a student, are responsible for meeting requirements for your curriculum. Your advisor is available for consultation. At least 12 of these credit hours must be taken at MMCC. A minimum of 31 credits is required to complete this program.

**FIRST SEMESTER (Fall) - 15 credit hours**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>IND 101</td>
<td>(4)</td>
<td>Basic Machine Shop Practices</td>
</tr>
<tr>
<td>IND 113</td>
<td>(2)</td>
<td>CNC Machining</td>
</tr>
<tr>
<td>DRF 120</td>
<td>(3)</td>
<td>Introduction to AutoCAD</td>
</tr>
<tr>
<td>MAT 105†</td>
<td>(3)</td>
<td>Intermediate Algebra</td>
</tr>
<tr>
<td>WLD 126</td>
<td>(3)</td>
<td>Basic Welding I</td>
</tr>
</tbody>
</table>

**SECOND SEMESTER (Winter) - 16 credit hours**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>IND 102†</td>
<td>(4)</td>
<td>Machine Tool Practices II</td>
</tr>
<tr>
<td>IND 116†</td>
<td>(4)</td>
<td>CNC Programming</td>
</tr>
<tr>
<td>IND 140</td>
<td>(3)</td>
<td>Metallurgy and Industrial Materials</td>
</tr>
<tr>
<td>DRF 105†</td>
<td>(2)</td>
<td>Intro to Geometric Dimensioning &amp; Tolerancing</td>
</tr>
<tr>
<td>ENG 111†</td>
<td>(3)</td>
<td>Freshman English Composition</td>
</tr>
</tbody>
</table>

† Prerequisite required - see course description

### Certificate of Achievement
**Welding Technology**

You, as a student, are responsible for meeting requirements for your curriculum. Your advisor is available for consultation. At least 12 of these credit hours must be taken at MMCC. A minimum of 35 credits is required to complete this program.

**FIRST SEMESTER (Fall) - 18 credit hours**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>WLD 126</td>
<td>(3)</td>
<td>Basic Welding I</td>
</tr>
<tr>
<td>WLD 127†</td>
<td>(3)</td>
<td>Basic Welding II</td>
</tr>
<tr>
<td>DRF 101</td>
<td>(3)</td>
<td>Technical Drawing</td>
</tr>
<tr>
<td>IND 140</td>
<td>(3)</td>
<td>Metallurgy &amp; Industrial Materials</td>
</tr>
<tr>
<td>MAT 101</td>
<td>(3)</td>
<td>Basic Mathematic</td>
</tr>
<tr>
<td>DRF 120</td>
<td>(3)</td>
<td>Intro to AutoCAD</td>
</tr>
</tbody>
</table>

**SECOND SEMESTER (Winter) - 17 credit hours**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>WLD 130†</td>
<td>(3)</td>
<td>Metal Fabrication</td>
</tr>
<tr>
<td>WLD 150</td>
<td>(3)</td>
<td>Non-Destructive Testing OR</td>
</tr>
<tr>
<td>IND 101</td>
<td>(4)</td>
<td>Basic Machine Shop Practices</td>
</tr>
<tr>
<td>WLD 225†</td>
<td>(8)</td>
<td>Advanced Welding</td>
</tr>
<tr>
<td>ENG 111†</td>
<td>(3)</td>
<td>Freshman English Composition</td>
</tr>
</tbody>
</table>

† Prerequisite required - see course description
The EMS/Paramedic program provides instruction in the roles and responsibilities of Paramedics; integrating pathophysiological principles in the assessment, management, and development of field impression and treatment plans for diverse patients; administration of medications; and effective communication with patients. Laboratory is conducted and extensive clinical experience is obtained in ambulance and medical center settings. Successful completion of this program qualifies students for the Michigan State Paramedic Examination.

Upon successful completion of prerequisite courses, Radiography program students undergo a two year sequence of classroom, laboratory, and clinical education classes. Graduates receive an Associate in Applied Science: Radiography degree and are eligible for the American Registry of Radiologic Technologists certification examination.

Medical Assistant students complete all courses (5 semesters) in their curriculum. They are eligible to test for C.M.A. Certification through the American Association of Medical Assistants.

Practical Nursing students complete all courses in the Level I program (three semesters). They receive a certificate of achievement and are eligible for the NCLEX-PN State Board Examination for licensure as an LPN.

ADN Registered Nursing students complete all courses in both the Level I and Level II Programs (six semesters) and receive an Associate Degree in Nursing. They are eligible for the NCLEX-RN State Board Examination for licensure as an RN.

The nursing curriculum is a laddered program allowing multiple entry and exit points.
You, as a student, are responsible for meeting requirements for your curriculum. Your advisor is available for consultation. At least 12 of these credit hours must be taken at MMCC. A minimum of 81.75 credits is required to complete this program.

The EMS/Paramedic Program provides instruction in the roles and responsibilities of Paramedics; integrating pathophysiological principles in the assessment, management, and development of field impression and treatment plans for diverse patients; administration of medications; and effective communication with patients. Laboratory is conducted and extensive clinical experience is obtained in ambulance and medical center settings. Successful completion of this program qualifies students for the Michigan State Paramedic Examination.

LEVEL II General Education Requirements: Humanities, Science, Social Sciences

THIRD SEMESTER (Spring) - 6 credit hours
SSC 200 † (3) The Social Sciences & Contemporary America
SCI 200 † (3) Science, Technology & Society

FOURTH SEMESTER (Fall) - 16.5 credit hours
EMS 200 † (13) Paramedic I
EMS 205 † (.5) Paramedic Clinical I
HUM 200 † (3) Modernity & Culture

FIFTH SEMESTER (Winter) - 12.75 credit hours
EMS 220 † (10.5) Paramedic II
EMS 225 † (2.25) Paramedic Clinical II

SIXTH SEMESTER (Spring through October) - 14.5 credit hours
EMS 230 † (9) Paramedic III
EMS 235 † (5.5) Paramedic Clinical III

NOTE: Paramedic Instruction as provided by Mobile Medical Response of Saginaw, in compliance with federal government standards, is 1,072 hours. Lecture and clinical hours have been formatted to correspond with MMR’s curriculum.

NOTE: Students may begin Paramedic training prior to passing the EMT State Licensing Examination. However, they must pass the EMT State Examination prior to taking the Paramedic State Examination. Students may take the EMT State Examination up to three times. If they still have not passed this examination, they must obtain remedial instruction before becoming eligible to retake the exam.

† Prerequisite required - see course description
You as a student, are responsible for meeting requirements for your curriculum. Your advisor is available for consultation. At least 12 of these credit hours must be taken at MMCC. A minimum of 63 credits is required to complete this program.

**Prerequisites to Program:** - 17 credit hours

- OIS 140 (3) Beginning Word Processing/Keyboarding or equivalent or concurrent enrollment
- ALH 100 (2) Medical Terminology
- ENG 111 † (3) Freshman English Composition
- MAT 104 (3) Basic Algebra
- CIS 100 (3) Intro to Information Processing Systems

**OR**

- OIS 130 † (4) Intro to Office Information Systems

- BIO 131 † (3) Basic Anatomy and Physiology

**Program Requirements - 33 credit hours**

- OIS 164 † (3) Business Communications I
- OIS 127 † (4) Applied Office Accounting
- HUM 200 † (3) Modernity & Culture
- OIS 142 † (3) Intermediate Word Processing/Keyboarding
- OIS 230 † (3) Transcription I
- OIS 236 † (3) Medical Transcription
- OIS 250 † (3) Records Management
- ALH 220 (2) Medical Law and Ethics
- SCI 200 † (3) Science, Technology & Society
- SSC 200 † (3) The Social Sciences & Contemporary America
- SPE 101 (3) Fundamentals of Communication OR
- SPE 257 (3) Public Speaking

The following MA classes must be taken sequentially (ALH):

**FALL SEMESTER - 6 credit hours**

**ALH 125 † (3) Intro to the Health Care Environment**
**ALH 112 † (3) Insurance Billing**

**WINTER SEMESTER (Winter) - 6 credit hours**

**ALH 230 † (3) Laboratory Procedures for the Medical Office**
**ALH 210 † (4) Clinical Procedures / Pharmacology**

**SPRING SEMESTER (Spring) - 3 credit hours**

**ALH 250 † (4) Medical Assistant Office Externship**

*OIS 130 is highly recommended for the Office Information Systems, Legal Secretary, Medical Secretary, and Medical Assistant programs. However, it is an acceptable substitute if students have already taken CIS.100.

**NOTE:** All courses in a semester must be passed with a grade of “C” or better to progress to the next semester. OIS courses must be a grade of “C-” or better.

† Prerequisite required - see course description.

**Restricted Enrollment**
You, as a student, are responsible for meeting requirements for your curriculum. Your advisor is available for consultation. At least 12 of these credit hours must be taken at MMCC. A minimum of 62 credits is required to complete this program.

Prerequisites to the LEVEL II ADN Program: 28 credit hours
- CIS 100 † (3) Intro to Info Processing Systems
- ENG 111 † (3) Freshman English Composition
- MAT 104 † (3) Basic Algebra
- BIO 141 † (4) Anatomy & Physiology I
- BIO 142 † (4) Anatomy & Physiology II
- SPE 101 † (3) Fundamentals of Communication OR SPE 257 † (3) Public Speaking
- BIO 210 † (4) Microbiology
- CHM 106 † (4) Organic & Biochemistry for Allied Health

Credit for all LEVEL I Nursing courses are granted by virtue of an LPN License. For further information contact the Dean of Nursing & Health Technologies.

LEVEL I General Education Requirements: CIS 100, MAT, ENG 111 and SPE 101-or-SPE 257

LEVEL II General Education Requirements:
- Humanities, Science, Social Sciences

TRANSITION: FIRST SEMESTER (Spring) - 1 credit hours
- NUR 133 † (1) Transition to Level II of the Program

LEVEL II: SECOND SEMESTER (Summer) - 3 credit hours
- SSC 200 † (3) The Social Sciences & Contemporary America

LEVEL II: THIRD SEMESTER (Fall) - 5 credit hours
- NUR 223 † (2.5) Mental Health
- NUR 224 † (2.5) Mental Health: Clinical IV

LEVEL II: FOURTH SEMESTER (Winter) - 10 credit hours
- NUR 225 † (5) Care of Adult II
- NUR 226 † (5) Nursing Clinical V

LEVEL II: FIFTH SEMESTER (Spring or Summer) - 5 credit hours
- HUM 200 † (3) Modernity & Culture
- NUR 226 Continued from Winter Semester

LEVEL II: SIXTH SEMESTER (Fall) - 5 credit hours
- NUR 221 † (2.5) Family-Centered
- NUR 222 † (2.5) Family-Centered: Clinical IV
- NUR 227 † (2) Leadership

LEVEL II: SEVENTH SEMESTER (Winter) - 3 credit hours
- NUR 228 † (3) Preceptorship: Clinical VI

NOTE: All courses in a semester must be passed with a grade of “C” or better to progress to the next semester. BIO 141 & BIO 142 courses must be passed with a grade of “B-” or better to enter the program. Students must have a minimum GPA of 2.5 in the first 22 hours of listed prerequisites. If students have taken science courses prior to admission into a specific health program, the courses must have been completed within five (5) years of the date the student formally begins the program. Prerequisites may be repeated only once.

† Prerequisite required - see course description
You, as a student, are responsible for meeting requirements for your curriculum. Your advisor is available for consultation. At least 12 of these credit hours must be taken at MMCC. A minimum of 62 credits is required to complete this program.

**Prerequisites to the LEVEL II ADN Program:** 28 credit hours

- **CIS 100** † (3) Intro to Info Processing Sys OR competency
- **ENG 111** † (3) Freshman English Composition
- **MAT 104** † (3) Basic Algebra
- **BIO 141** † (4) Anatomy & Physiology I
- **BIO 142** † (4) Anatomy & Physiology II
- **BIO 210** † (4) Microbiology
- **CHM 106** † (4) Organic & Biochemistry for Allied Health
- **SPE 101** (3) Fundamentals of Communication OR **SPE 257** (3) Public Speaking

All non-MMCC LPN’s and MMCC LPN’s who graduated more than two years ago may enter this Step-up program. Credit for all LEVEL I Nursing courses are granted by virtue of an LPN License. For further information contact the Dean of Nursing & Health Technologies.

**LEVEL I General Education Requirements:** CIS 100, MAT, ENG 111 and SPE 101-or-SPE 257

**LEVEL II General Education Requirements:**

- Humanities, Science, Social Sciences

**TRANSITION: THIRD SEMESTER (Summer) - 1 credit hours**

- **NUR 133** † (1) Transition to Level II of the Program

**LEVEL II: FOURTH SEMESTER (Fall) - 13 credit hours**

- **NUR 221** † (2.5) Family-Centered
- **NUR 222** † (2.5) Family-Centered: Clinical IV NUR 223 † (2.5) Mental Health
- **NUR 224** † (2.5) Mental Health: Clinical IV
- **SSC 200** † (3) The Social Sciences & Contemporary America

**LEVEL II: FIFTH SEMESTER (Winter) - 15 credit hours**

- **NUR 225** † (5) Care of Adult II
- **NUR 226** † (5) Nursing Clinical V
- **NUR 227** † (2) Leadership
- **HUM 200** † (3) Modernity & Culture

**LEVEL II: SIXTH SEMESTER (Spring) - 3 credit hours**

- **NUR 228** † (3) Preceptorship: Clinical VI

**NOTE:** All courses in a semester must be passed with a grade of “C” or better to progress to the next semester. BIO 141 & BIO 142 courses must be passed with a grade of “B-” or better to enter the program. Students must have a minimum GPA of 2.5 in the first 22 hours of listed prerequisites. If students have taken science courses prior to admission into a specific health program, the courses must have been completed within five (5) years of the date the student formally begins the program. Prerequisites may be repeated only once.

† Prerequisite required - see course description
You, as a student, are responsible for meeting requirements for your curriculum. Your advisor is available for consultation. At least 12 of these credit hours must be taken at MMCC. A minimum of 63 credits is required to complete this program.

LEVEL I General Education Requirements: CIS 100, MAT, ENG 111 and SPE 101-or-SPE 257

FIRST SEMESTER (Fall) - 15 credit hours
CHM 111 † (4) General College Chemistry I
ENG 111 † (3) Freshman English Composition
MAT 124 † (5) Precalculus
SPE 101 (3) Fundamentals of Communication OR SPE 257 (3) Public Speaking

SECOND SEMESTER (Winter) - 17 credit hours
BIO 101 (4) College Biology
CHM 112 † (4) General College Chemistry II
PSY 101 (3) Introduction to General Psychology
SOC 101 (3) Principles of Sociology
Elective (3) Group IV

LEVEL II General Education Requirements: Humanities, Science, Social Sciences

THIRD SEMESTER (Fall) - 14 credit hours
ENG 222 † (3) Expository Writing & Research
PHY 105 † (5) Introductory College Physics I
PSY 212 † (3) Developmental Psychology
CIS 100 † (3) Computer Information Processing Systems OR
CPS 175 † (3) Computer Programming I *

FOURTH SEMESTER (Winter) - 17 credit hours
PHL 201 (3) Introductory Philosophy
PHY 106 † (5) Introductory College Physics II
POL 201 (3) Introduction to American Government
Elective (3) Recommend: BIO 141 & BIO 142 **
HUM 200 † (3) Modernity & Culture

1. It is strongly recommended that students take math and science classes in the specific semester listed. Many of these courses are only offered fall or winter. Other courses may be adjusted.

2. Students who need CHM 105, MAT 105 and/or ENG 101 are encouraged to begin with these classes previous to beginning the program.

3. It is POSSIBLE for students to complete this program in a total of 2 years, however, due to the heavy science load, a student may wish to consider either an extra semester or a spring/summer session.

* CIS 100 competency must be met in order to earn an associate degree. CIS 100 or CPS 175 requirements vary depending on the transfer college. Please check with a counselor.

** Students are advised to check with the transfer College.

† Prerequisite required - see course description
You, as a student, are responsible for meeting requirements for your curriculum. Your advisor is available for consultation. At least 12 of these credit hours must be taken at MMCC. A minimum of 83 credits is required to complete this program.

**Prerequisites to the Program - 19 credit hours**

- BIO 141 † (4) Anatomy & Physiology I
- ALH 100 (2) Medical Terminology
- CHM 105 † (4) Introductory Chemistry
- CIS 100 † (3) Intro to Info Processing Systems OR competency
- ENG 111 † (3) Freshman English Composition
- MAT 104 † (3) Basic Algebra

**LEVEL I General Education Requirements:** CIS 100, MAT, ENG 111 and SPE 101-or-SPE 257

**FIRST SEMESTER (Fall) - 13 credit hours**

- BIO 142 † (4) Anatomy & Physiology II
- RAD 100 † (3) Introduction to Radiologic Technology
- RAD 110 † (3) Radiation Physics
- SPE 101 (3) Fundamentals of Communication OR
- SPE 257 (3) Public Speaking

**SECOND SEMESTER (Winter) - 16 credit hours**

- PSY 101 (3) Introduction to General Psychology
- RAD 115 † (3) Principles of Radiographic Exposure
- RAD 130 † (4) Radiographic Positioning I
- HUM 200 † (3) Modernity & Culture
- SSC 200 † (3) The Social Sciences & Contemporary America

**SPRING/SUMMER SESSION - 3 credit hours**

- RAD 175 † (3) Radiographic Positioning II

**LEVEL II General Education Requirements:**

**THIRD SEMESTER (Fall) - 13 credit hours**

- BIO 110 † (1) Concepts in Microbiology
- RAD 200 † (8) Clinical Education I
- RAD 201 † (2) Clinical Issues in Radiography I
- RAD 215 † (2) Radiologic Techniques I

**FOURTH SEMESTER (Winter) - 12 credit hours**

- RAD 217 † (2) Radiologic Techniques II
- RAD 220 † (9) Clinical Education II
- RAD 221 † (1) Clinical Issues in Radiography II

**SPRING/SUMMER SESSION - 7 credit hours**

- RAD 225 † (5) Clinical Education III
- RAD 226 † (1) Clinical Issues in Radiography III
- RAD 230 † (1) Radiographic Quality Assurance

**NOTE:** All courses in a semester must be passed with a grade of "C" or better to progress to the next semester. BIO 141 & 142 must be a grade of "B-" or better. If students have taken science courses prior to admission into a specific health program, the courses must have been completed within five (5) years of the date the student formally begins the program.

† Prerequisite required - see course description
You, as a student, are responsible for meeting requirements for your curriculum. Your advisor is available for consultation. At least 12 of these credit hours must be taken at MMCC. A minimum of 53 credits is required to complete the Level I program. A minimum of 92 credits is required to complete the Level II program.

Prerequisites to the Program: 22 credit hours
- ALH 100 (2) Medical Terminology
- CIS 100 † (3) Intro to Info Processing Systems OR competency
- ENG 111 † (3) Freshman English Composition
- MAT 104 † (3) Basic Algebra
- BIO 141 † (4) Anatomy & Physiology I
- BIO 142 † (4) Anatomy & Physiology II
- SPE 101 † (3) Fundamentals of Communication OR
- SPE 257 † (3) Public Speaking

Prerequisites to the Level II ADN Program: 8 credit hours
- BIO 210 † (4) Microbiology
- CHM 106 † (4) Organic & Biochemistry for Allied Health

LEVEL I General Education Requirements: CIS 100, MAT, ENG 111 and SPE 101-OR-SPE 257

LEVEL I: FIRST SEMESTER (Fall) - 14 credit hours
- NUR 121 † (6) Fundamentals of Nursing
- NUR 124 † (5) Nursing Clinical I
- NUR 150 † (3) Pharmacology

LEVEL I: SECOND SEMESTER (Winter) - 14 credit hours
- NUR 125 † (6) Care of Adult I
- NUR 127 † (3) Maternal/Child
- NUR 128 † (5) Nursing Clinical II

LEVEL I: THIRD SEMESTER (Spring) - 3 credit hours
- NUR 130 † (3) Nursing Clinical III

LEVEL II General Education Requirements:
Humanities, Science, Social Sciences

LEVEL II: FOURTH SEMESTER (Fall) - 13 credit hours
- NUR 221 † (2.5) Family-Centered
- NUR 222 † (2.5) Family-Centered: Clinical IV
- NUR 223 † (2.5) Mental Health
- NUR 224 † (2.5) Mental Health: Clinical IV
- SSC 200 † (3) The Social Sciences & Contemporary America

LEVEL II: FIFTH SEMESTER (Winter) - 15 credit hours
- NUR 225 † (5) Care of Adult II
- NUR 226 † (5) Nursing Clinical V
- NUR 227 † (2) Leadership
- HUM 200 † (3) Modernity & Culture

LEVEL II: SIXTH SEMESTER (Spring) - 3 credit hours
- NUR 228 † (3) Preceptorship: Clinical VI

NOTE: It is possible for students to complete this program in a total of 2 years after the prerequisites are completed; however, due to the intensity of the NUR courses, it is suggested that students complete the additional required academic courses while awaiting admission to the program.

NOTE: Also available is a Step-Up program which provides entrance into the Associate in Nursing Degree Program at Level II for qualified licensed Practical Nurses. Credit for all Level I Nursing courses are granted by virtue of an LPN License. For further information contact the Dean of Nursing & Academic Sciences in the Health Wing.

NOTE: All courses in a semester must be passed with a grade of "C" or better to progress to the next semester. BIO 141 & BIO 142 courses must be passed with a grade of "B-" or better to enter the program. Students must have a minimum GPA of 2.5 in the first 22 hours of listed prerequisites. If students have taken science courses prior to admission into a specific health program, the courses must have been completed within five (5) years of the date the student formally begins the program. Prerequisites may be repeated only once.

† Prerequisite required - see course description
Pharmacy Technician
Certificate of Achievement

You, as a student, are responsible for meeting requirements for your curriculum. Your advisor is available for consultation. At least 12 of these credit hours must be taken at MMCC. A minimum of 35 credits is required to complete this program.

The Pharmacy Technician Program is a one-year certificate program emphasizing hospital, community, and home infusion/nursing home practice. Role play, communication, teamwork, and conflict management is emphasized. The comprehensive training program has laboratory course instruction which emphasizes hand-on skill development. The program includes 120 hours of an institutional and community pharmacy practicum. The coursework prepares the individual for the national certification exam. The certification exam must be taken within 6 months of graduation.

SEMESTER I - 12 credit hours

The following PHT courses must be taken in sequence:
- PHT 104 (4) Orientation to Pharmacy Technology
- PHT 105 (3) Pharmacy Law
- PHT 106 (3) Pharmaceutical Calculations and Drug Preps
- ALH 100 (2) Medical Terminology

SEMESTER II - 13 credit hours

- PHT 113 (3) Institution and Community Pharmacy
- PHT 114 (4) Therapeutic Agents and Body Systems
- SPE 101 (3) Fundamentals of Communication OR
- SPE 257 (3) Public Speaking
- CIS 100 (3) Computer Information Systems

SEMESTER III - 7 credit hours

- ENG 111 (3) Freshman English Composition
- PHT 115 (4) Clinical Practicum

NOTE: All courses in a semester must be passed with a grade of "C" or better to progress to the next semester. Students must maintain a minimum GPA of 2.0. Prerequisites and program course may be repeated only once.

† Prerequisite required - see course description
Teachers, fire fighters, coaches, social workers, psychologists, lawyers, and senators. No connection between these things? Think again. They are all doing something every day that makes life better for someone. These are some of the fastest growing careers around and MMCC is giving men and women the opportunity to meet the challenges of the human services area.
You, as a student, are responsible for meeting requirements for your curriculum. Your advisor is available for consultation. At least 12 of these credit hours must be taken at MMCC. A minimum of 63 credits is required to complete this program.

LEVEL I General Education Requirements: CIS 100, MAT, ENG 111 and SPE 101-or-SPE 257

LEVEL II General Education Requirements:
  Humanities, Science, Social Sciences

Communication Skills (Group I) - 9 credit hours
  ENG 111 † (3) Freshman English Composition
  ENG 222 † (3) Expository Writing & Research
  SPE 101 (3) Fundamentals of Communication OR
  SPE 257 (3) Public Speaking

Science and Mathematics (Group II) - 9 credit hours
  MAT 105 † (3) Intermediate Algebra
  Elective (3) Group II
  SCI 200 † (3) Science, Technology & Society

Social Sciences (Group III) - 15 credit hours
  PSY 101 (3) Intro to General Psychology
  PSY 205 † (3) Abnormal Psychology
  SOC 101 (3) Principles of Sociology
  SOC 200 † (3) Contemporary Social Problems
  Elective (3) Group III

Humanities and Fine Arts (Group IV) - 9 credit hours
  (minimum of two disciplines)
  Electives (9)
  9 hrs of Humanities with at least 3 credits at the 200 level OR 6 hrs of Humanities & 3 hrs Fine Arts, with at least 3 credits at the 200 level.

Applied Arts and Sciences (Group V) - 18 credit hours
  CIS 100 † (3) Intro to Information Processing Systems
  CRJ 200 (3) Introduction to Corrections
  CRJ 201 (3) Legal Issues in Corrections
  CRJ 210 (3) Correctional Institutions
  CRJ 211 (3) Client Growth & Development
  CRJ 221 (3) Client Relations in Corrections

Health and Physical Education (Group VI) - 3 credit hours
  Elective (3) Group VI

† Prerequisite required - see course description
You, as a student, are responsible for meeting requirements for your curriculum. Your advisor is available for consultation. At least 12 of these credit hours must be taken at MMCC. A minimum of 62 credits is required to complete this program.

**LEVEL I General Education Requirements:** CIS 100, MAT, ENG 111 and SPE 101-or-SPE 257

**LEVEL II General Education Requirements:**
- **Humanities, Science, Social Sciences**
  - **Communication Skills (Group I) - 9 credit hours**
    - ENG 111  † (3) Freshman English Composition
    - ENG 222  † (3) Expository Writing & Research
    - SPE 101  (3) Fundamentals of Communication OR SPE 257  (3) Public Speaking
  - **Science and Mathematics (Group II) - 10 credit hours**
    - MAT 105  † (3) Intermediate Algebra
    - Choose ONE: (4) BIO 101, 131, 141, 201, 203; CHM 111; ENV 210 GEL 101; PSC 101,102; OR PHY 103, 105, 211
    - SCI 200  † (3) Science, Technology & Society
  - **Social Sciences (Group III) - 9 credit hours**
    - POL 201  (3) Intro to American Government
    - PSY 101  (3) Intro to General Psychology
    - SOC 101  (3) Principles of Sociology
  - **Humanities and Fine Arts (Group IV) - 9 credit hours**
    - Choose ONE: (3) PHL *201 OR PHL 220
    - Choose ONE: † (3) ENG 112, 201, 202, 211, 212, OR 213
    - HUM 200  † (3) Modernity & Culture

**Applied Arts and Sciences (Group V) - 21 credit hours**
- CIS 100  † (3) Intro to Information Processing Systems
- CRJ 200  (3) Introduction to Corrections
- CRJ 201  (3) Legal Issues in Corrections
- CRJ 210  (3) Correctional Institutions
- CRJ 211  (3) Client Growth & Development
- CRJ 221  (3) Client Relations in Corrections
- LEN 205  (3) Intro to Law Enforcement & CRJ

**Elective(s) - 4 credit hours (a maximum of 4 credits will transfer to SVSU)**
- Choose ONE of the following three options (option 2 & 3 require 1 additional credit):
  1. To fulfill category 3 SVSU General Education requirement, MAT 124
  2. To fulfill SVSU Interdisciplinary option, SOC 200 (3), *250 (3), OR PSY *205 (3)
  3. To fulfill category 8 SVSU General Education requirement, POL 250 (3) OR HUM 183 (3)

* Preapproved course for Criminal Justice at SVSU - See transfer advisor at SVSU

**NOTE:** Please see your advisor. Prior to entering Criminal Justice programs, students must meet with an advisor to assure that the student meets the minimum standards set by Michigan Commission on Law Enforcement Standards.

† Prerequisite required - see course description
You, as a student, are responsible for meeting requirements for your curriculum. Your advisor is available for consultation. At least 12 of these credit hours must be taken at MMCC. A minimum of 66 credits is required to complete this program.

**LEVEL I General Education Requirements:** CIS 100, MAT, ENG 111 and SPE 101-or-SPE 257

**LEVEL II General Education Requirements:**
- Humanities, Science, Social Sciences

**Communication Skills (Group I) - 9 credit hours**
- ENG 111 † (3) Freshman English Composition
- ENG 222 † (3) Expository Writing & Research
- SPE 101 (3) Fundamentals of Communication OR SPE 257 (3) Public Speaking

**Science and Mathematics (Group II) - 9 credit hours**
- MAT 105 † (3) Intermediate Algebra
- Elective (3) Group II
- SCI 200 † (3) Science, Technology & Society

**Social Sciences (Group III) - 15 credit hours**
- POL 201 (3) Intro to American Government
- PSY 101 (3) Intro to General Psychology
- SOC 101 (3) Principles of Sociology
- SOC 200 † (3) Contemporary Social Problems
- PSY 205 † (3) Abnormal Psychology OR SOC 250 (3) The American Family

**Humanities and Fine Arts (Group IV) - 9 credit hours (minimum of two disciplines)**
- Electives (9)
  - 9 hrs of Humanities with at least 3 credits at the 200 level OR 6 hrs of Humanities & 3 hrs Fine Arts, with at least 3 credits at the 200 level.

**Applied Arts and Sciences (Group V) - 21 credit hours**
- CIS 100 † (3) Intro to Information Processing Systems
- LEN 205 (3) Intro to Law Enforcement & Criminal Justice
- LEN 203 † (3) Criminal Law for Police Officers
- LEN 204 † (3) Criminal Investigation
- LEN 200 † (3) Evidence
- LEN 201 (3) Fundamentals of Supervision & Mngmt in CRJ
- LEN 202 (3) Juvenile Law & Procedures

**Health and Physical Education (Group VI) - 3 credit hours**
- Elective (3) Recommended: PED 255 Physical Training

**NOTE:** Prior to entering Law Enforcement programs, students must meet with an advisor to assure that the student meets the minimum standards set by Michigan Commission on Law Enforcement Standards (MCOLES). After completion of the LEN associate program, students take and pass the MCOLES pre-employment reading/writing test and a physical skills test before entering a college MCOLES approved Police Academy.

† Prerequisite required - see course description
You, as a student, are responsible for meeting requirements for your curriculum. Your advisor is available for consultation. At least 12 of these credit hours must be taken at MMCC. A minimum of 63 credits is required to complete this program.

LEVEL I General Education Requirements: CIS 100, MAT, ENG 111 and SPE 101-or-SPE 257

FIRST SEMESTER (Fall) - 15 credit hours
- LEN 205 (3) Intro to Law Enforcement & Criminal Justice
- CIS 100 † (3) Intro to Information Processing Systems
- ENG 111 † (3) Freshman English Composition
- MAT 105 † (3) Intermediate Algebra
- SPE 101 (3) Fundamentals of Communication OR SPE 257 (3) Public Speaking

LEVEL II General Education Requirements:
Humanities, Science, Social Sciences

SECOND SEMESTER (Winter) - 15 credit hours
- LEN 203 † (3) Criminal Law for Police Officers
- LEN 204 † (3) Criminal Investigation
- HUM 200 † (3) Modernity & Culture
- SCI 200 † (3) Science, Technology & Society
- SSC 200 † (3) The Social Sciences & Contemporary America

THIRD SEMESTER (Fall) - 12 credit hours
- LEN 200 † (3) Evidence
- LEN 201 (3) Fundamentals of Supervision & Management in Criminal Justice
- LEN 202 (3) Juvenile Law & Procedures
- PED 255 (3) Physical Training

FOURTH SEMESTER (Winter) - 21 credit hours
- Police Academy (Kirtland Community College or Delta College)
- LEN 289 (21) Police Academy

NOTE: Please see your advisor prior to entering Law Enforcement Associate Pre-Service Program. Students should be made aware of the preemployment reading/writing test and a physical skills test mandated by the Michigan Commission on Law Enforcement Standards (MCOLES).

† Prerequisite required - see course description
Associate in Applied Science Degree
Criminal Justice - Law Enforcement - SVSU - 4 yr. Transfer Program

You, as a student, are responsible for meeting requirements for your curriculum. Your advisor is available for consultation. At least 12 of these credit hours must be taken at MMCC. A minimum of 62 credits is required to complete this program.

**LEVEL I General Education Requirements:** CIS 100, MAT, ENG 111 and SPE 101-or-SPE 257

**LEVEL II General Education Requirements:**

**Communication Skills (Group I) - 9 credit hours**
- ENG 111 † (3) Freshman English Composition
- ENG 222 † (3) Expository Writing & Research
- SPE 101 (3) Fundamentals of Communication OR SPE 257 (3) Public Speaking

**Science and Mathematics (Group II) - 10 credit hours**
- MAT 105 † (3) Intermediate Algebra
- Choose ONE: (4) BIO 101, 131, 141, 201, 203; CHM 111; ENV 210; GEL 101; PSC 101, 102; OR PHY 103, 105, 211
- SCI 200 † (3) Science, Technology & Society

**Social Sciences (Group III) - 12 credit hours**
- POL 201 (3) Intro to American Government
- PSY 101 (3) Intro to General Psychology
- SOC 101 (3) Principles of Sociology
- SOC**250 (3) The American Family

**Humanities and Fine Arts (Group IV) - 9 credit hours**
- Choose ONE: (3) PHL*201 OR PHL 220
- Choose ONE: (3) †ENG 112, 201, 202, 211, 212 OR 213
- HUM 200 † (3) Modernity & Culture

**Applied Arts and Sciences (Group V) - 18 credit hours**
- CIS 100 † (3) Intro to Information Processing Systems
- LEN 205 (3) Intro to Law Enforcement & Criminal Justice
- LEN**203 † (3) Criminal Law for Police Officers
- LEN**204 † (3) Criminal Investigation
- LEN**200 † (3) Evidence
- LEN**202 (3) Juvenile Law & Procedures

**Elective(s) - 4 credit hours (a maximum of 4 credits will transfer to SVSU)**
Choose ONE of the following three options (option 2 & 3 need 1 additional credit):
1. To fulfill category 3 SVSU General Education requirement, MAT 124 (5)
2. To fulfill SVSU Interdisciplinary option, SOC 200 (3)
3. To fulfill category 8 SVSU General Education requirement, POL 250 (3) OR HUM 183 (3)

* Preapproved course for Criminal Justice at SVSU at SVSU - See transfer advisor at SVSU.
**Preapproved substitute toward 15 credits of electives in Criminal Justice at SVSU - See transfer advisor at SVSU.

NOTE: Please see your advisor. Prior to entering Law Enforcement programs, students must meet with an advisor to assure that the student meets the minimum standards set by Michigan Commission on Law Enforcement Standards. After completion of the LEN associate program, students take and pass the Michigan Commission on Law Enforcement Standards (MCOLES) pre-employment reading/writing test and a physical skills test before entering a college MCOLES approved Police Academy.

† Prerequisite required - see course description
You, as a student, are responsible for meeting requirements for your curriculum. Your advisor is available for consultation. At least 12 of these credit hours must be taken at MMCC. A minimum of 62 credits is required to complete this program.

LEVEL I General Education Requirements: CIS 100, MAT, ENG 111 and SPE 101-or-SPE 257

FIRST SEMESTER (Fall) - 14 credit hours
- ECE 101 † (4) Intro to Early Childhood Education
- ECE 112 † (4) Infancy
- CIS 100 † (3) Intro to Information Processing Systems
- ENG 111 † (3) Freshman English Composition

SECOND SEMESTER (Winter) - 17 credit hours
- ECE 113 † (4) Early Childhood
- ECE 114 † (4) Interacting with Children, Parent/Adult Child Relations
- MAT 101 (3) Basic Mathematics
- PSY 101 (3) Introduction to General Psychology
- SPE 101 (3) Fundamentals of Communication OR SPE 257 (3) Public Speaking

LEVEL II General Education Requirements: Humanities, Science, Social Sciences

THIRD SEMESTER (Fall) - 15 credit hours
- ECE 201 † (3) Guidance & Implementation of Programs for Young Children
- ECE 202 † (3) Creative Development of the Child
- ECE 206 † (3) Parent, School & Community Involvement
- PSY 212 † (3) Developmental Psychology OR PSY 281 † (3) Behavior Modification
- SSC 200 † (3) The Social Sciences & Contemporary America OR Select ONE: ANT 170, POL 201, SOC 101, SOC 250

FOURTH SEMESTER (Winter) - 16 or 17 credit hours
- ECE 207 † (4) Early Childhood Education Practicum
- ECE 208 † (4) Program Management
- HUM 200 † (3) Modernity & Culture
- SCI 200 † (3) Science, Technology & Society Elective (2-3) Select ONE: ART 245, ECE 150, EDU 107, ENG 222, ENG 281, MUS 131

NOTE: All courses must be completed with a grade “C” or better. ECE courses require students to show validation of NO Evidence of Child Abuse or Neglect per Public Act 68 of 1993 by third week of class.

† Prerequisite required - see course description
You, as a student, are responsible for meeting requirements for your curriculum. Your advisor is available for consultation. At least 12 of these credit hours must be taken at MMCC. A minimum of 63 credits is required to complete this program.

**LEVEL I General Education Requirements:**
- CIS 100, MAT, ENG 111 and SPE 101-or-SPE 257

**LEVEL II General Education Requirements:**
- Humanities, Science, Social Sciences

**Communication Skills (Group I) - 9 credit hours**
- ENG 111* † (3) Freshman English Composition
- ENG 222* † (3) Expository Writing & Research
- SPE 101** (3) Fundamentals of Communication OR SPE 257** (3) Public Speaking

**Science and Mathematics (Group II) - 24 credit hours**
- BIO 221 † (3) Nature Study
- MAT 105** † (3) Intermediate Algebra
- MAT 118 † (3) Math for Elementary Teachers I
- MAT 218 † (3) Math for Elementary Teachers II
- Select TWO from: BIO 101, GEL 101, PSC 101
- Select ONE from: CHM 105, PSC 102

**Social Sciences (Group III) - 9 credit hours**
- POL 201 (3) Intro to American Government
- Select ONE from: PSY 101, SOC 101, ANT 170, ECO 110
- HIS 211 (3) History of the U.S. I OR
- HIS 212 (3) History of the U.S. II

**Humanities and Fine Arts (Group IV) - 12 credit hours**
- Suggested:
  - ART 245 (3) Art in the Elementary School
  - MUS 275 (3) Music Appreciation
  - PHIL 220 (3) Ethical Issues
  - Select one from: ENG 202, ENG 205, ENG 206

**Applied Arts and Sciences (Group V) - 3 credit hours**
- Required:
  - CIS 100 (3) Intro to Information Processing Systems

**Education (Group VII) - 3 credit hours**
- Required:
  - EDU 107*** (3) Introduction to Teaching

**Electives: 3 credit hours**
- Suggested: EDU 290 (3) or Foreign Language

**NOTE:**
- Students are required to present evidence of at least 45 clock hours of experience working with children or youth, in a K-12 classroom situation, prior to their admission to the Teacher Education Program. A minimum 2.7 CMU GPA is required to be considered for admission to CMU’s Teacher Education Program. This is a limited enrollment program. Further admission requirements information should be obtained from the CMU Teacher Education Student Services, 203 Ronan Hall, (989) 774-3308. Students wishing to pursue an Elementary Education degree at an institution other than CMU should consult a MMCC counselor for assistance in program planning.

- * A grade of “B-” or better in EITHER ENG 111 or ENG 222; must be a “C” or better for remaining course to fulfill writing competency at CMU.

- ** A grade of “C” or better in ENG 222, SPE 101 or SPE 257, and MAT 105.

- ***A grade of “B” or better in EDU.107 is required.

† Prerequisite required - see course description.
You, as a student, are responsible for meeting requirements for your curriculum. Your advisor is available for consultation. At least 12 of these credit hours must be taken at MMCC. A minimum of 62 credits is required to complete this program.

**Restricted Program:** Please see a MMCC Counselor. Students who enter this program are sponsored by local fire departments.

**LEVEL I General Education Requirements:** CIS 100, MAT, ENG 111 and SPE 101-or-SPE 257

**LEVEL II General Education Requirements:**
- **Humanities, Science, Social Sciences**
  - **Communication Skills (Group I) - 6 credit hours**
    - ENG 111 † (3) Freshman English Composition
    - SPE 101 (3) Fundamentals of Communication OR SPE 257 (3) Public Speaking
  - **Science and Mathematics (Group II) - 9 credit hours**
    - MAT 101 (3) Basic Mathematics
    - Elective (3) Recommended: CHM 100
    - SCI 200 † (3) Science, Technology & Society
  - **Social Sciences (Group III) - 9 credit hours**
    - Electives (6) Group III
    - SSC 200 † (3) The Social Sciences & Contemporary America

**Humanities and Fine Arts (Group IV) - 3 credit hours**
- HUM 200 † (3) Modernity & Culture

**Applied Arts and Sciences (Group V) - 30 credit hours**
- CIS 100 † (3) Intro to Information Processing Systems
- FFT 101 (8) Fire Fighter I Training
- FFT 102 † (8) Fire Fighter II Training
- Electives (7) FFT, EMS, EMT, MET, HED only
- FFT 105 (4) Fire Fighter Training IIIA OR FFT 100 (4) Electives from FFT 100 level to equal 4 credit hours

**Electives - 5 credit hours**
- Electives (5) Groups I - VII

**NOTE:** FFT courses taken other than at MMCC will not be evaluated until the student has completed the 32 hours of general education requirements.

† **Prerequisite required - see course description**
You, as a student, are responsible for meeting requirements for your curriculum. Your advisor is available for consultation. At least 12 of these credit hours must be taken at MMCC. A minimum of 62 credit hours is required to complete this program.

**LEVEL I General Education Requirements:** CIS 100, MAT, ENG 111 and SPE 101-or-SPE 257

**LEVEL II General Education Requirements:** Humanities, Science, Social Sciences

**Communication Skills (Group I) - 9 credit hours**
- ENG 111* † (3) Freshman English Composition
- ENG 222* † (3) Expository Writing & Research
- SPE 101* (3) Fundamentals of Communication OR SPE 257 (3) Public Speaking

**Science and Mathematics (Group II) - 10 credit hours**
- BIO 101 (4) College Biology
- MAT 212* (3) Intro to Probability & Statistics
- SCI 200 (3) Science, Technology & Society OR (3) Physical Science

**Social Sciences (Group III) - 24 credit hours**
- POL 201 (3) Intro to American Government
- PSY 101 (3) Intro to General Psychology
- Electives (12) PSY only
- Electives (6) Group III - other than PSY

**Humanities and Fine Arts (Group IV) - 9 credit hours (minimum of two disciplines)**
- HUM 200 † (3) Modernity & Culture
- Electives (6) Group IV

**Applied Arts and Sciences (Group V) - 3 credit hours**
- CIS 100 † (3) Intro to Information Processing Systems

Electives - 7 credit hours
- Electives (7) Groups I, II, III, IV and VI. (maximum of 2 credit hours in Group VI.)

*Most universities require demonstrated competency by completing these courses with a grade of “C” or better.

† Prerequisite required - see course description
You, as a student, are responsible for meeting requirements for your curriculum. Your advisor is available for consultation. At least 12 of these credit hours must be taken at MMCC. A minimum of 63 credits is required to complete this program.

**LEVEL I General Education Requirements:** CIS 100, MAT, ENG 111 and SPE 101-or-SPE 257

**LEVEL II General Education Requirements:**
- **Humanities, Science, Social Sciences**
  - **Communication Skills (Group I) - 9 credit hours**
    - ENG 111* † (3) Freshman English Composition
    - ENG 222* † (3) Expository Writing & Research
    - SPE 101** (3) Fundamentals of Communication OR
    - SPE 257** (3) Public Speaking
  - **Science and Mathematics (Group II) - 11 credit hours**
    - MAT 105** † (3) Intermediate Algebra
    - BIO 101 (4) College Biology
    - Select ONE: CHM 105, 111, GEL 101, PHY 105, 211, PSC 101, or PSC 102
  - **Social Sciences (Group III) - 12 credit hours**
    - POL 201 (3) Intro to American Government
    - PSY 101 (3) Introduction to General Psychology
    - PSY 212 † (3) Developmental Psychology
    - HIS 211 (3) History of the United States I OR
    - HIS 212 (3) History of the United States II
  - **Humanities and Fine Arts (Group IV) - 15 credit hours**
    - Select ONE: (3) PHL 201, 205, 220
    - Select ONE: † (3) ENG 201, 202, 205, 206
    - Select ONE: (3) FRN 101, GER 101, 102, HUM 183, NAL 101, SPN 101, 102, 201
    - Select TWO: (6) ART, MUS, TAI
  - **Applied Arts and Sciences (Group V) - 3 credit hours**
    - CIS 100 † (3) Intro to Information Processing Systems
  - **Education (Group VII) - 3 credit hours**
    - EDU 107*** (3) Introduction to Teaching
  - **Electives - 10 credit hours**
    - Electives from Groups I, II, III, IV and VI.
    - Students may earn no more than 2 credit hours in Group VI.
    - Recommended: SPN 101, SPN 102

**NOTE:** Students are required to present evidence of at least 45 clock hours of experience working with children or youth, in a K-12 classroom situation, prior to their admission to the Teacher Education Program. A minimum 2.7 CMU GPA is required for admission to CMU’s Teacher Education Program. This is a limited enrollment program. Further admission requirements information should be obtained from the CMU Teacher Education Student Services, 203 Ronan Hall, (989) 774-3308. Students wishing to pursue a Secondary Education degree at an institution other than CMU should consult a MMCC counselor for assistance in program planning.

**CMU Course Grade Requirements:**
* Grade of “B-” or better in EITHER ENG 111 or ENG 222; must be a “C” or better for remaining course to fulfill writing competency at CMU.
** Grade of “C” or better in MAT 105 and SPE 101 or SPE 257.
*** Grade of “B” or better in EDU 107 is required.

† Prerequisite required - see course description
You, as a student, are responsible for meeting requirements for your curriculum. Your advisor is available for consultation. At least 12 of these credit hours must be taken at MMCC. A minimum of 62 credits is required to complete this program.

LEVEL I General Education Requirements: CIS 100, MAT, ENG 111 and SPE 101-or-SPE 257

LEVEL II General Education Requirements:
Humanities, Science, Social Sciences

Communication Skills (Group I) - 9 credit hours
ENG 111* † (3) Freshman English Composition
ENG 222* † (3) Expository Writing & Research
SPE 101* (3) Fundamentals of Communication OR
SPE 257 (3) Public Speaking

Science and Mathematics (Group II) - 9 credit hours
Natural or Physical Science
Mathematics (105 or higher)*
Recommend: MAT 212
SCI 200 † (3) Science, Technology & Society

Social Sciences (Group III) - 27 credit hours
POL 201 (3) Intro to American Government
SOC 101 (3) Principles of Sociology
SOC XXX (12)
Electives (9) Group III

Humanities and Fine Arts (Group IV) - 9 credit hours - (minimum of two disciplines)
Electives (6) Group IV
HUM 200 † (3) Modernity & Culture

Applied Arts and Sciences (Group V) - 3 credit hours
CIS 100 † (3) Intro to Information Processing Systems

Electives - 5 credit hours
Electives (5) Recommend: Group III

* Most universities require demonstrated competency by completing these courses with a grade of “C” or better.
† Prerequisite required - see course description

Certificate of Achievement
Early Childhood Education

You, as a student, are responsible for meeting requirements for your curriculum. Your advisor is available for consultation. At least 12 of these credit hours must be taken at MMCC. A minimum of 31 credits is required to complete this program.

Prerequisites to the Program:
First Aid and CPR Certification
Validation of no Evidence of Child Abuse or Neglect per Public Act 68 of 1993
Health Requirements Met

FIRST SEMESTER (Fall) - 14 credit hours
ECE 101 † (4) Introduction to Early Childhood Education
ECE 112 † (4) Infancy
CIS 100 † (3) Introduction to Information Processing Systems

SECOND SEMESTER (Winter) - 17 credit hours
ECE 113 † (4) Early Childhood
ECE 114 † (4) Interacting with Children, Parent/Adult Child Relations
MAT 101 (3) Basic Mathematics
PSY 101 (3) Introduction to General Psychology
SPE 101 (3) Fundamentals of Communication OR
SPE 257 (3) Public Speaking

Please Note: All ECE courses must be completed with a grade of “C” or better.
† Prerequisite required - see course description
You, as a student, are responsible for meeting requirements for your curriculum. Your advisor is available for consultation. At least 12 of these credit hours must be taken at MMCC. A minimum of 60 credits is required to complete this program.

Communication Skills (Group I) 6 credit hours
- ENG 111 † (3) Freshman English Composition
- SPE 101 (3) Fundamentals of Communication OR SPE 257 (3) Public Speaking

Science and Mathematics (Group II) 9 credit hours
- MAT 104 † (3) Basic Algebra
- Elective (3-4) Natural or Physical Science (not CPS)
- Elective (3) Group II

Social Sciences (Group III) 6 credit hours
- PSY 101 (3) Intro to General Psychology
- Elective (3) Group III
- Recommend: PSY 212 Developmental Psychology

Humanities and Fine Arts (Group IV) 6 credit hours
- ENG 281 † (3) Children’s Literature
- Elective (3) ART or MUS

Applied Arts and Sciences (Group V) 7 credit hours
- CIS 100 † (3) Intro to Information Processing Systems
- ECE 101 (4) Intro to Early Childhood Education

Education (Group VII) 3 credit hours
- Required: EDU 107 (3) Introduction to Teaching

Electives 23 credit hours
- Recommend: EDU 200 (1-20) Externship (see details), ART 105, ART 110, CIS 130, ECE 113, EDU 101, ENG 101, SPN.101, SPN 102, SOC.101, SOC 202, SOC 220, SOC 222, SOC 250, Natural OR Physical Science

*Students may earn no more than 2 credit hours in Group VI

EDU 200 – EDUCATION EXTERNSHIP GUIDELINES
The Education Externship is set up to provide up to 20-hours of credit for Para Professionals who are currently working in classrooms and who have received training in the field of education. This credit can only be applied to the 60-credit hour Para Pro Certificate of Achievement. Examples of training and workshops are: Reading Recovery, Classroom Management, Whole Language, Mathematics Manipulative, Blood Born Pathogens, Safety, and numerous other applicable workshops, certifications, and training.

The formulas for awarding credits for experience and training are as follows:

Work experience in a classroom
1 credit = 75 contact hours
(Up to 10 credits can be obtained through work experience)

Training, Certifications, Workshops
1 credit = 16.5 contact hours

Students wishing to enroll in EDU 200 must be enrolled in the Para Pro Education Certificate of Achievement (either Secondary or Elementary emphasis) and submit a portfolio of documented work experience and training. A $100.00 evaluation fee will be charged to cover the cost of portfolio review and evaluation.

† Prerequisite required - see course description
You, as a student, are responsible for meeting requirements for your curriculum. Your advisor is available for consultation. At least 12 of these credit hours must be taken at MMCC. A minimum of 60 credits is required to complete this program.

**Communication Skills (Group I) 6 credit hours**
- ENG 111 † (3) Freshman English Composition
- SPE 101 (3) Fundamentals of Communication OR SPE 257 (3) Public Speaking

**Science and Mathematics (Group II) 9 credit hours**
- MAT 104 † (3) Basic Algebra
- Elective (3-4) Natural or Physical Science
- Elective (3) Group II

**Social Sciences (Group III) 6 credit hours**
- PSY 101 (3) Intro to General Psychology
- Elective (3) Group III
- Recommend: PSY 212 Developmental Psychology

**Humanities and Fine Arts (Group IV) 3 credit hours**
- Elective (3) Group IV

**Applied Arts and Sciences (Group V) 3 credit hours**
- CIS 100 † (3) Intro to Information Processing Systems

**Education (Group VII) 3 credit hours**
- EDU 107 (3) Introduction to Teaching

**Electives 30 credit hours**
- Recommend: EDU 200 (1-20) Externship (see details), ART 105, ART 110, CIS 130, ECE 113, EDU 101, ENG 101, SPN 101, SPN 102, SOC 101, SOC 202, SOC 220, SOC 222, SOC 250, Natural OR Physical Science

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**EDU 200 – EDUCATION EXTERNSHIP GUIDELINES**

The Education Externship is set up to provide up to 20-hours of credit for Para Professionals who are currently working in classrooms and who have received training in the field of education. This credit can only be applied to the 60-credit hour Para Pro Certificate of Achievement. Examples of training and workshops are: Reading Recovery, Classroom Management, Whole Language, Mathematics Manipulative, Blood Born Pathogens, Safety, and numerous other applicable workshops, certifications, and training.

The formulas for awarding credits for experience and training are as follows:

**Work experience in a classroom**
- 1 credit = 75 contact hours
- (Up to 10 credits can be obtained through work experience)

**Training, Certifications, Workshops**
- 1 credit = 16.5 contact hours

Students wishing to enroll in EDU 200 must be enrolled in the Para Pro Education Certificate of Achievement (either Secondary or Elementary emphasis) and submit a portfolio of documented work experience and training. A $100.00 evaluation fee will be charge to cover the cost of portfolio review and evaluation.

† Prerequisite required - see course description
MMCC can provide you with the first two years of the four-year and advanced degrees that will lead you to an exciting career in environmental science, fisheries and wildlife, biotechnology, and related biology fields. You can become part of the team that will give us the knowledge to save a forest, medicine to save lives, or improves the quality of food on our tables.

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You, as a student, are responsible for meeting requirements for your curriculum. Your advisor is available for consultation. At least 12 of these credit hours must be taken at MMCC. A minimum of 64 credits is required to complete this program.

LEVEL I General Education Requirements: CIS 100, MAT, ENG 111 and SPE 101-or-SPE 257

FIRST SEMESTER (Fall) - 18 credit hours
- BIO 101 † (4) College Biology
- ENG 111 † (3) Freshman English Composition
- MAT 124 † (5) Precalculus
- Elective   (3) Group IV
- SPE 101   (3) Fundamentals of Communication OR SPE 257   (3) Public Speaking

SECOND SEMESTER (Winter) - 16 credit hours
- BIO 203 † (4) Zoology
- CIS 100 † (3) Intro to Information Processing Systems
- Electives   (6) Group III
- Elective   (3) Group IV - other than HUM

LEVEL II General Education Requirements:
Humanities, Science, Social Sciences

THIRD SEMESTER (Fall) - 16 credit hours
- BIO 201 † (4) Botany
- CHM 111 † (4) General College Chemistry I
- ENG 222 † (3) Expository Writing & Research
- PHY 105 † (5) Introductory College Physics I

FOURTH SEMESTER (Winter) - 14 credit hours
- BIO 210 † (4) Microbiology
- CHM 112 † (4) General College Chemistry II
- HUM 200 † (3) Modernity & Culture
- SSC 200 † (3) The Social Sciences & Contemporary America

OPTIONAL* - PHY 106 † (5) Introductory College Physics II

1. It is strongly recommended that students take math and science classes in the specific semester listed. Many of these courses are only offered fall or winter. Other courses may be adjusted.
2. Students who need CHM 105, MAT 105 and/or ENG 101 are encouraged to take these classes previous to beginning the program.
3. It is POSSIBLE for students to complete this program in a total of 2 years, however, due to the heavy science load, a student may wish to consider an extra semester or spring/summer session.

* Students should check with the Transfer Counselor concerning specific transfer information.
† Prerequisite required - see course description
You, as a student, are responsible for meeting requirements for your curriculum. Your advisor is available for consultation. At least 12 of these credit hours must be taken at MMCC. A minimum of 68 credits is required to complete this program.

LEVEL I General Education Requirements: CIS 100, MAT, ENG 111 and SPE 101-or-SPE 257

FIRST SEMESTER (Fall) - 15 credit hours
- CHM 111 † (4) General College Chemistry I
- ENG 111 † (3) Freshman English Composition
- MAT 126 † (5) Calculus I
- SPE 101 † (3) Fundamentals of Communication OR SPE 257 † (3) Public Speaking

SECOND SEMESTER (Winter) - 16 credit hours
- CHM 112 † (4) General College Chemistry II
- ENG 222 † (3) Expository Writing & Research
- Elective † (3) Group IV
- Elective † (3) Group IV - other than HUM

LEVEL II General Education Requirements:
- Humanities, Science, Social Sciences

THIRD SEMESTER (Fall) - 19 credit hours
- CHM 241 † (5) Organic Chemistry I
- CIS 130 † (3) Applications with Microcomputers
- ECO 201 † (3) Principles of Economics (Macroeconomics)
- PHY 211 † (5) General Physics I
- HUM 200 † (3) Modernity & Culture

FOURTH SEMESTER (Winter) - 18 credit hours
- CHM 201 † (5) Quantitative Analysis
- CHM 242 † (5) Organic Chemistry II
- PHY 212 † (5) General Physics II
- POL 201 (3) Intro to American Government

1. It is strongly recommended that students take math and science classes in the specific semester listed. Many of these courses are only offered fall or winter. Other courses may be adjusted.
2. Students who need CHM 105, MAT 105, MAT 124 and/or ENG 101 are encouraged to begin with these classes previous to beginning the program.
3. It is POSSIBLE for students to complete this program in a total of 2 years, however, due to the heavy science load, a student may wish to consider an extra semester or spring/summer session.

* This degree is designed to either be the first half of a baccalaureate degree OR lead directly to employment as a Chemical Technologist. Students planning to complete a Baccalaureate degree with a major in chemistry should also select MAT 225 to follow after MAT 126. Students may apply for a Co-op option at Dow Chemical Company. Students planning on a Co-op option should also take SSC 106.

† Prerequisite required - see course description
You, as a student, are responsible for meeting requirements for your curriculum. Your advisor is available for consultation. At least 12 of these credit hours must be taken at MMCC. A minimum of 68 credits is required to complete this program.

LEVEL I General Education Requirements: CIS 100, MAT, ENG 111, and SPE 101-or-SPE 257

FIRST SEMESTER (Fall) - 16 credit hours
- CHM 111 † (4) General College Chemistry I
- ENG 111 † (3) Freshman English Composition
- GEL 101 (4) Physical Geology
- MAT 124 † (5) Precalculus

SECOND SEMESTER (Winter) - 17 credit hours
- ENV 210 † (4) Environmental Science
- ANT 170 (3) Introduction to Cultural Anthropology
- CHM 112 † (4) General College Chemistry II
- CIS 100 † (3) Intro to Information Processing Systems
- SPE 101 (3) Fundamentals of Communication OR SPE 257 (3) Public Speaking

LEVEL II General Education Requirements: Humanities, Science, Social Sciences

THIRD SEMESTER (Fall) - 17 credit hours
- ENV 220 (3) Environmental Regulations
- ENG 222 † (3) Expository Writing & Research
- PHY 105 † (5) Introductory College Physics I
- Elective † (3) Group IV
- SSC 200 † (3) The Social Sciences & Contemporary America

FOURTH SEMESTER (Winter) - 18 credit hours
- ENV 230 † (5) Environmental Training
- BIO 210 † (4) Microbiology
- ECO 202 (3) Principles of Economics (Micro)
- Elective (3) Group IV other than HUM
  (Recommend: PHL 220 Ethical Issues)
- HUM 200 † (3) Modernity & Culture

OPTIONAL *
- ENV 290 † (4-6) Environmental Internship

1. It is strongly recommended that students take math and science classes in the specific semester listed. Many of these courses are only offered fall or winter. Other courses may be adjusted.
2. Students who need BIO 101, CHM 105, MAT 105 and/or ENG 101 are encouraged to begin with these classes previous to beginning the program.
3. It is POSSIBLE for students to complete this program in a total of 2 years, however, due to the heavy science load, a student may wish to consider either an extra semester or a summer session.

* See your Advisor (highly recommended for students going directly to related field employment).

† Prerequisite required - see course description
You, as a student, are responsible for meeting requirements for your curriculum. Your advisor is available for consultation. At least 12 of these credit hours must be taken at MMCC. A minimum of 63 credits is required to complete this program.

LEVEL I General Education Requirements: CIS 100, MAT, ENG 111 and SPE 101-or-SPE 257

FIRST SEMESTER (Fall) - 16 credit hours
BIO 101 † (4) College Biology
CHM 111 † (4) General College Chemistry I
ENG 111 † (3) Freshman English Composition
MAT 124 † (5) Precalculus OR
MAT 126 † (5) Calculus I

SECOND SEMESTER (Winter) - 16 credit hours
CHM 112 † (4) General College Chemistry II
CIS 100 † (3) Intro to Information Processing Systems
SPE 101 † (3) Fundamentals of Communication OR
SPE 257 † (3) Public Speaking
Elective † (3) Group III
Elective † (3) Group IV

LEVEL II General Education Requirements:
Humanities, Science, Social Sciences

THIRD SEMESTER (Fall) - 17 credit hours
CPS 175 † (3) Computer Programming I OR
CPS 180 † (3) FORTRAN Programming
ECO 201 † (3) Principles of Economics (Macro)
ENG 222 † (3) Expository Writing & Research
PHY 105 † (5) Introductory College Physics I OR
PHY 211 † (5) General Physics I
Elective † (3) Group IV Other than HUM

FOURTH SEMESTER (Winter) - 14 credit hours
PHY 106 † (5) Introductory College Physics II OR
PHY 212 † (5) General Physics II
HUM 200 † (3) Modernity & Culture
SSC 200 † (3) The Social Sciences & Contemporary America
Elective † (3) Group I, II, III, IV, or V

1. It is strongly recommended that students take math and science classes in the specific semester listed. Many of these courses are only offered fall or winter. Other courses may be adjusted.
2. Students who need CHM 105, MAT 105 and/or ENG 101 are encouraged to begin with these classes previous to beginning the program.
3. It is POSSIBLE for students to complete this program in a total of 2 years, however, due to the heavy science load, a student may wish to consider an extra semester or summer session.

† Prerequisite required - see course description
A minimum of 30 credits is required to complete MACRAO. At least 12 credit hours must be taken at Mid Michigan Community College.

The MACRAO requirements may be part of an Associate Degree or can be satisfied by completing the requirements listed below.

**Requirements Completed**

**English Composition: (6 semester hours or 9 quarter hours)**

- ENG 111
- ENG 222

**Science and Mathematics: (8 semester hrs. or 12 quarter hrs.)**

At least one of the science courses must have a structured lab. Courses must be taken in more than one discipline. MMCC courses that meet this requirement include: BIO, CHM, CPS*, ENV, GEL, MAT 104 or higher*, PSC, PHY, and SCI. *CPS and MAT do not meet lab requirements.

**Social Science: (8 semester hrs. or 12 quarter hrs.)**

Courses must be taken in more than one discipline. MMCC courses that meet this requirement: ANT, ECO, GEO, HIS 211, 212, 223, 251, 252, POL, PSY, SSC 111, 200, and SOC.

**Humanities: (8 semester hrs. or 12 quarter hrs.)**

Courses must be taken in more than one discipline. MMCC courses that meet this requirement: ART, ENG 112, 201, 202, 205, 206, 211, 212, 213, FRN, GER, HIS 101, 102, HUM, JPN, MUS, NAL, PHL, REL, SPN, and TAI.

**Please Note:** Most transferring institutions require mathematics competency at the intermediate algebra level. Therefore, MAT 105 is strongly recommended.

**Beginning Fall 2005 CMU requires a "C" or higher in MAT.105 for competency.**

Students who complete the MACRAO requirements may have satisfied the basic general education requirements when transferring to a signatory four-year institution.

Students are advised to check with their transfer college for additional General Education Requirements.
ASSOCIATE IN BACCALAUREATE STUDIES

The primary purpose of the Associate in Baccalaureate Studies degree is to be a transfer degree to a four-year institution. It is essentially a template used to create an Associate degree containing courses needed to fulfill requirements towards a Bachelors degree at the four-year institution, while at the same time completing Mid Michigan Community College’s requirements for an Associate degree. Go to www.midmich.edu/abs for more information.

If you would like to earn an Associate degree prior to transferring to a four-year institution, please contact MMCC’s transfer counselor by calling (989) 773-6622 extension 233.

As a student, you are responsible for meeting requirements for your curriculum. You are encouraged to confer with an advisor at MMCC and/or the transferring institution. A minimum of 62 credit hours is required to complete this program with at least 15 credits at the 200-level. At least 12 of these credits must be taken at MMCC.

Communication Skills (Group I) - 9 credit hours
- ENG 111 † (3) Freshman English Composition
- ENG 222 † (3) Expository Writing and Research
- SPE 101 (3) Fundamentals of Communication
  [OR]
- SPE 257 (3) Public Speaking

Science and Mathematics (Group II) - 6 credit hours
- Mathematics (104 or higher)
- SCI 200 † (3) Science, Technology & Society

Social Sciences (Group III) - 3 credit hours
- SSC 200 † (3) The Social Sciences & Contemporary America

Humanities and Fine Arts (Group IV) - 3 credit hours
- HUM 200 † (3) Modernity & Culture

Applied Arts and Sciences (Group V) - 3 credit hours
- CIS 100 † (3) Intro to Information Processing Systems

Electives - 38 credit hours
  [Groups I-VII (Students may earn no more than 2 credits in Group VI)]

Consult with an advisor at the transfer institution to choose electives, taking into consideration other major or minor requirements.

Note: The four-year transfer institution may change program requirements at any time. Thus students are encouraged to check frequently with a counselor at both or either institution. Students are advised to talk with a transfer advisor/counselor at SVSU to discuss bachelor degree program requirements while taking the above classes.

Note: The intent of this Associates Degree is to be a transfer degree to a four-year institution.

Note: This degree does not fulfill MACRAO requirements without adding 2 credits in Group II, and 6 credits in both Group III and Group IV.

Note: The transfer institution will determine the minimum grade needed to transfer courses.
The College year is composed of two semesters, one fall and one winter, there is also one spring session, and one summer session; and the units of academic study are recorded in credit hours. Class dates and times are published in the college schedule.

### EXAMPLE

**ENG 201 English Literature I** 3(3-0)
A survey of works of major authors of English literature from Beowulf through the 18th century. Prerequisite: ENG 112 or permission of the Instructor

### COURSE LISTING DEFINITIONS ARE AS FOLLOWS:

- **Course Number and Title:** Designates the course discipline, number and title. Courses numbered 000-099 are designated to serve purposes at other than normal freshman or sophomore levels. Such courses normally will not transfer or satisfy graduation requirements. Courses numbered 100-199 are primarily introductory in scope and are normally, although not necessarily, taken during the freshman year. Courses numbered 200 and above are designed for the more advanced student and are usually elected during the sophomore year.

- **Credit Hours:** The number of credits a course is assigned toward graduation.

- **Lecture-Laboratory Hours:** The first number in parentheses refers to the hours the student will spend per week in the classroom, in a lecture setting. The second number refers to the instructional hours that a student will spend in a laboratory. The addition of these two figures will produce the total number of contact hours the student will spend per week in class.

- **Course Description:** An explanation of the knowledge and skills gained by successful completion of the course.

- **Prerequisite:** Requirements which must be met or courses which must be taken before enrolling in a specific course.

- **Corequisite:** Courses which must be taken at the same time as the desired course unless previously completed.

### ACCOUNTING

**ACC 050 Accounting Basics** 1(0-2)
This Individualized Learning Center course is a computerized accounting course designed for understanding of basic accounting concepts. The course may be taken as a review of such material or as initial preparation for further accounting studies.

**ACC 201 Financial Accounting** 4(4-0)
This course is an introduction to the accounting process including measurement, reporting, and interpretation of principles for assets, liabilities, owners’ equity, revenues, and expenses. Covers service and merchandising types of businesses. Prerequisite: OIS 120 for Office Information students only

**ACC 205 Payroll Accounting** 3(3-1)
This course is designed as a study of the methods of computing wages and salaries, keeping payroll records, and making government reports. Students will practice completing government forms and filing of periodic reports. This course also introduces students to the processing of payroll through the use of the microcomputer. In addition to the classroom work, each student is required to do a minimum of one hour of individual laboratory work per week. Prerequisite: ACC 201 recommended

**ACC 211 Managerial Accounting** 4(4-1)
The emphasis in this course is on uses of accounting data internally by managers in directing the affairs of organizations. An introduction to financial statement analysis and manufacturing accounting included. In addition to classroom work, each student is required to do a minimum of one hour of individual laboratory work per week. Prerequisites: CIS 100, Grade of “C” or better in ACC 201

**ACC 231 Principles of Cost Accounting** 3(3-0)
This course covers the use of cost accounting as an aid to management decision making. Process, job order, and standard cost systems are covered in detail. Prerequisite: ACC 211

**ACC 251 Tax Accounting I** 3(3-0)
This course is designed for persons new or inexperienced in the preparation of federal and Michigan income tax returns. The emphasis is preparation of form 1040 and supporting schedules. Included is an introduction to computerized tax planning and preparation. Prerequisite: ACC 201
ACC 252  Tax Accounting II  3(3-0)
The emphasis in this course is placed on current tax law provisions. Topics include corporations, partnerships, and estates and trusts, as well as more complex individual tax returns.
Prerequisite: ACC 251

ACC 261  Computerized Accounting  3(3-1.5)
An introduction to the use of computers in accounting, this course covers computerized business accounting systems including computerized payroll systems. In addition, there will be utilization of spreadsheets. In addition to classroom work, each student is required to do a minimum of 1 1/2 hours of individual laboratory work per week.
Prerequisite: ALH 100

ACC 261  Computerized Accounting  3(3-1.5)
An introduction to the use of computers in accounting, this course covers computerized business accounting systems including computerized payroll systems. In addition, there will be utilization of spreadsheets. In addition to classroom work, each student is required to do a minimum of 1 1/2 hours of individual laboratory work per week.
Prerequisite: ALH 100

ACC 280  Co-op (Accounting)  3(1-10)
Co-op is a capstone course planned for the last semester of the Associate in Business: Accounting Degree. The students will be employed in an approved co-op position selected by the college coordinator and will also attend a weekly one hour classroom lecture/discussion. A waiver may be allowed for the work component only with equivalent previous/present work experience as determined by the coordinator. An individual evaluation is made by the coordinator only upon student request. Documentation by the employer will be required.
Prerequisite: The student must have completed at least 45 credit hours in the Associate in Business: Accounting Degree.

ACC 290-299  Selected Topics 1-3(1 to 3-0)
These courses are designed to investigate various topics in Accounting not included in current courses. Topics will be announced.

ALH 100  Medical Terminology  2(2-0)
An introduction to medical terminology. Emphasis is placed on the meaning, pronunciation, spelling, and application of common medical terms, abbreviations, prefixes, stems, suffixes, etc., as related to the human body – tissues, organs, systems, etc.

ALH 107  Competency Evaluated Nurse Aide  6(3-8)
This course is designed to prepare the individual to fulfill the role of direct care giver/nurse aide in a health care setting. The course introduces scientific principles and skills which will optimize the client’s functional independence and support and promote their individual rights. This course includes classroom activities, skill practice time in the laboratory, and supervised clinical practice at an area health care agency. Upon completion of the course, the student will be eligible to take the clinical and written exams required for Competency Evaluated Nurse Aide (CENA).

ALH 112  Insurance Billing  3(3-1.5)
This course deals with the insurance and billing processes needed to deal with the major health carriers. Students will learn how to process a variety of claim forms and will learn proper billing, recordkeeping, and collection procedures. In addition to the classroom work, each student is required to do a minimum of 1 1/2 hours of individual laboratory work per week.
Prerequisite: ALH 100

ALH 125  Introduction to the Health Care Environment  3(3-0)
This course is designed to introduce the student to the American Health Care system, health care providers, and beneficiaries of health care and business and government's role in the modes of delivery. The course provides the medical assisting student with the foundation upon which other courses build and expand. Basic skills and techniques necessary to assist the physician in the examination and treatment of patients will be covered as well as communication, telephone skills, and scheduling of appointments. This includes lecture, discussion, skills practice, and observation time in a medical office.
Prerequisites: ALH 100, BIO 131

ALH 210  Clinical Procedures/Pharmacology  4(3-2)
Introduction to common procedures performed in the medical office setting and the Science of Pharmacology. A course designed with emphasis of safe, accurate administration of medications. Through use of the text, the students will acquire knowledge of drug actions, major side effects and techniques of administration as well as gain basic skills necessary to assist the physician in the examination of, diagnosis and treatment of patients in the office setting.
Prerequisites: ALH 125, MAT 101

ALH 220  Medical Law and Ethics  2(2-0)
This course is designed to teach the legal and ethical aspects of employment in health care delivery. Case studies will be reviewed and students will become familiar with the principles of medical ethics as they apply to both physicians and medical assistants. A few of the topics to be covered are: patient obligation in a medical contract, patient confidentiality, standards of care, physician’s liability for employees, release of information, and patient rights and responsibility in receiving medical care.
ALH 230 Laboratory Procedures for the Medical Office 3(2-2)
This course is designed primarily for the allied health field, and medical assistant students in particular. The student should have a basic understanding of both biological principles and anatomy and physiology. The student will, through lecture and lab, gain an understanding of the theory of laboratory procedures as well as the skills to perform accurately in the Physician's Office Laboratory (POL) setting.
Prerequisite: ALH 210

ALH 250 Medical Assistant Office Externship 4(1-10)
This externship course provides supervised and professional work experience in a medical office setting and will include both administrative and clinical procedures. Written projects and reports will enable the student to develop management skills, professional communications and critical thinking skills.
Prerequisite: Completed the first 4 semesters of the Medical Assistant program.

ALH 287 Sports Medicine Techniques for Treating Athletic Injuries 3(3-0)
This course is devoted to engendering a knowledge and the understanding of the prevention and treatment of athletic injuries. This course will acquaint students and give opportunity for concentrated study by means of participation, observation, discussion and research of some of the latest techniques, practices, problems and theories pertaining to athletic injuries; bandaging, strapping and other preventative techniques; and the treatment and care of athletic injuries.

ALH 290 Special Topics/Review of Clinical Procedures 1(1-0)
This course is designed for students who have taken ALH 210 and did not complete their externship within 12 months of the ALH 210 course. It is a review of the functions, role and responsibilities of a medical assistant in a medical office setting.
Prerequisite: ALH 210 or permission from Department.

ALH 295-299 Current Topics in Allied Health 1-3(1 to 3-0)
These courses are designed to investigate various topics in health not included in current courses. Topics will be announced.

ANTHROPOLOGY

ANT 170 Introduction to Cultural Anthropology 3(3-0)
The student is introduced to the process of culture evolution as well as other anthropological theories. The purpose is to give the student an understanding of the underlying unity of the human experience while, at the same time, providing insight into cultural variability.

ART

ART 105 Drawing I - Introductory 3(3-0)
A basic introduction to drawing media and techniques and an exploration of the concepts of space and form in varied subject matters.

ART 110 Basic Photography 3(3-0)
This course is designed for persons wanting a working knowledge of cameras, lenses, and fundamentals of photography. Topics covered include: f stops, shutter speeds, depth of field, film selection, composition, electronic flashes, and other basics.

ART 115 Design I 3(3-0)
Elements and principles of design and experiences with materials in problem situations.

ART 130 Painting I 3(3-0)
An introduction to painting with the exploration of media, techniques, and the concepts of space, form, and color.

ART 135 Graphic Design I 3(3-0)
An introduction to the concepts and techniques of visual communication. The focus is on typography, page layout, grid structure, production requirements, design history and the design problem-solving process.

ART 137 Digital Photography 3(3-0)
An introduction to digital photography and computer software used in photo manipulations. Students will learn various techniques in creating enhanced images, including color balance, sizing, sharpening. Students will learn how to download images from digital cameras and to scan photographic prints and film. Students will learn correct file formats for output and print management. Discussions will also include composition, lighting, and personal creativity.
Prerequisites: ART 110 or permission of instructor

ART 150 Printmaking 3(3-0)
Introduction to the basic techniques of woodcut and printing as a fine art.

ART 205 Drawing II 3(3-0)
A concentration of experimental media, techniques, spatial relationships, and conceptual processes of drawing.
Prerequisite: ART 105
ART 210 Illustration 3(3-0)
Development of conceptual and technical skills in drawing for reproduction using various media.
Prerequisites: ART 235, ART 205

ART 211 Page Layout I 3(3-0)
This course introduces the student to the software and tools used in page layout. Emphasis is on learning the software and tools and applying basic design principles in the production of files for final output. Students will learn the fundamentals of page layout, typography, effective use of color, proofing, and preparing print ready documents.

ART 215 Design II 3(3-0)
Continuation of Design I, elements and principles of two-dimensional design. Introduction to three-dimensional design through problem-solving exercises.
Prerequisite: ART 115

ART 220 Figure Drawing I 3(3-0)
Students will learn to draw the human figure based on an understanding of anatomy, proportion, perspective, and the effect of light.
Prerequisite: ART 205 or permission of Instructor.

ART 230 Painting II 3(3-0)
Continuation of the aims of Painting I with emphasis on personal development.
Prerequisite: ART 130

ART 235 Graphic Design II 3(3-0)
A continuation of ART 135 with an emphasis on the integration of type and image in visual communication. Focuses on an exploration of tools, techniques, and hands-on skills required in the creation of professional illustrations and graphics.
Prerequisites: ART 135

ART 236 Graphic Design III 3(3-0)
Continuation of ART 235 with an emphasis on refining problem-solving skills required in a professional environment. Focuses on research and analysis of visual communication, as well as the creation of portfolio-building projects.
Prerequisite: ART 235 or permission of Instructor

ART 237 Photography II 3(3-0)
A continuation of ART 110 Basic Photography. Students will be given advanced projects in exposure, lighting, motion control, depth control, film and composition. Projects will be completed in black and white film, with the students processing and printing their own projects.
Prerequisites: ART 110

ART 238 Advanced Desktop Publishing 3(3-0)
This course examines the process of taking a design layout successfully through the stages of a computer page layout software program, pre-press, proofing, printing, finishing and binding. Students will learn the use of scanners, halftones, color separations, proper resolutions, and effective fonts.
Prerequisite: CIS 210 or permission of the Instructor

ART 239 Page Layout II 3(3-0)
This course is a continuation of ART 211 Page Layout I. Students will be assigned advanced page layout projects. This course will examine all aspects of production as they relate to print, including correct document construction, color space and color systems, separations, preflight, print production and paper considerations. Projects will focus on the use of effective design principles, proper file preparation, preflight of files, and production process.
Prerequisite: ART 211

ART 240 Studio Problems in Graphic Design 3(3-0)
An opportunity for students to work independently on projects related to the graphic design industry. Included in the course will be individual assistance in preparing a portfolio for seeking employment or further education.
Prerequisites: ART 110, 130, 210, 215, 236, CIS 210

ART 245* Art in the Elementary School 3(3-0)
An investigation of how art fits into the Elementary School Curriculum and what its impact is on all elementary children. To be presented through lecture, readings, slides or prints, and a team teaching experience by all participants. (*Note: Please be advised that ART 245 will transfer to Central Michigan University as ART 345 only if: 1) the student has successfully completed EDU 107; and 2) 45 clock hours of pre-professional experience in K-12 classroom.

ART 280 Independent Study in Art I 3(3-0)
An opportunity for advanced students to work with an instructor on individualized projects in various selected media.
Prerequisite: Permission of the Instructor.

ART 281 Internship I 3(1-10)
Designed to provide on-site work experience in a business environment. Under cooperative supervision by the College and the work-site Supervisor, students will further develop skills and gain training in the design field.
Prerequisite: Permission of the Internship Coordinator

ART 282 Internship II 3(1-10)
Continuation of ART 281. Designed to provide on-site work experience in a business environment. Under cooperative supervision by the College and the work-site Supervisor, students will further develop skills and gain training in the design field.
Prerequisites: ART 281 and permission of the Internship Coordinator
ART 285 Independent Study in Art II  3(3-0)
Continuation of ART 280.
Prerequisites: ART 280 and permission of the Instructor

ART 290-299 Special Topics/Art  1-3(1 to 3-0)
This course is designed to investigate various topics in Art that are not included in current courses. Topics will be announced. This course is offered based on demand.

AUTOMOTIVE SERVICE

AMS 104 Basic Automotive Electricity  2(2-1)
Studies fundamentals and applications in automotive electrical, electronics, voltage, current, resistance, series and parallel circuits, magnetism, application of Ohm’s Law, and wiring diagrams. Develops skills in establishing an electrical base for advanced electrical/electronic courses through the use of meters and test equipment.

AMS 110 Engine Fundamentals and Overhaul  4.5(2-5)
Studies will include engine principles, design construction and operation. Skill development of proper service procedures of modern gas engines will be stressed. The student will remove and replace an engine from a car or light truck. They will also disassemble and reassemble a complete engine with emphasis on manufacturer’s specifications and procedures.

AMS 116 Electrical Systems I: Electrical Accessories  3(2-2)
Studies lighting systems, instruments, warning devices, horn, and other accessory circuits using wiring diagrams. Develops skills in diagnosis, adjustment and repair of accessory and convenience circuits.
Prerequisite: AMS 104 (may be taken concurrently) or Instructor approval

AMS 124 Automotive Heating & Air Conditioning  4(2-3)
Studies passenger car and light truck cooling, heating and air conditioning system operation and diagnosis. Will also cover the 134A system service. Develops skills in diagnosis and repair of the cooling, heating and air conditioning system components.

AMS 125 Engine Performance I  5(2-6)
Studies review of basic electricity and magnetism, fundamentals of electronics, basic ignition systems, basic fuel systems and introduction to emission systems. This course establishes a base for advanced work in AMS 126.

AMS 126 Engine Performance II  5(2-6)
Studies units of instruction on G.M., Ford and Chrysler throttle body and multi-port fuel injection systems. Also covers distributorless ignition systems and OBD II operation and service. The students will be performing operational tests on late model cars using scan tools and other special test tools. They will be doing driveability testing and troubleshooting on late model cars.
Prerequisites: AMS 104, AMS 125, OR State certified in engine tune-up area

AMS 205 Steering & Suspension Systems  4(2-4)
Studies suspension and steering systems. Skill development will be focused on subframe alignment, steering, suspension, and four wheel alignment.

AMS 206 Brakes  4(2-4)
Studies brake systems. Skill development will be focused on drum, disc, hydraulic, power assist, and anti-lock brake systems.

AMS 214 Automatic Transmissions  4.5(2-5.5)
Studies passenger car and light truck automatic transmissions terminology, operation, service and diagnosis. Develops skills in service and repair of passenger car and light truck conventional and computer-shifted front-wheel and rear-wheel drive transmissions.

AMS 222 Manual Transmissions  4(2-4)
Studies passenger car and light truck clutches, manual transmissions, drive shafts, differentials, transaxles, front-drive axles, and transfer cases operation, service and diagnosis. Develops skills in diagnosis and service of clutches, manual transmissions, drive shafts, differentials, transaxles, front-drive axles, and transfer cases.

AMS 223 Electrical Systems II: Engine Electrical Systems  4(2-4)
Studies battery service, cranking systems, and charging systems. Develops skills in diagnosis, adjustment and repair of battery, cranking and charging systems.

AMS 232 Automotive Co-op  4(1-15)
This course is a 15 hour, 15-week internship at an automotive dealership repair facility, or automotive repair facility that provides hands-on skills to enhance the professional qualifications and employment opportunities for students.
Prerequisite: Completed first, second, and third semester AMS courses with grade “C” or better. Permission of the Co-op Coordinator required. Professional tools required.

AMS 295 Special Topics/Automotive Technology  1-3(1 to 3-0)
This course is designed to investigate various topics in Automotive Technology that are not included in current courses. Topics will be announced. This course is offered based on demand.
BIOLOGICAL SCIENCES

BIO 101 College Biology 4(3-2)
Survey of major topics in biology, with emphasis on cell structure, physiology, reproduction, genetics, evolution, behavior, and morphology of plants and animals.

BIO 110 Concepts in Microbiology 1(1-0)
This course is an introductory study of microorganisms such as bacteria, fungi, algae, viruses, & protozoa. The disease process involving these microorganisms will also be studied.
Prerequisite: BIO 101

BIO 131 Basic Anatomy and Physiology 3(3-0)
This is an introductory course to Anatomy and Physiology. It is assumed that students enrolling in this course have limited background in chemistry and biological science. The major topics presented in the course are biological principles, skeletal, muscular, integumentary, nervous, circulatory, respiratory, digestive, excretory, endocrine, and reproductive organ systems. Prerequisite: BIO 101

BIO 141 Anatomy and Physiology I 4(3-2)
A lecture and laboratory course dealing with the anatomy and physiology of the human body with emphasis on homeostasis. Topics include skeletal, muscular, integumentary, nervous and digestive systems.
Prerequisite: BIO 101 or equivalent

BIO 142 Anatomy and Physiology II 4(3-2)
Continuation of BIO 141. Topics include: respiratory, excretory, endocrine, reproductive, and circulatory systems. Emphasis is on physiology and integration of the systems of the body.
Prerequisite: BIO 141

BIO 201 Botany 4(3-2)
Structure and function of major groups of plants with emphasis on metabolism and reproduction.
Prerequisite: BIO 101

BIO 202 Field Ecology 3(2-2)
An introduction to a field study of basic ecology, with emphasis on the interactions between plants, animals, humans, and the environment.

BIO 203 Zoology 4(3-2)
Structure and function of major groups of animals with emphasis on complete study of selected types.
Prerequisite: BIO 101

BIO 204 Human Genetics 3(3-0)
This is an introductory course dealing with principles of inheritance as they apply to humans. This course assumes no prior background in biology or chemistry. The topics considered are basic genetic principles, molecular basis of inheritance, regulation of gene expression, mutation, and the application of these principles to human heredity. Special emphasis is given to genetic disorders and the new technologies developed to deal with them.

BIO 210 Microbiology 4(3-3)
Microbiology involves a study of the bacteria, fungi, algae, viruses, protozoa, and other related microbiorganisms and their relationship to our society. The laboratory acquaints the student with standard handling and culture techniques of most of these organisms, the preparation of culture media, classification techniques, representative micro-organisms (living and prepared slides) of the various groups, standard staining methods, and a number of biochemical tests.
Prerequisite: BIO 101 or demonstrated competencies

BIO 215 Radiation Biology 1(1-0)
This course is an introductory study of the biological effects of exposure to ionizing radiation. Topics include factors affecting radiosensitivity, hematologic effects, and radiation induced malignancy.
Prerequisite: BIO 101

BIO 221 Nature Study 3(2-2)
Practical knowledge of the out-of-doors is stressed. Collection and identification of plants and animals and field activities included.
Prerequisite: BIO 101 recommended

BIO 245 Advanced Anatomy and Physiology & Intro to Pathophysiology 4(4-0)
This course is an advanced study of the concept of Anatomy & Physiology with an emphasis on the disease process. It is intended for those students that have previously completed Anatomy & Physiology I & II more than 5 years ago and less than 10 years ago, and also for those students who would like to increase their knowledge of this subject matter. Pre-RAD or Pre-NUR students must complete this course with a grade of "B-" or better to qualify for admission into the program.
Prerequisite: BIO 141 & 142 completed less than 10 years ago.

BIO 268 Independent Study in Biology 1-3(1 to 3-0)
This course is designed for students who desire to advance their understanding and challenge their ability in specialized areas of biology. Library, laboratory and/or field research is required, as is a written report at the completion of the course.
Prerequisites: Satisfactory completion of at least one laboratory biology course and permission of the Instructor.
BIO 290-299 Selected Topics 1-5 (1 to 4-0 to 3)
Courses designed to investigate various topics in Biology not included in current courses. Topics will be announced.

**BUSINESS**

**BUS 105 Food/Beverage Management 3(3-0)**
This course is designed to move the students through the various management steps involved in food service. Food production issues are studied from a managerial point of view. Standards in food production and beverage service are a focal area of the course. This course is designed to build the skills necessary to operate a successful and profitable food service operation.

**BUS 106 Quantity Food Production Systems (2-2)**
This course is designed to introduce the student to quantity food preparation standards and practices as they relate to the commercial kitchen. Examples of student learning opportunities include the following: sanitation, measurement, kitchen tools and equipment, basic cooking principles, menu development, food preparation and baking—produce, salads, starches, bases, stocks soups, meat, poultry, seafood, breakfast, dairy products, and pastry.

**BUS 122 Management Theory and Practice 3(3-0)**
An analysis of the manager’s job including functions, activities, problems, and responsibilities. The course is designed for first-line supervisors as well as those engaged in middle-management positions. A study is made of reasons why some managers fail and others succeed.

**BUS 151 Introduction to Business Issues 3(3-0)**
A broad, introductory approach to the principles, practices, and procedures employed in modern business and industrial operations. Topics include: business organization, management, the role of stockholders, wholesale and retail marketing, finance and insurance, and location and site determination. An analysis is made of the current issues facing the business environment.

**BUS 153 Business Law 3(3-0)**
Deals with the principles of the law of contracts and agencies and with the legal implications of the partnership and corporate forms of business organization.

**BUS 155 Service Training 3(3-0)**
This course is designed to teach the beginning hospitality student the fundamentals of excellent customer service no matter what segment of the industry he/she chooses. Through a series of lectures/role playing/case studies students will learn how to train others to work as a team to accomplish their task of giving exceptional service. Insight will also be gained by field trips, guest speakers and staying current with trade publications.

**BUS 161 Principles of Merchandising 3(3-0)**
A detailed study of all phases of the movement of goods from the producer to the consumer. Particular attention is paid to the role of retailers and businesses that provide services to the consumer.

**BUS 162 Principles of Marketing 3(3-0)**
Introduction to the field of marketing, including history, market environment, marketing mix, specialized fields, and marketing arithmetic. A study of the marketing functions such as buying, selling, transportation, storage, financing, and pricing is included.

**BUS 171 Principles of Sales 3(3-0)**
Basic principles of sales techniques and personality, selection of sales force, personalities of customers, and methods of increasing sales are covered.

**BUS 202 Legal Environment of Business 3(3-0)**
Introduction of the concept and use of law as a social institution.

**BUS 221 Purchasing and Inventory Control 3(3-0)**
Presents a fundamental and practical approach to the problem of buying and basic merchandise control. Subject matter includes planning budgets and stock control through sales analysis.
Prerequisite: Grade of “C” or better in ACC 201

**BUS 222 Labor and Management Relations 3(3-0)**
This course covers the scope of industrial personnel management with emphasis upon procuring, developing, maintaining, and effectively using the work force. Attention is given to job analysis and evaluation and union-management relationships.
Prerequisite: BUS 122

**BUS 231 Principles of Advertising 3(3-0)**
A survey of advertising as an instrument of modern business including various forms of advertising. Particular attention is paid to advertising for small and medium-sized businesses engaged in providing services and goods to the consumer.

**BUS 241 Supervision and Personnel Administration 3(3-0)**
Covers the role of supervision and personnel administration in large and small organizations. Develops techniques for hiring, training, developing, motivation, and evaluating of personnel. Covers wage, salary, and fringe-benefit administration.

**BUS 250 Entrepreneurial Management 3(3-0)**
A course for those persons interested in operating a small business. Course content includes financial, marketing, production management, and legal and governmental considerations which the proprietor of a successful business must manage. The course places emphasis on analysis of actual small business case studies.
BUS 255 Entrepreneurial Finance 3(3-0)
A course designed for persons desiring to operate or presently operating a small business. Course content includes the study of acquiring business ownership, initial financial planning, and on-going financing requirements. The course emphasizes actual case studies.

BUS 258 Profit Motive: Entrepreneurship 1(1-0)
The understanding of the various managerial, financial, and marketing methods used in the pursuit of profit in business. The exploration of the problems and opportunities for self-employment in the current economic environment. This course taken in combination with two additional courses selected from BUS 259, BUS 260, and BUS 261 will substitute for BUS 250.

BUS 259 Taxes/Accounting 1(1-0)
Various accounting and record-keeping systems are explored as well as the current tax structures as applied to small businesses. This course taken in combination with two additional courses selected from BUS 258, BUS 260, and BUS 261 will substitute for BUS 250.

BUS 260 Management 1(1-0)
Current supervisory, leadership, and time study management theories are studied as applied to small businesses. This course taken in combination with two additional courses selected from BUS 258, BUS 259, and BUS 261 will substitute for BUS 250.

BUS 261 Marketing 1(1-0)
Exploration of product, promotion, pricing, and distribution strategies with concentration on the social, economic, competitive, and legal business environments. This course taken in combination with two additional courses selected from BUS 258, BUS 259, and BUS 261 will substitute for BUS 250.

BUS 265 Hospitality Leadership 3(3-0)
This course will focus on management and personnel functions as they relate to the hospitality industry. Managerial skills will be addressed relevant to successful performance in restaurants, hotels, clubs, resorts and many other hospitality organizations. Emphasis will be on the function of the leader that develops people so that the institution will adapt, prosper and grow.

BUS 291 Business Internship 3(1-10)
Students will work in part-time jobs directly related to their degree programs. Training sessions are held with the employer, instructor, and student. The internship will be limited to students within one semester of graduation and will be used as a capstone course for Management & Marketing, Hospitality Management, and Small Business Management majors only.
Prerequisite: Permission of the Internship Coordinator

BUS 292 Internship 6(0-15)
Continuation of BUS 291.
Prerequisite: Permission of the Internship Coordinator

BUS 293-298 Current Topics in Business 1-3(1 to 3-0)
Courses designed to investigate various topics in Business not included in current courses. Topics will be announced.

CHEMISTRY

CHM 100 Fire Science Chemistry 3(3-0)
This course is designed specifically for those students on the Fire Science curriculum. The course includes the principles of basic chemistry and their application to the combustion process of fire.

CHM 105 Introductory Chemistry 4(3-2)
An elementary study of general chemistry. No previous chemistry background is necessary. The course deals with basic chemical principles and their application to inorganic chemistry. Designed for majors in liberal arts, business, pre-nursing, and to prepare students for CHM 106 or CHM 111. Two hours per week of lab work are included.
Corequisite: MAT 104 or equivalent

CHM 106 Organic & Biochemistry for Allied Health 4(3-2)
Building on a background of basic inorganic chemistry, this course is intended to serve the needs of students in the ADN program and other allied health areas. The course includes an introduction into organic compounds, carbohydrates, fats, proteins, vitamins, hormones, enzymes, nucleic acids, and the energy relationships in metabolic processes. Two hours per week of lab work are included.
Prerequisite: Proven competency in basic chemistry by earning a "C" or better in CHM 105 (or an equivalent college chemistry course), earning a "B" or better in a High School chemistry course (within the last 3 years), or with permission from the instructor.

CHM 111 General College Chemistry I 4(3-2)
Fundamental concepts, theories, laws and definitions as they apply to modern Chemistry. CHM 111 and CHM 112 are recommended to constitute the standard one-year course. Two hours per week of lab work are included.
Prerequisites: One year high school chemistry or CHM 105 or equivalent; two years of high school algebra or MAT 105 (may be concurrent) or equivalent.

CHM 112 General College Chemistry II 4(3-2)
Continuation of CHM 111. A study of chemical equilib-rium, electro chemistry, non-metals, metals, organic compounds and processes. Laboratory work includes qualitative analysis. Prerequisite: CHM 111
CHM 201 Quantitative Analysis  5(3-4)
Basic principles and methods of gravimetric, volumetric, and electrolytic analysis including solving a series of unknowns.
Prerequisite: CHM 112

CHM 241 Organic Chemistry I  5(4-3)
This course includes the study of the nomenclature, physical and spectral properties, structure, stereochemistry, and reactions (with their mechanisms) of saturated and unsaturated aliphatic and aromatic hydrocarbons, halide, alcohols, ethers, and carboxylic acids.
Prerequisite: CHM 112

CHM 242 Organic Chemistry II  5(4-3)
This course includes the study of the nomenclature, physical and spectral properties, structure, stereochemistry, and reactions (with their mechanisms) of carboxylic acid derivatives, aldehydes, ketones, phenols, amines, alcohols, nucleic acids (proteins), lipids, carbohydrates, nucleic acids, and heterocyclic compounds.
Prerequisite: CHM 241

CHM 290-299 Selected Topics  1-5(1 to 4-0 to 3)
Courses designed to investigate various topics in Chemistry not included in current courses. Topics will be announced.

COMPUTER INFORMATION SYSTEMS

CIS 100 Introduction to Information Processing Systems  3(3-1.5)
This course is designed for students across the curriculum. CIS 100 will emphasize how the computer is used as a conceptual basis for problem solving and the role each hardware and software components play in the computer process. Students will do online research using the internet and electronic libraries. In addition, this course takes students to a higher level of learning in some of the most widely used application programs. Outside lab work is required.
Prerequisite: Touch keyboarding skills recommended

CIS 110 Computer Programming  3(3-1.5)
A beginning level programming course using Object Oriented Programming. The student will learn programming techniques using a Windows based programming language in a graphical environment. In addition to the classroom work, each student is required to do a minimum of 1 1/2 hours of individual laboratory work per week.
Prerequisite: MAT 104 or equivalent

CIS 111 Computer Programming II (Visual Basic)  3(3-1.5)
A continuation of CIS 110 in developing Object Oriented Languages concepts. The major project of the course is to develop a professional Windows application. In addition to the classroom work, each student is required to do a minimum of 1 1/2 hours of individual laboratory work per week.
Prerequisite: CIS 110

CIS 130 Applications With Microcomputers  3(3-1.5)
A study of various computer applications as applied to business problems. Applications covered include spreadsheets, windows presentation programs, and databases. In addition to the classroom work, each student is required to do a minimum of 1 1/2 hours of individual laboratory work per week.
Prerequisite: CIS 100 with "C" or better

CIS 135 Introduction to Website Design & Management  3(3-1.5)
This course is an introductory website design class which introduces participants to the basic principles of website design. A working knowledge of HTML will be gained through the use of website editing tools (Macromedia Dreamweaver). Students will learn to acknowledge important considerations in website design such as load times, bandwidth, hardware and software limitations and compatibility issues. Emerging web technologies and the proliferation of web-based technologies into today's society will also be explored.
Prerequisite: CIS 100

CIS 190 Cisco Internetworking I  4(4-1.5)
This course is the first in a series of four in the Cisco Networking Academy Program designed to teach students to design, build and maintain computer networks. Fundamentals of computer networks are the primary focus in this course. In addition to classroom work, each student is expected to complete a minimum of 1 1/2 hours of individual work per week.
Prerequisite: CIS 100, MAT 104

CIS 195 Cisco Internetworking II  4(4-1.5)
This course is the second in a series of four in the Cisco Networking Academy Program designed to teach students to design, build and maintain computer networks. Fundamentals of the Cisco IOS (Internetwork Operating System) software and routers are the primary focus in this course. In addition to classroom work, each student is expected to complete a minimum of 1 1/2 hours of individual work per week.
Prerequisite: CIS 190
**CIS 203 Web Security and Maintenance 3(3-1.5)**
This course is designed to introduce students from a variety of curriculums and educational backgrounds to web security and maintenance. CIS 203 is the second level in obtaining the Webmaster certification, and is designed to help individuals and businesses develop the skills they need to meet today's rapidly growing demand for Web and Internet communication practitioners. Little or no previous technology expertise is required, though familiarity with the operation of a personal computer is necessary and html programming is recommended. In addition to the in-class work and demonstrations, the student is required to do a minimum of 1 1/2 hours of individual laboratory work per week, some must be done at MMCC.
Prerequisite: CIS 100

**CIS 205 e-Commerce: Concepts & Technology 3(3-1.5)**
This course introduces students to the basic principles of e-Commerce. The e-Commerce server software will be explored as well as crime and security problems. Students will learn which tools to use to protect networks, servers and clients. Digital payment and electronic billing models will be created. A working plan for internet marketing will be developed. Ethical, social, and political issues raised by e-commerce will be discussed.
Prerequisite: CIS 100

**CIS 210 Desktop Publishing (PageMaker) 3(3-1.5)**
This course is designed to introduce the student to computerized desktop publishing on a microcomputer. Desktop publishing terms are identified. This course will allow a student to design master page and multi-page publications. Students will use fonts and different typefaces. Page layout, text, and graphics will be incorporated into publications. In addition to the classroom work, each student is required to do a minimum of 1 1/2 hours of individual laboratory work per week.
Prerequisite: CIS 100

**CIS 221 Computers in Business 3(3-1.5)**
This course provides insight into the applications of the computer in modern business. The student will study the components of a business computer system, typical applications involving mainframe and personal systems, structure, use of files and databases, and the concepts of networking, teleprocessing, and distributed systems; explore the techniques of business computer system development; and also develop skills in using productivity programs such as databases and spreadsheets to build models solving practical business problems. In addition to the classroom work, each student is required to complete a minimum of 1 1/2 hours of individual computer laboratory work per week.
Prerequisite or Corequisite: ACC 201

**CIS 230 Special Topics 1-3(1 to 3-0)**
Courses designed to investigate relevant computer information systems. Topics covered are not included in the courses that are currently listed and will be announced prior to the semester in which they are offered.
Prerequisite: CIS 100

**CIS 246 Computer Setup/Repair-Software 3 (3-1.5)**
This course provides students with the skills necessary to diagnose and correct problems that microcomputer users encounter. The course covers installing and upgrading operating systems and applications, memory optimization, and printer configuration.
Prerequisite: CIS 100 Recommended

**CIS 247 Computer Setup/Repair-Hardware 3 (3-1.5)**
This course provides the student with practical, hands-on experience in installing, maintaining, and trouble-shooting microcomputer hardware. Topics include CPU, storage devices, add-on boards, video displays, printers, communication devices, and configuration.
Prerequisite: CIS 100 Recommended

**CIS 255 Computer Operating Systems (Windows XP) 3(3-1.5)**
A detailed study of the Windows 98 operating system. Windows terms, commands, installation and optimizing techniques will be covered. In addition to the classroom work, each student is required to do a minimum of 1 1/2 hours of individual laboratory work per week.
Prerequisite: CIS 100

**CIS 256 Microsoft Windows 2000 Pro 3(3-1.5)**
This course provides students with the knowledge and skills necessary to install, configure, customize, and troubleshoot Microsoft Windows 2000 a single-domain Microsoft Windows 2000-based network. In addition, students learn how to integrate Windows 2000 and Novell NetWare networks. In addition to the classroom work, each student is required to do a minimum of 1 1/2 hours of individual laboratory work per week.
Prerequisite: CIS 270

**CIS 260 Systems Analysis 3(3-1.5)**
Introduces the student to the fundamental concepts of systems analysis and design. The role of the systems analyst and the training and skills required to function in this position are presented. Special emphasis is placed upon both written and oral communication skills. The life cycle concept and its application to business systems is discussed. Structured design techniques are emphasized. In addition to the classroom work, each student is required to do a minimum of 1 1/2 hours of individual laboratory work per week.
Prerequisite: CIS 100
CIS 270 Networking Essentials 3(3-1.5)
This course serves as a general introduction for students to acquire a foundation in current network technologies for local area networks (LANs), wide area networks (WANs), and the Internet. The course provides an introduction to the hardware, software, terminology, components, design, and connections of a network, as well as the topologies and protocols for LANs. It covers LAN-user concepts and the basic functions of system administration and operation. In addition to the classroom work, each student is required to do a minimum of 1 1/2 hours of individual laboratory work per week.
Prerequisite: CIS 110 or CIS 130

CIS 271 Microsoft Windows 2000 Server 3(3-1.5)
This course provides students with the knowledge and skills necessary to install, configure, customize, and troubleshoot Microsoft Windows 2000 Server with Microsoft Windows 2000-based network. In addition to the classroom work, each student is required to do a minimum of 1 1/2 hours of individual laboratory work per week.
Prerequisite: CIS 270

CIS 272 Active Directory Services 3(3-1.5)
This course will introduce you to Microsoft Windows 2000 Active Directory and prepares the student to plan, configure, and administer Active Directory infrastructure. Students learn how to configure the Domain Name System (DNS) to manage name resolution, schema, and replication. In addition to the classroom work, each student is required to do a minimum of 1 1/2 hours of individual laboratory work per week.
Prerequisite: CIS 256 or CIS 271

CIS 273 Implementing Windows 2000 Network 3(3-1.5)
This course is for support professionals who are new to Microsoft Windows 2000 and will be responsible for installing, configuring, managing, and supporting a network infrastructure that uses the Microsoft Windows 2000 Server production. In addition to the classroom work, each student is required to do a minimum of 1 1/2 hours of individual laboratory work per week.
Prerequisite: CIS 271 and CIS 256

CIS 274 Microsoft Internet Information Server 3(3-1.5)
This course teaches students how to support the various features of Microsoft Internet Information Server 4.0 (IIS). Students will learn how to install, configure, and implement all components that comprise IIS. Students will also have hands-on experience setting up a Web site. In addition to the classroom work, each student is required to do a minimum of 1 1/2 hours of individual laboratory work per week.
Prerequisite: CIS 271

CIS 280 Co-op (Computer Info Systems) 3(1-10)
Co-op is a capstone course planned for the last semester of the Associate in Business: Computer Information Systems Degree. The students will be employed in an approved co-op position selected by the college coordinator and will also attend a weekly one hour classroom lecture/discussion. A waiver may be allowed for the work component only with equivalent previous/present work experience as determined by the coordinator. An individual evaluation is made by the coordinator only upon student request. Documentation by the employer will be required.
Prerequisite: The student must have completed at least 45 credit hours on the Associate in Business: Computer Information Systems Degree.

CIS 290 Cisco Internetworking III 4(4-1.5)
This course is the third in a series of four in the Cisco Networking Academy Program designed to teach students to design, build and maintain computer networks. The focus of this course is on configuring switches and routers; configuring IGRP, Access Lists and IPX on routers. In addition to classroom work, each student is expected to complete a minimum of 1 1/2 hours of individual work per week.
Prerequisite: CIS 190, CIS 195

CIS 295 Cisco Internetworking IV 4(4-1.5)
This course is the fourth in a series of four in the Cisco Networking Academy Program designed to teach students to design, build and maintain computer networks. The focus of this course is on Wide Area Networks, PPP, ISDN, Frame Relay and all CCNA Exam-related learning objectives. It is the final preparation for taking the Cisco Certified Networking Associate examination. In addition to classroom work, each student is expected to complete a minimum of 1 1/2 hours of individual work per week.
Prerequisite: CIS 190, CIS 195, CIS 290

CPS 150 Introduction to Java Programming 3(3-1.5)
This course is designed to introduce students to developing applications using the Java programming language, object-oriented programming concepts, along with the Java syntax needed to implement them. This course will also introduce students to Java's role on the Internet. In addition to the classroom work, each student is required to do a minimum of 1 1/2 hours of individual laboratory work per week.
Prerequisite: MAT 104 or equivalent
CPS 151 Advanced Java Programming 3(3-1.5)  
This course is designed to advance student's skills in developing applications using the Java programming language. Focusing on issues involved in designing and developing Java applications within an organization. This course will also allow students to develop Java applications for the Internet. In addition to the classroom work, each student is required to do a minimum of 1 1/2 hours of individual laboratory work per week.  
Prerequisite: CPS 150

CPS 175 Computer Programming I 3(3-1.5)  
This course covers algorithm design and development. An introduction to the design and development of computer programs using the C++ programming language is included. In addition to the classroom work, each student is required to do a minimum of 1 1/2 hours of individual laboratory work per week.  
Prerequisite: MAT 104 or equivalent

CPS 176 Computer Programming II 3(3-1.5)  
A continuation of CPS 175, with an emphasis on elementary data structures, string manipulation, recursion, stacks, queues, linked lists, binary trees, sorting, & searching. In addition to the classroom work, each student is required to do a minimum of 1 1/2 hours of individual laboratory work per week.  
Prerequisite: CPS 175

CPS 180 FORTRAN Programming 3(3-1.5)  
In this course students solve business, scientific, and mathematical problems using the FORTRAN programming language. Topics include computer terminology and concepts, problem-solving and program design techniques, arithmetic and logical operations, subscripted variables, subprograms, functions, and files. In addition to the classroom work, each student is required to do a minimum of 1 1/2 hours of individual laboratory work per week.  
Prerequisite: MAT 104 or equivalent

CPS 210 Intro to ComputerSystems 3(3-1.5)  
This course is designed to develop a more thorough understanding of the hardware-software interface. The student learns assembly language and the concepts of computer architecture and fundamental computer operations that are inherent in its use. Higher level data structure, control, and problem-solving concepts are thereby linked to an understanding of the internal operation of the computer. The structure of operating systems and the manner in which they manage the resources of the computer system are also presented. In addition to the classroom work, each student is required to do a minimum of 1 1/2 hours of individual laboratory work per week.  
Prerequisite: Any CPS programming course

CPS 210 Intro to ComputerSystems 3(3-1.5)  
This course is designed to develop a more thorough understanding of the hardware-software interface. The student learns assembly language and the concepts of computer architecture and fundamental computer operations that are inherent in its use. Higher level data structure, control, and problem-solving concepts are thereby linked to an understanding of the internal operation of the computer. The structure of operating systems and the manner in which they manage the resources of the computer system are also presented. In addition to the classroom work, each student is required to do a minimum of 1 1/2 hours of individual laboratory work per week.  
Prerequisite: Any CPS programming course

CRJ 200 Introduction to Corrections 3(3-0)  
A study of the history, impact, and philosophy of community-based corrections services including sentencing alternatives and process, probation, parole, and imprisonment. Prisoner rights and offender profiles are also examined.

CRJ 201 Legal Issues in Corrections 3(3-0)  
An introduction to the laws and procedures regarding federal and state constitutional rights, criminal case processing, court organization, and prisoner rights.

CRJ 210 Correctional Institutions 3(3-0)  
A study of American prisons and jails including their purpose, treatment program availability, organizational structure, and custodial and security requirements. The effect on the incarcerated inmate as well as future correctional considerations are also examined.

CRJ 211 Client Growth and Development 3(3-0)  
An examination of the psychological, social, and environmental causes of criminal behavior in juveniles and adults, the impact of psychological, sexual, medical, and substance abuse problems of offenders and intervention strategies used in institutional and community settings.

CRJ 221 Client Relations in Corrections 3(3-0)  
An examination of the social and psychological formation of attitudes, their cultural influences, and their impact on minority perceptions. Discriminatory implications and professional responses in corrections are also considered.

CRJ 231 Local Detention 3(3-0)  
This course is designed to prepare Correctional Officer Training students for employment at a local Corrections facility. This course will emphasize booking and intake, report writing, interpersonal communication and fingerprinting.  
Prerequisites: CRJ 200, 201, 210, 211, 221
**CRJ 241 PPCT Defensive Tactics  2(1-2)**
This course is designed to meet MLEOTC requirements for defensive tactics. This course is also designed to prepare Correctional Officer Training students for employment at a local Corrections facility.
Prerequisites: CRJ 200, 201, 210, 211, 221
Corequisites: CRJ 231, 251

**CRJ 250 Corrections Officer Training Internship  5(2-3)**
The Corrections Officer Training Internship has been designed to provide the student a pragmatic work experience in a correctional institution/facility. The student intern will be required to complete a minimum of 60 hours at an operational corrections agency. The intern curriculum will include working in a variety of institutional departments and can be adjusted in accordance to the students needs and/or interests. Students must be recommended by one or more corrections instructors and successfully interview with a Corrections Department representative.

**CRJ 251 Emergency Intervention Techniques  2(2-0)**
This course will introduce students to four components in jail emergency situations including: suicide intervention, First Aid/CPR, fire fighting techniques, and stress management.
Prerequisites: CRJ 200, 201, 210, 211, 221
Corequisites: CRJ 231, CRJ 241

**CRJ 290-299 Special Topics in Corrections  1-5(1 to 5-0)**
Courses designed to investigate current topics in corrections not included in courses currently listed. Topics will be announced.

### CONSTRUCTION - M-TEC

**CST 1000 NCCER Core Curriculum**
This program of the National Center for Construction Education and Research (NCCER) was developed by the construction industry for the construction industry. It is one of the leading nationally accredited, competency-based construction training programs in the United States. The six units (44 hours) in this series provide a solid foundation of general knowledge needed by all construction workers. Competency labs on each module must be completed to receive certificate of completion. Topics covered in this series are included in the Core Curriculum Package.

**CST 1100 NCCER Carpentry Level I**
This 8-unit series (combined with the Core Curriculum) provides training for entrance of trainee into a carpentry first-year apprenticeship. This series addresses the history of the trade, materials, tools, floor, wall, ceiling, and introductory roof framing.
Prerequisite Required: NCCER Core Curriculum

**CST 1200 NCCER Electrical Level I**
This 12-unit series (combined with the Core Curriculum) provides training for electrician first-year apprentices. The series addresses safety, basic equipment, wiring, and NEC regulations. Trainees are also required to complete a 17-hour competency and a 50-hour "capstone lab" experience supervised by a Master Electrician.
Prerequisite Required: Core Curriculum Package

**CST 1300 NCCER Electrical Level II**
This 13-unit interactive module series provides training for second-year electrician apprentices. The series addresses Motors, Grounding, Cable Trays, Service Entrances, and Electric Lighting and expands on the modules presented in Level I. Trainees are also required to complete a 17-hour competency lab and a 50-hour "capstone lab" experience supervised by a Master Electrician.
Prerequisite Required: Core Curriculum Package

**Electrical Level One Package**

### DRAFTING

**DRF 101 Technical Drawing  3(3-0)**
Basic through advanced technical sketching will be explored in order to master the skills of visualization, special perception, and basic blueprint reading. Freehand technical sketching, geometric constructions, orthographic (multi-view) projection, isometric drawings, auxiliary views, sectional views, and dimensioning will be covered as well as basic development of thread representation and manufacturing tolerances. Laboratory assignments include producing "piece part" technical drawings utilizing industry standards. Students will also be briefly introduced to a CAD program to experiment with computer-aided drafting at the end of the course.
Prerequisites: none

**DRF 105 Intro to Geometric Dimensioning & Tolerancing  2(2-0)**
This course is designed to introduce the fundamentals of geometric dimensioning and tolerancing. Intermediate through advanced blueprint reading will be explored. Emphasis is placed on basic concepts of dimensioning and tolerancing a drawing with respect to the actual function or relationship of other part features. This course is offered as an independent study course. Hours arranged with your instructor. Call (989) 386-6676 with any questions.
Prerequisite: DRF 101, IND 101, IND 113
**DRF 120 Introduction to AutoCAD  3(3-1.5)**
This course is designed to acquaint students with computer aided-drafting using AutoCAD software. System interface, creating, modifying/editing and displaying geometry, dimension styles, block insertion, scale drawings, paper space/model space usage, creating templates, and file management will be introduced to students as they create basic mechanical detail drawings and basic architectural drawings. An introduction to 3-D solid modeling will be explored at the end of the course. Each student will be required to complete a minimum of 1 1/2 hours of individual laboratory work per week.
Prerequisites: none

**DRF 201 Mechanical Detail Drafting w/CAD  4(3-1.5)**
This course will prepare the student to make working drawings of mechanical component parts and small assemblies using CAD while gaining more experience using the AutoCAD program. Emphasis will be placed on dimensioning, views, projection, and manufacturing tolerances. Additional skills will be developed in creating pictorials, depicting threads, and fasteners. Intermediate through advanced 2-D AutoCAD commands and techniques will be developed throughout the course. Each student will be required to complete a minimum of 1 1/2 hours of individual laboratory work per week.
Prerequisites: DRF 120

**DRF 210 Introduction to SolidWorks  3(3-1.5)**
Students will have a thorough introduction to 3-D parametric solid modeling design using SolidWorks. Students will explore introductory through advanced SolidWorks commands and techniques including part model creation, assembly model creation, part drawing documents, and other modeling features and commands related to 3-D solid modeling. Students will model mechanical component parts to apply commands and principles. Students are required to do a minimum of 1 1/2 hours of individual laboratory work per week.
Prerequisite: none

**DRF220 Introduction to SoftPlan  3(3-1.5)**
Students will have a thorough introduction to 2D and 3D architectural design using SoftPlan. This class is available for students to design residential and light commercial buildings. Students will acquire the ability to design floor plans, floor systems and ceiling plans, roof plans, elevation drawings, cross section drawings, site plans, and framing diagrams. Each student is required to complete a minimum of 1 1/2 hours of individual laboratory work per week.
Prerequisites: none

**DRF 295-299 Special Topics in Drafting & Design Technology  1-3(1 to 3-0)**
These courses are designed to investigate various topics in Drafting and Design Technology that are not included in current courses. Topics will be announced. These courses are offered based on demand.

**EARLY CHILDHOOD EDUCATION**

**ECE 101 Introduction to Early Childhood Education  4(4-0)**
This course is designed to assist the student to understand the role of the child care provider or teacher, as well as become familiar with early childhood settings, developmental milestones and developmental theories. The course will consist of lecture and field visits to child care settings or schools. This course teaches the student how to become (CDA) certified.
Prerequisite: Current Cardiopulmonary Resuscitation (CPR) certification.

**ECE 112 Infancy  4(3-2)**
This course explores prenatal development and the effect on the family. Also studied is normal human development of infants from birth through 2.5 years.
Corequisite: ECE 101

**ECE 113 Early Childhood  4(3-2)**
This course explores the principles of growth and development of children ages 3-8 years.
Prerequisite: ECE 101

**ECE 114 Interacting w/ Children, Parent/Adult/Child Relations  4(3-2)**
This course will explore the theoretical perspective for interaction, and the influence of significant adults, especially parents, in the lives of children birth through age eight. It will allow the student to observe and engage in planned interactive sessions with children.
Prerequisite: ECE 101
### ECE 150 Preparation for Child Development Associate Credential (CDA)  
2(2-0)
This course is designed to prepare the student for assessment by the Council for Early Childhood Professional Recognition to earn the Child Development Associate Credential. The student will be guided through the preparation of a resource file, distribution of parent questionnaires, writing of statements of competence, and review of typical test questions and interview practice sessions.

Prerequisites: Be employed in a licensed or registered child care setting, or be a regular volunteer in such a program able to accumulate 480 hours working with young children. (This requirement for the CDA must be accomplished in the nine months prior to sending an application for assessment.)

Have accumulated 70 clock hours of early childhood training, either through high school vocational classes, college courses, or in-service training with an early childhood agency. Be able to document these training hours by transcript, certificates or other acceptable means. All hours must have been accumulated within the past four years.

### ECE 201 Guidance and Implementation of Programs for Young Children  
3(2-2)
All aspects of early childhood settings will be explored, including physical arrangement, curriculum development, positive atmosphere, and age and interest groupings. Students will be encouraged to use several lab settings.

Prerequisite: CIS 100, ENG 111, SPE 101 OR 257, ECE 101.

### ECE 201A Guidance and Implementation of Programs for Young Children  
2(2-0)
This course consists of the lecture component of ECE 201, but does no require the lab component. The course is recommended for any student or parent who desires to learn more about early childhood, but is not in the Early Childhood Education Program.

### ECE 202 Creative Development of the Child  
3(2-2)
This course will focus on the creative development of children. Students will learn how children become creative thinkers, and how to encourage creativity in young children. Activities will be developed for use in the lab setting that encourage creativity in movement, art, drama and music.

Prerequisite: ECE 101, or permission of the Instructor & Level I General Education

### ECE 206 Parent, School and Community  
3(2-2)
This course will explore the important relationship between the early childhood program and the families involved, as well as taking a look at the school and community resources available to programs and families.

Prerequisite: ECE 101, or permission of the Instructor & Level I General Education

### ECE 207 Early Childhood Education Practicum  
4(1-6)
This course takes the student into selected child care settings where they will prepare activities and give care to children in an appropriate setting, using theories and techniques learned and observed in prerequisite courses. It includes time with peers and Instructor to evaluate and discuss the field experiences.

Prerequisites: ECE 101, 112, 113, 114, 201, 202, and 206 & Level I General Education

### ECE 208 Program Management  
4(4-0)
This course is designed to give students knowledge of the “administration” of early childhood programs. Topics include: record keeping, the hiring and training of staff, child advocacy, using community resources, collaboration, public relations, advertising and fund raising.

Prerequisite: ECE 101, or permission of the Instructor

### ECONOMICS

### ECO 110 Economics and Society  
3(3-0)
An examination of the development of economic thought and institutions with emphasis on the application of this knowledge to the understanding of today’s world.

### ECO 150 Economic Problems  
2(2-0)
Course content changes dependent upon current pressing economic problems. The topic will be announced prior to the semester in which it is offered.

### ECO 175 Personal Finance  
2(0-2)
This Individualized Learning Center course uses a variety of materials, including computer-assisted instruction, to help students learn to make wise financial decisions in choosing, spending, and conserving resources, goods, and services. The main areas covered are resource management, money management, and principles of wise consumption.

### ECO 201 Principles of Economics (Macroeconomics)  
3(3-0)
Examines major subdivisions of the American economy. Some of the specific areas studied are national income theory, money and banking, the business cycle, economic growth, and international trade.
ECO 202 Principles of Economics (Microeconomics) 3(3-0)
This course is designed to introduce the basic terms and concepts of economics. The economic behavior of specific economic units such as households and business firms is examined. Some principle topics are postulates of economics, supply and demand concepts, and price determination by various types of businesses.

ECO 290-299 Selected Topics 1-3(1 to 3-0)
These courses are designed to investigate various topics in Economics that are not included in current courses. Topics will be announced.

EDU 107 Introduction to Teaching 3(3-0)
Introduction to teaching as a career. Survey of students' behavior and effective teacher responsibilities preparatory to guided observation and participation in K-12 settings.

EDU 200 Education Externship 1-20(1 to 20-0)
The Education Externship is set up to provide up to 20-hours of credit for Para Professionals who are currently working in classrooms and who have received training in the field of education. This credit can only be applied to the 60-credit hour Para Pro Certificate of Achievement. Examples of training and workshops are: Reading Recovery, Classroom Management, Whole Language, Mathematics Manipulative, Blood Born Pathogens, Safety, and numerous other applicable workshops, certifications, and training.

The formulas for awarding credits for experience and training are as follows:
- Work experience in a classroom
  1 credit = 75 contact hours
- Training, Certifications, Workshops
  1 credit = 16.5 contact hours

Students wishing to enroll in EDU 200 must be enrolled in the Para Pro Education Certificate of Achievement (either Secondary or Elementary emphasis) and submit a portfolio of documented work experience and training. A $100.00 evaluation fee will be charged to cover the cost of portfolio review and evaluation.

EDU 290 Technology in Education 3(1.5-1.5)
Students will learn to operate various technology-based equipment; select and assess instructional media materials, courseware, and software; and integrate technology and media into K-12 instruction. This course is taught as a hybrid; 1 1/2 hours in the computer lab and 1 1/2 hours are conducted online each week.

Prerequisite: Students should have basic computer and keyboarding skills. Students must have taken EDU 107.

EMS 200 Paramedic I 13.5(13-2)
This course is part of the Paramedic Program Associate Degree curriculum. It includes the following content areas: the roles and responsibilities of a Paramedic, medical legal issues, assessment and management of emergency patients, pharmacology, advanced airway, effective communication with patients, integrating pathophysiological principles and assessment findings to formulate a field impression and implement the treatment plan for the diverse patients, safe management of emergencies. A clinical component is required.

Prerequisites: Age 18 or older; valid driver's license; no felony convictions; high school diploma or GED. TB test & HBV vaccination, and EMT training.
Corequisite: EMS 205

EMS 205 Paramedic Clinical I .5(0-2)
This class is the first semester clinical component of the Paramedic program. Patient assessment and intubation are performed. There is a surgical observation rotation.
Prerequisite: EMT 100
Corequisite: EMS 200

EMS 220 Paramedic II 10.5(10-10)
This course is part of the Paramedic Program Associate Degree curriculum. It includes the following content areas: cardiology, pharmacology, toxicology, pulmonary and respiratory systems, neurology. A clinical component is required.
Prerequisite: EMS 200
Corequisite: EMS 225

EMS 225 Paramedic Clinical II 2.5(0-9.5)
This class is the second semester clinical component of the Paramedic program. Students rotate through the hospital and on-road clinicals. The hospital clinical includes rotations through ER, CCU, ICU, Peds, OB, respiratory, and lab.
Prerequisites: EMS 200 and EMS 205
Corequisite: EMS 220

EMS 230 Paramedic III 9 (9-0)
This course is part of the Paramedic Program Associate Degree curriculum. It includes the following content areas: Pediatrics, obstetrics, genital-urinary, gastrointestinal, trauma, shock, and environmental. A review of all Paramedic curriculum content areas is conducted. A clinical component is also required.
Prerequisites: EMS 200 and EMS 220
Corequisite: EMS 235
**EMS 235 Paramedic Clinical III**  5.75(0-15)
This class is the third semester clinical component of the Paramedic program. This clinical consists primarily of the on-the-road practical application of all skills learned throughout the Paramedic program sequence of classes.
Prerequisites: EMS 220 and EMS 225
Corequisite: EMS 230

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**EMERGENCY MEDICAL TECHNICIAN**

**EMT 100 Basic Emergency Medical Technician**  9(8-7)
This course provides the minimum certification to treat patients in an EMS setting. The training teaches basic anatomy and physiology, emergency care in a variety of situations, patient interactions and field work procedures. The class includes lecture and hands-on practice for field work and state testing. Upon showing competency, students begin shift rotations at hospital emergency rooms and on ambulances. Students work under the direction of hospital staff and experienced paramedics. When training is completed, students are eligible to take the state licensing exam.
Prerequisites: Assessment score placement into ENG 111 and MAT 104 or ENG 110 and MAT 101 with a "C" or better. Age 18 or older; valid driver's license; no felony convictions; high school diploma or GED. TB test & HBV vaccination required before clinical rotations begin.

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**ENGLISH**

**ENG 056 College Reading I**  3(3-0)
This Academic Support Center (ASC) course is the first course in the college reading sequence and is designed to prepare students for the kinds of reading expected of them at the college level. In this course, students will learn a variety of reading strategies they can use to better understand what they read in college. In addition to strategic reading, emphasis will be on reading comprehension, using context clues for understanding vocabulary, identifying the main idea, integrating critical thinking with reading, expanding vocabulary and distinguishing opinion from fact. With an instructor facilitating, students will develop existing reading skills in an interactive and collaborative setting.

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**ENG 057 College Reading II**  3(3-0)
This is the second course in the college reading sequence and is designed to prepare students for the kinds of reading expected of them at the college level. In this course, students will learn a variety of reading strategies they can use to better understand what they read in college. In addition to strategic reading, emphasis will be on reading comprehension, using context clues for understanding vocabulary, identifying the main idea, integrating critical thinking with reading, expanding vocabulary and incorporating these skills in a literary project. With an instructor facilitating, students develop existing reading skills in an interactive and collaborative setting.

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**ENG 058 College Reading III**  3(3-0)
This is the third course in the college reading sequence. This course is designed to enable students who are presently reading at high school level or above to increase their vocabulary, raise their comprehension level, and develop their critical thinking skills. In this course students will read and discuss a variety of college level texts.
Writing Sequence: ENG 101, ENG 110, ENG 111 (pending on placement test recommendations)

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**ENG 101 Basic Writing**  3(3-0)
This class is intended for students who have had little or no experience writing essays and will prepare them for college level writing. In this course, students will develop, focus, and explore their ideas in writing, integrate their writing with reading, and understand how to compose within the stages of the writing process as they engage in various writing activities. The course will be conducted in an interactive and collaborative setting.

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**ENG 110 Intro to Academic Writing**  3(3-0)
This course is meant to serve as a companion course to ENG 111, and will utilize the same goals and outcomes. However, ENG 110 is designed to provide incoming students a more gradual and more thorough introduction to the textual practices required in college (such as evidence, critical analysis, considering rival points of view, or synthesizing a new position). This course will focus on how to read, annotate, and respond to academic texts, and will also introduce students to writing strategies designed to make them successful academic writers. Students who perform at an extremely high level throughout ENG 110 may be invited to submit a portfolio for ENG 111 Portfolio Assessment, potentially leading to credit in ENG 111.
ENG 111 Freshman English Composition 3(3-0)
This course prepares a student for academic writing in the college setting, and concentrates on analyzing and discussing written sources. Emphasis is on writing that shows insight into published discussions of an issue and understanding of the contexts of academic debate (rather than on informational reports or personal expression essays). In addition, research and revision are treated as integral parts of the process of writing an academically acceptable essay. By the end of the course, a student must show 'competency' in an academic portfolio of selected essays.
Prerequisite: Competency or a grade of “C” or better in ENG 101 or equivalent.

ENG 111B Portfolio Tutorial 0(0-0)
ENG 111B is a one hour tutorial for students who failed their English 111 portfolio but who otherwise would have been eligible for a grade of “C” or better in ENG 111. The tutorial will combine individual conferences, group work, and classroom activities to prepare the student to resubmit their portfolio.
Prerequisites: A copy of the 111 portfolio and instructor referral are required.

ENG 112 Introduction to Literature 3(3-0)
This course introduces students to a variety of literature and enhances student's competency in critical reading and writing. The course will include introductions to genres of literature and critical theories of reading and responding to literature. Students should have completed ENG 111 and have basic writing skills.
Prerequisite: ENG 111

ENG 201 English Literature I 3(3-0)
A survey of works of major authors of English literature from Beowulf through the 18th century.
Prerequisite: ENG 111

ENG 202 English Literature II 3(3-0)
A continuation of ENG 201 from the late 18th century poets through the writers of the present.
Prerequisite: ENG 111

ENG 205 American Literature to 1870 3(3-0)
A study of our nation’s authors and literature from colonial times through the Civil War period.
Prerequisite: ENG 111

ENG 206 American Literature from 1870 3(3-0)
A continuation of ENG 205 from the Reconstruction through mid-20th century works.
Prerequisite: ENG 111

ENG 211 Masterpieces of Western Literature I 3(3-0)
An in-depth study of selected major classical literary works of Western civilization.

ENG 212 Masterpieces of Western Literature II 3(3-0)
A comprehensive study of leading authors from the time of the Renaissance through the 19th century.

ENG 213 Contemporary Literature 3(3-0)
Readings in the novel, short story, essay, autobiography, biography, poetry, and drama of the mid-20th century. Prerequisite: ENG 111

ENG 222 Expository Writing and Research 3(3-0)
This course is designed to further develop skills in all phases of the nonfiction writing process with special emphasis on academic writing situations, argumentation, and library research. Writing is approached both as a way of learning and as a form of social behavior that varies according to conventions of aim, audience, and form. Instruction and assignments are partially individualized according to students’ educational goals.
Prerequisite: Grade of “C” or better in ENG 111

ENG 225 Creative Writing 3(3-0)
Introduction to the essentials of narration, characterization, and other components of creative writing. Students are required to submit original poetry and/or one-act plays or short stories.

ENG 281 Children’s Literature 3(3-0)
A review of the rich and diverse field of literature for children from preschool to adolescence. Recommended for students in the elementary teacher education curriculum.
Prerequisite: ENG 111

ENG 290-299 Selected Topics 1-3(1 to 3-0)
These courses are designed to investigate various topics in English that are not included in current courses. Topics will be announced.

ENTREPRENEURIAL

ENT 200 Intro to Entrepreneurship Law 3(3-0)
A course to introduce future entrepreneurs to the legal requirements for forming a business in Michigan.

ENT 221 Marketing Strategies for Entrepreneurs 3(3-0)
This course provides methods of identification of a product and/or service potential, advertising plans, marketing strategies, store location, purchasing procedures and inventory control.
ENVIROMENTAL SCIENCE

ENV 210 Environmental Science 4(3-2)
A survey of the broad field of environmental science. Major topics included are: the scientific method, an introduction to chemistry, ecological principles, types of pollutants, energy principles, population issues, the environmental impact of human choices, and the role of economics, risk perception, and political choices in environmental decision making. Laboratory activities will expose students to a variety of field, survey and laboratory techniques useful in assessing environmental quality.
Prerequisite: Recommend BIO 101, GEL 101 or other science courses.

ENV 220 Environmental Regulations 3(3-0)
A comprehensive course in environmental law and regulations, agencies such as OSHA, DOT and EPA, and how they affect environmental usage and the individual. The course includes an overview of the history, philosophy and processes germane to environmental regulations and how to work effectively as a team member to address environmental issues and regulatory compliance concerns.

ENV 230 Environmental Training 5(3-4)
Basic measurement techniques used by environmental scientists and technologists to evaluate air and water quality, field methods, continuous monitoring techniques, and in-laboratory analysis techniques. Course includes how to properly collect and prepare samples for analysis, use a variety of instruments effectively, and how to appreciate the importance of proper sample custody and record keeping. Course also includes 40 hour personal protection and safety training.
Prerequisites: ENV 220, CHM 112

ENV 290 Environmental Internship 4-6(1-15 to 25)
This course is the “capstone” field experience for students in the environmental science or environmental technology curriculums. This required course provides each student with opportunities to synthesize and integrate knowledge gained from their academic program through a process of “real world” experience, problem solving and on-the-job training. This course will allow for a broad range of learning/working experiences for students and relationships with many organizations, including other college and university units, governmental agencies, profit and nonprofit enterprises and professional organizations.
Prerequisite: ENV 230

ENV 291-299 Selected Topics 1-5(1 to 4-0 to 3)
These courses are designed to investigate various topics in Environmental Science that are not included in current courses. Topics will be announced.

FIRE FIGHTER TRAINING

FFT 101 Fire Fighter I Training 8(8-0)
This course is offered as basic training in cooperation with the Michigan Fire Training Council. The course covers information on Michigan fire laws, portable extinguishers, fire hose, fire apparatus, fire service, first aid, ladders, fire service, ropes, fire stream, forcible entry, ventilation, salvage and overhaul, rescue, and utilities. In addition, the course covers inspection practices, automatic sprinkler systems, fire department pumper operations, ladders, rescue operations, salvage activities, communications and hazard materials awareness level.
Prerequisite: FFT 101

FFT 102 Fire Fighter II Training 8(8-0)
This course is offered in cooperation with the Michigan Fire Training Council. Topics covered include: rules and regulations, hose practice, fire apparatus, ladder practice, fire service, water supplies, forcible entry, sprinkler systems, first aid, utilities, inspection laws, portable fire extinguishers, building construction, advance rescue activities, hazard materials operation level, incident command and community relations.
Prerequisite: FFT 101

FFT 105 Fire Fighter Training III A 4(4-0)
This course is offered in cooperation with the Michigan Fire Training Council. The course covers Michigan fire laws, communication and supervisory skills, instructional responsibility, strategy and tactics, fire and arson investigation. Students may be allowed only one absence.

FFT 236 Arson Investigation 3(3-0)
This course presents the fundamentals of arson investigation. It concerns itself with all types of fires and the techniques of determining if they are accidental or incendiary in nature. Emphasis is placed upon investigation and preservation of evidence.

FRENCH

FRN 101 Elementary French 4(3-1)
This is an elementary course designed for students who have had little or no previous experience in French. It is designed to help students acquire foundational language skills necessary for basic communication in French. The majority of class time will focus on verbal communication, however, reading and writing will be frequently integrated, and selected cultural information will be studied.
**GEOLOGY**

**GEL 101 Physical Geology  4(3-2)**  
An introductory study of the processes that shape our world. Topics include minerals, rocks, volcanism, earthquakes, continental drift, erosion and deposition, the ice age, and economic significance of geology to humankind.

**GEL 112 Historical Geology  3(2-2)**  
A chronological study of the origin and development of the earth’s features, along with development and succession of plant and animal groups as revealed in rock formations and mineral deposits.

**GERMAN**

**GER 101 Elementary German  4(3-1)**  
This is an elementary course designed for students who have had little or no previous experience in German. It is designed to help students acquire foundational language skills necessary for basic communication in German. The majority of class time will focus on verbal communication, however, reading and writing will be frequently integrated, & selected cultural information will be studied.

**GER 102 Elementary German II  4(4-0)**  
German 102 is a continuation of German 101 and will begin with a brief review of the material covered in GER 101. Students in German 102 will continue the study of grammar and vocabulary and will use these to communicate utilizing speaking, writing, listening, and reading skills. This course is designed to provide the basis for further study of German at the intermediate level.  
Prerequisite: GER.101 or equivalent.

**HEALTH EDUCATION**

**HED 115 Stress Management  2(2-0)**  
This course is designed to give the student an overall knowledge and understanding of the mechanisms of stress as a concept, to provide stress management tools to increase coping, and to provide health/wellness promotion.

**HED 130 Introduction to Aromatherapy  1(1-0)**  
This course is designed to be an introduction to the field of Aromatherapy. Students will learn to understand the proper usage of essential oils. Upon completion of this course, students will be qualified to apply and diffuse the top twenty oils used in aromatherapy.

**HED 132 Introduction to Reflexology  1(1-0)**  
This course is designed to be an introduction to the field of Reflexology. Students will learn the proper techniques for performing reflexology as a stress-reducing therapy. Students will be qualified to teach an introductory 1 hour class on the therapy of reflexology, and be able to perform a half-hour therapy for the purposes of improving circulation, enhancing immunity, and reducing stress.

**HED 134 Introduction to Herbology  1(1-0)**  
This course is designed to be an introduction to the field of Herbology. Students will learn to understand the proper usage of herbal remedies. Upon completion of this course, students will be able to recognize the most commonly used herbs, as well as how and when they should be taken. Additionally, they will be able to educate others about the proper use of herbs.

**HED 136 Introduction to Massage  1(1-0)**  
This course is designed to be an introduction to the field of Massage Therapy. Students will learn how to perform basic massage techniques as well as learn about the professionalism of massage as a therapy. Students will be qualified to perform a one-hour relaxation massage for family and friends.

**HED 151 Personal Health and Hygiene  3(3-0)**  
Intended to develop habits, skills, and attitudes favorable to healthful living and to understand better the normal functioning of the human body. This course encourages understanding of mental, physical, and social well-being of the individual and the community.

**HED 290-299 Selected Topics in Health  1-5(1 to 5-0)**  
These courses are designed to investigate various topics in Health Education that are not included in current courses. Topics will be announced.

**HEATING / REFRIGERATION / AIR CONDITIONING**

**HRA 102 Refrigeration Fundamentals  3(2-2)**  
As an introductory course to the field of refrigeration service, instruction is given in the handling of refrigerants, application, identification, reclaiming and refrigerant alternatives. Particular attention is paid to the principles, construction, and operation of refrigerating systems. Theory underlying refrigeration principles is covered. Laboratory experience includes cutting, soldering, swaging, and flaring of copper tubing, the evacuation and recharge of refrigeration systems, electrical troubleshooting for basic systems, the diagnosis and repair of the refrigeration system, and testing equipment typically used in the field of refrigeration service.
HRA 104 Residential Refrigeration  3(2-2)
This course studies residential refrigeration systems, to include domestic refrigeration and air conditioning. Included in the instruction are ice makers, defrost controls, diagnostic display panels and typical appliance system problems. Particular attention is paid to the principles, construction, and operation of these systems. Laboratory experience includes residential system electrical troubleshooting and repair, and the diagnosis and repair of the refrigeration system.
Prerequisite: HRA 102

HRA 105 Hydronics  3(2-2)
An introduction of the concepts involving fluid system heating devices. Topics will cover: hot water and steam heating units, terminal units, control devices, piping, and diagnosis of hydronic systems.
Prerequisite: HRA 106

HRA 106 Heating Fundamentals  3(2-2)
An introductory course into the fundamentals of heating systems and installation practices. Laboratory experience includes furnace installation, steel and copper piping, furnace and control wiring, and flue gas venting.

HRA 108 Heating Systems  3(2-2)
Residential and commercial forced air and hydronic heating systems are covered in this course. The instruction includes the fundamental operation of gas and oil burners, for both standard and high efficiency systems. In addition, system configuration and operation principles are studied for fossil fuel systems and solid fuel burners. Laboratory experiences include the trouble shooting and repair of spark ignition control systems, relay control safeties, hot surface ignition, flue dampers, and efficiency testing of heating systems.
Prerequisites: HRA 106, HRA 116

HRA 115 Plumbing  4(4-0)
This course covers the design, use, and application of potable and non-potable water systems as they apply to both water supply and waste problems. Students are involved with the practical applications of plumbing systems in a simulated environment like that found in the field.

HRA 116 Fundamentals of Electricity  3(2-2)
This course covers the principles of electrical wiring for heating, refrigeration, air conditioning and manufacturing automation. Studies of frequency, phase, resonance and reactance, along with basic resistance, capacitance, inductance, voltage, and power which govern the fundamentals of all circuits will be explored. Laboratory work will be used to develop skill in analysis, troubleshooting of basic electronic circuitry, and use of test instruments.

HRA 175 Solar Heating System  3(2-2)
This course involves the study of various systems utilized to convert solar energy to domestic and commercial heating applications. Design characteristics, efficiency, and cost of various systems are reviewed. Students engage in the design and construction of an operational solar heating system as a part of the course requirements.

HRA 199 Special Topic: EPA Certification
A two day intensive course specifically designed to teach students the required knowledge necessary to pass the Environmental Protection Agency’s “Refrigerant Handler Certification Exam”. The specific content areas are; “Core” - the basic law regarding CFC and other chlorinated refrigerants, refrigerant containment, disposal and other certification requirements.
“Type I” — Type I Certification includes regulations dealing with “factory charged” systems containing less than 5# of refrigerant.
“Type II” — Type II Certification deals with all other high pressure systems containing more than 5# of charge or are custom manufactured.
“Type III – Type III Certification Deals with all “low pressure” chillers.
The student must pass “Core“ and any “Type” to become certified to service that “Type” of refrigeration system. If the student passes Core and all “Types” he will be granted “Universal Certification”.
The Refrigerant Handler’s Certification Exam and text book is included.
The instructor is an EPA Certified Refrigerant Handler Certification Exam Instructor.

HRA 204 Light Commercial Refrigeration  3(2-2)
This course deals with more complex refrigeration systems associated with supermarkets and restaurants. Instruction and laboratory work are geared toward the installation and service of all types of light commercial refrigeration equipment such as walk-ins, reach-ins, water chillers, air cooled condensers, and water cooled condensers with cooling towers. Some of the other topics covered include heat controls for both single and three-phase systems.
Prerequisite: HRA 102

HRA 205 Motors & Controls  2(1-2)
This course in electricity concerns itself with the operation of electric motor-driven systems and devices. Classroom and laboratory experiences will include testing, troubleshooting, and repair of electric motor control systems. Electric motor-driven devices applicable to many different fields are covered, such as heating and air conditioning, machine tool and other electric-driven mechanical devices.
Prerequisite: HRA 116
HRA 215 HRA Controls 3(2-2)
A course designed to provide theory of operation, installation, and design of programmable, electric, and pneumatic controls for heating, refrigeration, and air conditioning systems. Laboratory work includes the installation, wiring, and troubleshooting of these control systems.
Prerequisite: HRA 116

HRA 220 Commercial Refrigeration Design 2(2-0)
Calculations in the sizing and design of refrigeration systems are covered in this course, as well as equipment layout and bid preparation. Topics include: “U” values, “R” values, insulation types and their installation, vapor barriers, construction details, and numerous charts, graphs, formulas, and other design material.
Corequisite: HRA 204

HRA 223 Residential HVAC Load Determination 3(3-0)
A course designed to calculate the winter heat loss; summer heat gain, and the cost of operation for a residential heating and/or air conditioning system. Manual J methods and computer software programs are used.
Prerequisites: HRA 108
Corequisite: MAT 104 or MAT 170

HRA 225 Residential HVAC Distribution 3(3-0)
Calculations in the sizing, location, and design of forced air ducts and hydronic residential heating and air conditioning systems. Manual D methods and computer software programs are used.
Corequisite: HRA 223

HRA 240 Advanced Commercial Refrigeration 3(2-2)
This course deals with complex exotic refrigeration systems such as: environmental test chambers, supermarket refrigeration equipment, commercial ice-making equipment and ground source heat pump systems. Also included are various applied control systems and components.
Prerequisites: HRA 104, HRA 116, HRA 204

HRA 282 Insulating Systems 2(2-0)
A study of the various types of insulations currently being used in residential and commercial buildings. Also studied are the methods of installation of the various insulations as well as a comparative study of the costs of insulation, advantages and disadvantages of various insulations, and financing plans available for home and business. A course for anyone interested in energy conservation. This course cannot be used as a substitute for any course on the Heating, Refrigeration & Air Conditioning program.

HRA 283 Independent Study in HRA 3(3-0)
This course is for those students who desire to gain supervised experience in actual on-site situations to enhance their knowledge and experience in the heating, refrigeration, and air conditioning industry.

HRA 285 Co-op - Heating/Refrigeration/Air Cond 3(1-10)
HRA Co-op is a course intended to be completed after the student has attained at least 30 credit hours of instruction including prerequisites. The students will be employed in an approved co-op position selected by the college coordinator and will also attend a weekly one hour classroom lecture/discussion. A waiver may be allowed for the work component only with equivalent previous/present work experience as determined by the co-op coordinator. An individual evaluation is made by the coordinator only upon student request. Documentation of the experience will be required.
Prerequisites: HRA 102, HRA 106, HRA 116
Corequisites: HRA 104, HRA 108, HRA 205

HRA 295-299 Special Topics in Heating, Ref. & Air Conditioning 1-3(1 to 3-0)
These courses are designed to investigate various topics in Heating, Refrigeration & Air Conditioning that are not included in current courses. Topics will be announced. These courses are offered based on demand.

HISTORY

HIS 101 Issues in Western Civilization I 3(3-0)
A survey of the development of Western peoples from ancient times through 1650 A.D. Emphasis is placed upon topics relating to the intellectual, social, religious, political, and economic development of Western peoples.

HIS 102 Issues in Western Civilization II 3(3-0)
Continuation of HIS 101. This course covers events from the post-reconstruction period to the present. Principle topics examined are the political, intellectual, social, religious, and economic developments, and their impact upon world civilizations.

HIS 211 History of the United States I 3(3-0)
This course examines the developments of the Americas through Reconstruction. Primary topics of study are exploration of colonization and its characteristics, the American Revolution, the Constitution, democratic developments, rise of States’ Rights, the Civil War, and Reconstruction.

HIS 212 History of the United States II 3(3-0)
Continuation of HIS 211. This course covers events from the post-reconstruction period to the present. Principle areas of study are economic growth, political activities, diplomacy, and social and intellectual developments.
HIS 223 History of Michigan  3(3-0)
This course examines developments in Michigan from the time of earliest human habitation to the present. Major areas examined are French and British rule and rivalry, Michigan’s move to statehood, exploitation of natural resources, and political and social development of the 19th and 20th centuries.

HIS 251 American Studies I: The Cultural Foundations of the 20th Century  3(3-0)
Along with HIS 252, this two-semester sequence centers on American cultural myths and values, examining their origins, development, and current manifestations (e.g., ideas of equality, the frontier, competition, pursuit of happiness, liberty, destiny, etc.). The approach is historical, using materials from literature, popular culture, and historical studies. This course centers on discussion stemming from assigned readings for which the instructor sets the cultural and historical context. Students desiring humanities credit should register for HUM 251.

HIS 252 American Studies II: Old Myths, New Realities in the 20th Century  3(3-0)
Continuation of HIS 251. Students desiring humanities credit should register for HUM 252.

HIS 290-299 Selected Topics  1-3(1 to 3-0)
Courses designed to investigate various topics in History not included in current courses. Topics will be announced.

HUMANITIES

HUM 101 World of Creativity I  3(3-0)
An introduction and exposure to the creative arts. Together, HUM 101 and HUM 102 are designed to give the student a basic understanding of the terminology and concepts of the visual arts, theatre, dance and music. Ideas and philosophies of specific periods are presented as a frame of reference for discussion. Speakers, films, and field trips are arranged to give the student a more distinct involvement with the arts. HUM 101 is taught chronologically and focuses on the Greek and Roman period through the Renaissance.

HUM 102 World of Creativity II  3(3-0)
Continuation of HUM 101, HUM 102 begins with the baroque period and ends with the current time.

HUM 105 Awareness of Fine Arts/Science/Society  1(1-0)
An interdisciplinary study designed to develop the student’s awareness of the interrelationships of the artistic, scientific, and technological aspects of our society, and to investigate their impact upon contemporary society from a variety of perspectives. Various methods of instruction may be used for this course including independent readings or research, lecture and discussion, projects associated with a field trip, or travel of recognized educational value.

HUM 106 Awareness of Fine Arts/Science/Society  1(1-0)
A continuation of HUM 105. A student may not receive credit in the same course more than once.

HUM 107 Awareness of Fine Arts/Science/Society  1(1-0)
A continuation of HUM 105 and 106. A student may not receive credit in the same course more than once.

HUM 108 Awareness of Fine Arts/Science/Society  1(1-0)
A continuation of HUM 105, 106, and 107. A student may not receive credit in the same course more than once.

HUM 183 Asian and African Cultures  3(3-0)
An exploration of specific "non-Western" cultures, past and present. Cultural focus may vary from term to term. The course is an investigation of their religions and artistic traditions, their ideas, their cultural achievements, and their associations with other cultures.

HUM 200 Modernity & Culture  3(3-0)
This course is designed to introduce students from a variety of programs to the humanities. This introduction will focus on the way the humanities and their concern with art, ethics, history and culture, impact on the way we construct ourselves and our sense of meaning. This course will stress interaction through writing, collaborative assignments, presentations, and discussions to emphasize the humanities’ commitment to self-discovery and expression.
Prerequisites: Level I General Education courses (CIS 100, MAT, ENG 111, SPE 101 or SPE 257)

HUM 213 Contemporary Literature  3(3-0)
Readings in the novel, short story, essay, autobiography, biography, poetry and drama of the late-20th Century.
Prerequisites: ENG 111, ENG 112 or equivalent
Along with HUM 252, this two-semester sequence centers on American cultural myths and values, examining their origins, development, and current manifestations (e.g. ideas of equality, the frontier, competition, pursuit of happiness, liberty, destiny, etc.) The approach is historical, using materials from literature, popular culture, and historical studies. The course centers on discussion stemming from assigned readings for which the instructor sets the cultural and historical context. Students desiring social science credit should register for HIS 251.

HUM 252 American Studies II: Old Myths, New Realities in the 20th Century 3(3-0)
Continuation of HUM 251. Students desiring social science credit should register for HIS 252.

HUM 294 Field Experience in Fine Arts (SU) 3(3-0)
A travel course of an interdisciplinary nature where the world of theatre, music, dance and the visual arts are explored in a metropolitan area.
Prerequisites: HUM 102 and/or any other TAI course recommended

HUM 295-299 Current Topics in the Humanities 3(3-0)
Courses designed to investigate various topics in Humanities not included in current courses. Topics will be announced.

INDUSTRIAL TECHNOLOGY (Machine Tool)

IND 101 Basic Machine Shop Practices 4(3-3)
This course is an introduction to machine tool operation and associated processes. Students will become familiar with milling machines, engine lathes, the drill press, grinding machines and bandsaws. A knowledge of machining terminology and concepts such as speeds and feeds, tool geometry, blueprint interpretation as well as skill in the use of precision measuring tools will be developed.

IND 102 Machine Tool Practices II 4(3-3)
The second semester Machine Tool lab course in a four semester sequence. Thread manufacturing, precision grinding, and boring operations are explored. The ability to precisely place and inspect geometric features to determine product conformance is developed in lecture and lab demonstration.
Prerequisites: IND 101, grade of “C” or better in MAT 104 or equivalent

IND 113 CNC Machining 2(2-0)
An introduction to the use of computer numerical control machine tools, this course will develop an understanding of the components, functions, safety concerns and maintenance of CNC milling machines and lathes. The role of the CNC machine operator in establishing the workpiece coordinate system, tool changing and the use of offset functions will be explored.

IND 116 CNC Programming 4(3-3)
This course prepares students to program and operate Computer Numerical Control lathes and milling machines. Standard EIA code format, canned cycles, communications, manual data input, machine operation and maintenance are topics of instruction. Students solve cutter location coordinate problems and write CNC programs which they load and run on industrial machines.
Prerequisites: IND 101, IND 113, grade of “C” or better in MAT 105 or MAT 170 or equivalent

IND 121 Manufacturing Processes 2(2-0)
A survey of the processes used to manufacture parts in quantity, this course is focused upon foundry, forming, stamping, metal finishing and joining technologies. Tours of manufacturing facilities augment classroom instruction and develop understanding of the scope of manufacturing enterprise in the local economy.

IND 140 Metallurgy & Industrial Materials 3(3-0)
An applied course covering the physical and mechanical properties, classification systems and heat treatment procedures for common ferrous and non-ferrous metals. Lab experiences include quench and temper, carburizing, tensile and hardness testing.

IND 171 Introduction to CAD/CAM 3(3-0)
The third course in the associate degree program dealing with Computer Numerical Control of machine tools. This course teaches the student to use the latest graphics-based software to produce CNC programs for the production of complex 3D surfaces.
Prerequisites: IND 116, DRF 120 OR Instructor permission

IND 200 Industrial Topics 3(3-0)
This course is designed to cover topics of an industrial nature having to do with, but not limited to, material processing, manufacturing, material handling, material shaping, and tool design. Persons employed in related industry and students in the Machine Tool, Drafting, Welding and related programs gain meaningful insights into current technology. This is not a regularly scheduled course, but is offered when there is sufficient interest.
**IND 211 Advanced Machine Shop Practices  4(2-4)**
Jig and fixture design and construction, process planning concepts, and standards for assembly hardware are the basis for instruction. The ability to perform complex machining tasks permitting the assembly of mating parts with a focus on setup and tooling for production is developed.
Prerequisite: IND 102

**IND 212 Tool, Die and Mold Manufacturing  4(2-4)**
A course devoted to the study of practices, designs, processes and materials used by toolmakers in the machine trades. Toolmakers are those qualified machinists who build dies, molds, cutting tools, jigs, fixtures, gauges and test instruments which are the basis for production manufacturing.
Prerequisite: IND 211

**IND 215 Statistical Quality Control  2(2-0)**
This course gives the student an understanding of quality control in industry, how it is achieved, how to use statistics to measure its probability of occurrence, methods of measurement, and means of control in the production process.

**IND 250 Industrial Safety  3(3-0)**
This course is designed to acquaint supervisory personnel with the requirements of OSHA and MIOSHA for the maintenance of safety provisions and accident prevention. Emphasis is placed on discussion and development of accident prevention plus plans to eliminate real and potential safety hazards.

**IND 270 Principles of Robotics  3(0-4)**
This course covers the construction, accuracy, speed, application, and programming necessary for robotic tools found in industry. The method of selecting the proper robotic tool for a job is covered along with the selection of the proper gripper required for the job. The principles of hydraulic and electrical systems are included so students have a better understanding of how robotic tools move.
Prerequisite: IND 171

**IND 280 CNC Applications I  3(0-4)**
This course develops CNC programming skills, improves competencies in CNC machine operation, and provides opportunities for students to utilize computer assisted programming skills in actual machining situations. Students design and create a postprocessor program for a lathe and for a milling machine.
Prerequisite: IND 171

**IND 285 Co-op (Industrial Technology)  3(1-10)**
Co-op is a capstone course planned for the last semester of the Associate in Applied Science: Machine Tool Technology Degree. The students will be employed in an approved co-op position selected by the college coordinator and will also attend a weekly one hour classroom lecture/discussion. A waiver may be allowed for the co-op experience by presenting evidence of current and appropriate employment to the co-op coordinator.
Prerequisite: The student must have approval of the co-op coordinator to be placed in a co-op situation.
Corequisite: IND 212

**JAPANESE**

**JPN 101 Introductory Japanese  3(3-0)**
This is an introductory course in Japanese language, designed for students with little or nor previous knowledge of Japanese. This course introduces the basic structure and vocabulary of modern Japanese, stressing the use of Japanese orthography (the writing system) from the very outset, so the subsequent adjustment to reading ordinary Japanese literature is minimal. Emphasis will be on vocabulary and oral training for conversation with reasonable ease, with an introduction to readings and writing. Familiarity with the sociocultural context in which the modern Japanese language is used will also be stressed.

**JOURNALISM**

**JOR 100 Print Media Practicum  1(1-0)**
This course is designed to give the student practical experience with the print media through contributions to various publications of the College. Topics include writing style, layout, editing, photography, graphics, and ethics.

**JOR 120 School Newspaper Publications  3(3-0)**
A basic study of journalism as it relates to the publication of a school newspaper.

**LAW ENFORCEMENT**

**LEN 200 Evidence  3(3-0)**
A study of the rules of evidence, from its historical development through the present, pertaining to criminal cases. This course provides an examination into the testimonial, documentary and real evidence as discovered, and evaluated by police in anticipation of a criminal trail.
Prerequisite: LEN 203
MATHEMATICS

MAT 060 Math Study Skills 1(1-0)
This course will emphasize basic study skills and techniques to help students be more successful with mathematics courses.

MAT 101 Basic Mathematics 3(3-0)
A review of basic operations with fractions, decimals, ratios and proportions, percent, taxes and interest. Other topics will include statistics, geometry, and the English and metric measuring systems. Emphasis will be placed on applications which will aid the student in functioning in a technical society.
Prerequisite: none

MAT 101A Basic Mathematics 1(0-3)
MAT 101B Basic Mathematics 1(0-2)
MAT 101C Basic Mathematics 1(0-2)
These Math Lab courses consist of one credit modules designed to allow the student to learn at a pace that will help them be successful in Basic Mathematics. MAT 101 includes a review of basic operations with factors, decimals, ratios and proportions, percent, taxes and interest. Other topics will included statistics, geometry, and the English and metric systems. Emphasis will be placed on applications which will aid the student in functioning in a technical society.
Prerequisite: Grade of "C" or better in the proceeding module.

MAT 101X Basic Mathematics 3(1.5-1.5)
MAT 101Y Basic Mathematics 3(1.5-1.5)
MAT 101X and MAT 101Y semester sequence covering the same material as the traditional classroom version of MAT 101. MAT 101X includes basic operations on whole numbers, fractions, and decimals, as well as using rates, ratios, and proportions. MAT 101Y includes percent applications, descriptive statistics, unit conversions, plane and solid geometry, and the real numbers. Note: Students choosing to take MAT 101 as a sequence must complete either the ABC sequence or the XY sequence to complete MAT 101. Courses from the two sequences cannot be mixed.
Prerequisite: None for MAT 101X. Must have a "C" or better in MAT 101X to take MAT 101Y

MAT 104 Basic Algebra 3(3-0)
Topics include real numbers, first degree equations and inequalities, special products and factoring, rational expressions, graphs, and linear systems.
Prerequisite: Grade of "C" or better in MAT 101 or equivalent. Please Note: MAT 104 is also offered in modules, see next.
MAT 104A Basic Algebra 1(0-2)
MAT 104B Basic Algebra 1(0-2)
MAT 104C Basic Algebra 1(0-2)

These Math Lab courses consist of one credit modules designed to allow the student to learn at a pace that will help them be successful in Basic Algebra. MAT 104A includes basic rules, signed numbers, basic equations, and inequalities and applications; MAT 104B includes constructing and interpreting graphs, and working with exponents and polynomials; MAT 104C includes factoring, solving equations, and working with rational expressions. Completion of all three modules are equivalent to MAT 104.

Prerequisite: Grade of “C” or better in proceeding module.

MAT 105 Intermediate Algebra 3(3-0)

A continuation of Basic Algebra including an in-depth study of some of the topics covered in MAT 104. Topics include polynomials, rational expressions and equations, radicals, integer and rational exponents, equations of the line, quadratic equations, functions, linear systems, and Cramer’s Rule.

Prerequisite: Grade of “C” or better in MAT 104 or equivalent

Please Note: MAT 105 is also offered in modules, see next.

MAT 105B Intermediate Algebra 2 of 3 1(0-2)
MAT 105C Intermediate Algebra 3 of 3 1(0-2)

These Math Lab courses consist of one credit modules designed to allow the student to learn at a pace that will help them be successful in Intermediate Algebra. MAT 105B includes inequalities, exponents and their operations, simplifying rational expressions, and solving radical equations; MAT.105.C includes quadratic equations, quadratic formula and functions, and exponential functions. Completion of all three modules are equivalent to MAT 105.

Prerequisite: Grade of “C” or better in proceeding module.
MAT 170 Technical Mathematics II  2(2-0)
This applied mathematics course is for students who already have satisfactory arithmetic skills, or who have completed an introductory course, such as MAT 101. The object of the course is to apply geometry and trigonometry to realistic machine tool problems. Many problems will require the student to work with engineering drawings or blueprints. Topics covered will include signed numbers, the Cartesian coordinate system, solving equations, circles and arcs, geometric constructions, and trigonometry. Students are expected to have a scientific calculator. Calculator operations will be covered in class.
Prerequisite: MAT 101 or equivalent

MAT 212 Introduction to Probability and Statistics  3(3-0)
Selected topics from probability, variable, data collection and summarization, distribution, hypothesis testing, regression, and correlation. An interest course for use in teaching, science, business, biology, sociology, psychology, economics and more.
Prerequisite: Grade "C" or better in MAT 104 or equivalent

MAT 216 Business Mathematics II  3(3-0)
This course is a sequence to MAT 116 and covers topics such as exponential and logarithmic functions, derivatives, integration, and applications to business situations.
Prerequisite: Grade of "C" or better in MAT 116 or equivalent

MAT 217 Business Calculus  4(4-0)
A continuation of MAT 116. This course is now four credits, an expansion of the previous three-credit MAT 216 course. Fundamental calculus operations applied to business and financial situations. Topics will include limits, derivatives and their applications, curve sketching and optimization, exponential and logarithmic functions, integration and applications, an introduction to functions of several variables, and the mathematics of finance. Students are required to have a graphing calculator. The Texas Instruments TI-83+ calculator is strongly recommended.
Prerequisites: Grade of "C" or better in MAT 116 or equivalent

MAT 218 Mathematics for Elementary Teachers II  3(3-0)
Continuation of MAT 118 to include decimals, percent, ratio-proportion, geometry, probability, statistics, introduction to algebra and microcomputer use.
Prerequisite: MAT 118

MAT 225 Calculus II  4(4-0)
Topics include indeterminate forms, methods and applications of integration, improper integrals, parametric equations, polar coordinates, and infinite series.
Prerequisite: Grade of “C” or better in MAT 126 or equivalent

MAT 226 Calculus III  4(4-0)
Topics covered include: functions of n-variables, partial differentiation, multiple integration, solid analytic geometry, 3-space vectors, and Green's Theorem.
Prerequisite: Grade of “C” or better in MAT 225 or equivalent

MAT 230 Introduction To Linear Algebra  3(3-0)
This course acquaints students with the theory and elementary application of vectors and matrices. Topics include linear systems, matrices, vectors, vector spaces, and linear transformations.
Prerequisite: Grade "C" or better in MAT 126 or equivalent

MAT 290-299 Selected Topics  1-5(1 to 5-0)
Courses designed to investigate various topics in Mathematics not included in current courses. Topics will be announced.

MANUFACTURING -- MTEC

MNF 1000 Fundamentals of Pneumatics
The open entry/open exit course will familiarize the student with the theory, concepts and modes of operation of pneumatic components. This course is a systems approach to air logic circuit development and functionality. The course will cover symbols, theory, and lab application.

MNF 1100 Programmable Logic Controllers
This hands-on training allows students to develop competence in operating, programming, and troubleshooting an actual industrial programmable logic controller. The hardware in combination with a student manual creates a curriculum that begins with basic wiring concepts and continues incorporating circuits, ladder logic, programming, and troubleshooting.

MNF 1200 Fundamentals of Hydraulics
The open entry/open exit course covers the science that deals with the laws governing water or other liquids in motion and their applications in partial or applied technology. It will familiarize the student with theory, concept, and modes of operation of hydraulic components. This course is a systems approach to hydraulic circuit development and operation. The course will cover symbols, theory, and lab application.
MNF 1300 Basic Electrical Theory
The course covers basic rules for AC/DC circuits including how Kirchhoff's law is applied to circuit analysis. Students will be exposed to a comprehensive, systematic approach to the study and application of basic operations of electrical circuits. Activities include inductive troubleshooting, safe circuit operation, analyzing electronic components and circuits.

MFN 1400 Industrial Drives & Mechanisms
This module is for students who wish to gain basic knowledge in the use of industrial drives and mechanisms. Students will familiarize themselves with various types of industrial drives and mechanical components, and their applications in practical and applied technology through both theory and concept and hands-on lab applications.

MNF 1500 Basic Applications of Industrial Sensors
This module will introduce the students in the identification, application, and design of fiber optic sensing technologies used in today's industry. Students will become familiar with various fiber optic sensing units, limit switches, and their applications in practical and applied technology through both theory and concept and hands-on lab applications.

MNF 1600 Basic Introduction to Robotics
This course will familiarize the student with the basic function and operation of the Microbot Teachmover II Robot and its axis of motion. Students will learn the basic principles of programming using the Microbot's Teach Pendant to program the robot to perform specified tasks to operate the Pick and Place Robot, Auxiliary Turntable Device, and numerous outputs.

MNF 1700 Manufacturing Print Reading Basics
This course will provide participants with hands-on introduction to the art of reading blueprints commonly used in the manufacturing industries. The curriculum starts from basic drawing office practices through simple component drawings and ends with complex system and structural drawings currently used in the manufacturing industries.

MNF 1800 CNC Machine Tool Practices
This course is designed to offer the student a complete breakdown of machine tool practices. Using the textbook in association with its project oriented workbook, students will gain knowledge in shop safety, hand tools, dimensional measurement and how to accurately use precision tools, understanding and identification of materials, layout practices, preparation for machining operations, sawing machines, drilling machines, turning machines, vertical milling machines, horizontal spindle milling machines, grinding processes, and computer numerical control processes.

MNF 1900 Geometric Demension & Tolerance
Product engineering drawings are the primary means of communicating design requirements and true functional limits of acceptable part geometry. To ensure uniform interpretation of all drawings, each user must have a common understanding of all symbols on the drawing. This course focuses on the principles of geometric tolerance and how it complements conventional tolerance; stack up tolerances, Tolerance of Position (TOP) Controls, Concentricity and Symmetry Controls, Run out Controls, and Profile Controls. GD&T techniques are described according to the definition in the ASME Standards and through application examples in various drafting standards. Exercises provide participants with opportunities to become conversant in the GD&T language by converting design requirements into symbol form and performing geometric tolerance calculations. This course is designed for a small team to work on an actual production or in-design product. **NOTE: Transfer of credit guidelines from DRF 105 Geometric Dimensioning & Tolerance to MNFG 5500/MNF 1900 criteria: Students must have attained an A in DRF 105 or they must complete MNFG 5500/MNF 1900 competency exam at 100% to receive certificate for MNFG/MNF 1900 from M-TEC.**

MNF 2000 Statistical Process Control
Statistical Process Control (SPC) is a method of monitoring, controlling and, ideally, improving a process through statistical analysis. Its four basic step include measuring the process, elimination variances in the process to make it consistent, monitoring the process, and improving the process to its best target value.
MNF 2100 Manual Mill & Lathe
Basic Milling Procedures: Covers the setup and use of the horizontal milling machine, and describes the functions of basic cutters and attachments. Uses “hands-on” projects so trainees actually gain experience on the milling machine which includes a component project that can have practical value in the shop when finished. Competency is demonstrated by machining a component to industry standards. Machine Shop Turning Operations: Covers the major types of lathes and their attachments, safety, maintenance, job preparation and basic lathe operations. Discusses all facets of drilling and boring, types of drills and drill presses, and job bores. Explains reaming and reamer terms. Covers threading and threading. Competency is demonstrated by machining specified components to industry standards.

Prerequisite **NOTE: Transfer of credit guidelines from IND 102 Basic Machine Tools Practices II to MNFG 6501/MNF 2300 criteria: student must have attained an A in IND 102 or they must complete MNFG 6501/MNF 2300 competency exam at 100% to receive certificate for MNFG 6501/MNF 2300 from the M-TEC. **NOTE: This is an Open Entry/Open Exit program; however, all credit-bearing students must complete this course in the structured time frame of regular MMCC semester guidelines.

MNF 2200 Introduction to CNC Programming
This self-paced comprehensive training module in which the student will be introduced to CNC Programming Codes using the EMCO PC Mill 50 CNC Machine and FANUC 0 Software. This course will familiarize the student in learning G and M codes, translating print drawings into CNC Programming Codes, become familiar with general CNC principles and its functions. This is a prerequisite to MNFG 6501 CNC Programming.

MNF 2300 Intermediate CNC Programming
Students will be introduced to the HAAS Model VF 1 Machine Center and its functions. Coursework will include textbook, supporting workbook, and supplemental video instruction in CNC operation. Students will gain sufficient knowledge in the structure and operation of the Haas and Mazak CNC machines. Students will perform a number of structured exercises until they became competent in the programming and operation of these machines. Final project will require the student to design their own machined part drawing with supporting documentation and tolerances to be inspected by the Subject Matter Expert before actual machining is to be done. NOTE: Transfer of credit guidelines from IND 116 CNC Programming to MNFG 6501/MNF 2300 criteria: student must have attained an A in IND 116 or they must complete MNFG 6501/MNF 2300 competency exam at 100% to receive certificate for MNFG 6501/MNF 2300 from the M-TEC. **NOTE: This is an Open Entry/Open Exit program; however, all credit-bearing students must complete this course in the structured time frame of regular MMCC semester guidelines.

MNF 2400 Print Reading for Residential and Commercial Construction
This course is designed to assist students in reading and understanding residential and commercial prints. The text is suitable for vocational students, apprentices, and building trades workers who want to increase their knowledge of construction print reading and composition. The combination text and workbook presents a thorough discussion of print reading techniques, starting with the basics of lines and symbols and then progressing to specialized prints and specifications. The 116 C-sized foldout prints included in this course will enable the student to experience realistic, on-the-job exercises that covers nearly every aspect of print reading.

MUSIC

MUS 100 Choral Ensemble I  1.5(0-2)
Primarily an activity but stresses the fundamentals and improvement of tone production, diction, and the blending of voices in traditional and selected vocal compositions. Appearance in public performances required for credit.

MUS 101 Choral Ensemble II  1.5(0-2)
Continuation of MUS 100.

MUS 102 Choral Ensemble III  1.5(0-2)
Continuation of MUS 101.

MUS 103 Choral Ensemble IV  1.5(0-2)
Continuation of MUS 102.

MUS 104 Choral Ensemble V  1.5(0-2)
Continuation of MUS 103.
**MUS 105 MMCC Chorus I**  2(0-3)
A performance group which specializes in popular music. Singing and movement ability are prerequisites. Membership is determined by audition. Attendance at all rehearsals and public performances is obligatory.

**MUS 106 MMCC Chorus II**  2(0-3)
A continuation of MUS 105.

**MUS 107 MMCC Chorus III**  2(0-3)
A continuation of MUS 106.

**MUS 108 MMCC Chorus IV**  2(0-3)
A continuation of MUS 107.

**MUS 109 Acoustic String Bass Lessons**  1(0-1)
This course will prepare instrumental music teachers for the challenges of teaching the string bass to children in grades 6-12 and for uses and applications of playing the string bass in musical performance groups.
Prerequisite: Prev instrument experience and/or audition

**MUS 112 Music Reading**  3(3-0)
A course designed to teach the basics of reading music. It introduces basic elements of music and music kinship, and attention is given to fundamentals of rhythm, meter, and melody.

**MUS 125 Voice for the General Student**  2(2-0)
This vocal class stresses the fundamentals of tone production, diction, ensemble singing, and aids in ear training.

**MUS 131 Music for Elementary Teachers**  3(3-0)
This course will prepare elementary teachers for uses and applications of music in the elementary classroom.

**MUS 150 Private Voice**  1(0-1)
Private instruction providing the student with the means to increase proficiency in voice.
Prerequisite: MUS 125 or Instructor permission

**MUS 151 Private Voice: Intermediate**  1.5(0-1.5)
This course is a continuation of MUS 150. The student will continue the use of learned techniques, to acquire more information about vocal performance, and to put into practice these aspects.
Prerequisite: MUS 150

**MUS 152 Private Voice: Advanced**  2(0-2)
This course is a continuation of MUS 151.
Prerequisite: MUS 151

**MUS 275 Music Appreciation**  3(3-0)
This course will promote general musical understanding through active listening.

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**NATIVE AMERICAN LANGUAGE**

**NAL 101 Ojibwe Language I**  3(3-0)
The primary purpose is to introduce the student to the Ojibwe language and to begin to have an understanding of the beauty of the language. This course is designed to acquaint the student with basic words and phrases and stress oral learning. A system of writing will be introduced.

**NURSING EDUCATION**

**NUR 121 Fundamentals of Nursing**  6(6-0)
This is the basic course in the nursing curriculum which provides the beginning nursing students with the foundation upon which other courses build and expand. The course expands on the role of the nurse in the exploration of concepts of communication skills, nursing process, nutrition, wellness and adaptation, and scientific principles and skills of basic nursing practice as applied to common physical and psychosocial manifestations of illness. In addition, the legal and ethical aspects of nursing are discussed. Includes practice of skills in the college laboratory.
Prerequisite: Admission to Level I of the Program
Corequisite: NUR 124, NUR 150

**NUR 124 Nursing Clinical I**  5(0-15)
A clinical course which consists of guided learning clinical experience in selected health care facilities. Emphasis is placed on application of principles & techniques of basic nursing theory common to the institutionalized patient.
Prerequisite: Admission to Level I of the Program
Corequisite: NUR 121, NUR 150

**NUR 125 Care of Adult I**  6(6-0)
This course focuses on care of the adult medical-surgical patient with common, well-defined, non-complex stressors. The course uses selected adaptive problems of chronic disease, rehabilitation and aging. Includes use of the three nursing roles (Direct Care Giver, Communicator, and Manager) and nursing process in planning care. In addition, a variety of topics including a brief history of nursing and nursing education, trends and problems in health care, job seeking skills and role functions of health team members.
Prerequisites: NUR 121, NUR 124, NUR 150
Corequisite: NUR 128
NUR 127 Maternal/Child 3(3-0)
This course provides concepts of normal growth and development from conception through adolescence focusing on care provided to the mother, infant, child and adolescent with common, well-defined, non-complex nursing diagnoses in a structured setting. Selected adaptive problems are utilized to emphasize the role of the nurse in direct care provision, communication and managing of care through the use of the nursing process.
Prerequisites: NUR 121, NUR 124, NUR 150
Corequisite: NUR 128

NUR 128 Nursing Clinical II 5(0-15)
A clinical course which consists of guided learning experiences in selected health care agencies. Emphasis is placed on use of nursing skills, patient plan of care, and communication techniques with patients throughout the life span for adaptation. Focus is on expansion of knowledge and skills acquired in NUR 124 to include growth and development, nutrition, drug therapy, and variations from normal.
Prerequisites: NUR 121, NUR 124, NUR 150
Corequisites: NUR 125, NUR 127

NUR 130 Nursing Clinical III 3(0-9)
This clinical course focuses on the care of groups of patients with common, well-defined, non-complex nursing diagnoses in structured settings. Included is administration of medication to assigned patients, excluding intravenous initiation and intravenous push medications.
Prerequisites: NUR 125, NUR 127, NUR 128

NUR 132 Clinical Practicum 1-6(0-3 to 18)
Additional experience in clinical nursing arranged on an individual basis for students returning to Level I of the Program after having withdrawn.

NUR 133 Transition for Advanced Standing 1(1-0)
This course is designed for the non-MMCC LPN and MMCC LPN who graduated more than 2 years ago to assist in the adaptation to MMCC’s Nursing Process Worksheet (NPW) and evaluation process. Class focuses on the use of the nursing process and communication techniques.
Prerequisite: Admission to Level II of the Program with advanced standing status.

NUR 150 Pharmacology 3(3-0)
This course consists of theory and techniques used for legal and safe administration of a variety of types of medication preparations. It includes dosage calculation, understanding of medical abbreviations and nursing interventions used in medication administration. This course identifies prototype medications in each of the major classifications. Emphasis is placed on drug reaction, common usage, major side effects, assessment, administrations, and responsibilities for the safe and accurate administration of medications.
Prerequisite: Admission to Level I of the Program
Corequisites: First semester Level I Nursing courses unless previously passed.

NUR 221 Family-Centered 2.5(2.5-0)
This course is a continuation of maternal/child nursing in which planning care for patients in relation to concepts of family and child development from conception through adolescence in normal and common disease states is studied. Focuses on the use of principles of bio-psycho-social, spiritual, & developmental and needs theories in planning care for well & ill maternity & pediatric patients.
Prerequisite: Admission to Level II of the Program
Corequisite: NUR 222

NUR 222 Family-Centered: Clinical IV 2.5(0-7.5)
This clinical course focuses on the use of the nursing process in planning and implementing care for patients in relation to concepts of family and child development from conception through adolescence. Selected health care agencies are utilized for this course.
Prerequisite: Admission to Level II of the Program
Corequisite: NUR 223

NUR 223 Mental Health 2.5(2.5-0)
This course focuses on selected mental illnesses & mental health interventions including recognition of defense mechanisms, the dynamics of human behavior & therapeutic communications. Students gain further knowledge in relating to patients & increased understanding of their own behavior.
Prerequisite: Admission to Level II of the Program
Corequisite: NUR 224

NUR 224 Mental Health: Clinical IV 2.5(0-7.5)
This clinical course focuses on the use of the nursing process in planning and implementing care for individuals with mental illness, substance abuse or other mental disabilities. Included is use of communication skills and knowledge of mental health interventions in supporting positive coping behavior. Selected health care agencies are utilized for this course.
Prerequisite: Admission to Level II of the Program
Corequisite: NUR 223
NUR 225 Care of Adult II  5(5-0)
This course concentrates on acute medical-surgical problems of adult patients in the structured health care setting. Focus is on development of nursing care plans including nutritional therapy, drug therapy, nursing diagnosis & interventions, psychosocial needs, teaching, and referrals.
Prerequisite: Admission to Level II of the Program
Corequisite: NUR 226

NUR 226 Nursing Clinical V  5(0-15)
This clinical course is a continuation of NUR 130 dealing with adult medical-surgical patients with acute disease condition. Focus is on the development and implementation of the nursing process. Clinical practice is in selected structured health care agencies with observational experience in home care, emergency room, critical care units, cardiac rehabilitation, and hemodialysis.
Prerequisite: Admission to Level II of the Program
Corequisite: NUR 225

NUR 227 Leadership  2(2-0)
This course provides the basics of leadership and management techniques to enable students to provide care to groups of patients. Focus is on the use of the nursing process in planning care for groups. Legal and ethical problems in nursing are explored. Includes concept of role transition from student to graduate and stress management techniques. Students must be enrolled in a clinical concurrently with this class.
Prerequisite: Completion of Semester 1 of Level II of the Program

NUR 228 Preceptorship: Clinical VI  3(0-9)
The clinical portion of the leadership course, the preceptorship is a structured experience which is part of the educational program. The primary goal is to facilitate the role transition of student nurse to graduate nurse. The student nurse, under the guidance of a selected staff, preceptor, with faculty as a resource, applies theory to practice in real-life work situations.
Prerequisites: NUR 221, NUR 222, NUR 223, NUR 224, NUR 225, NUR 226, NUR 227, HUM 200, and SSC 200 (2nd Level Gen Ed)

NUR 232 Clinical Practicum  1-6(0-3 to 18)
Additional experience in clinical nursing. Arranged on an individual basis for students returning to Level II of the Program after having withdrawn.

OFFICE INFORMATION SYSTEMS

OIS 100 Keyboarding  1(1-.5)
This course is for anyone who wishes to develop basic touch keyboarding (typewriting) skills on computers. Using the touch method, students learn to key (type) alphabetic, numeric, punctuation, and symbol keys; and to use the ten-key pad. In addition to classroom work, the students are required to complete a minimum of one-half hour of computer lab work per week.
Prerequisite: OIS 100 recommended or keyboarding skills.

OIS 105 Introduction to Microsoft Word  1(1-.5)
This course is for anyone who wishes to learn some of the most popular features of Microsoft Word (up-to-date version). The course begins with basic word processing operations, commands, and functions and progresses through such topics as editing, saving, closing, printing, formatting, outlining, page numbering, mail merging, selecting fonts, viewing, zooming, handling graphic objects, finding and replacing, and using templates. In addition to classroom work, the students are required to complete a minimum of one-half hour of computer lab work per week.
Prerequisite: OIS 100 recommended or keyboarding skills.

OIS 106 Introduction to COREL WordPerfect  1(1-.5)
This course is for anyone who wishes to learn some of the most popular features of COREL WordPerfect (up-to-date version). The course begins with basic word processing operations, commands, and functions and progresses through such topics as editing, saving, closing, printing, formatting, outlining, page numbering, mail merging, selecting fonts, viewing, zooming, finding and replacing, and using templates. In addition to classroom work, the students are required to complete a minimum of one-half hour of computer lab work per week.
Prerequisite: OIS 100 recommended or keyboarding skills.
OIS 107 Introduction to Microsoft PowerPoint 1(1-.5)
This course is for anyone who wishes to learn the fundamentals of Microsoft PowerPoint (up-to-date version). The course begins with basic word processing operations, commands, and functions and progresses through such topics as charts, templates, fills and borders, color and animation, and sound and video. Students learn to create and give quality presentations using Microsoft PowerPoint. In addition to classroom work, the students are required to complete a minimum of one-half hour of computer lab work per week. Microsoft Office Specialist (MOS) approved software is used to provide students with skills needed to complete the MOS Core Certification Exam.
Prerequisite: OIS 100 recommended or keyboarding skills.

OIS 108 Introduction to Microsoft Excel 1(1-.5)
This course is for anyone who wishes to learn some of the most popular features of Microsoft Excel (up-to-date version). The course begins with basic word processing operations, commands, and functions and progresses through such topics as creating, editing, saving, printing spreadsheets and saving, closing, and opening workbooks. In addition to classroom work, the students are required to complete a minimum of one-half hour of computer lab work per week. Microsoft Office Specialist (MOS) approved software is used to provide students with skills needed to complete the MOS Core Certification Exam.
Prerequisite: OIS 100 recommended or keyboarding skills.

OIS 109 Introduction to Microsoft Access 1(1-.5)
This course is for anyone who wishes to learn some of the most popular features of Microsoft Access (up-to-date version). The course begins with basic operations, commands, and functions and progresses through such topics as designing, creating, maintaining, editing, saving, and printing databases, generating reports and mailing labels. In addition to classroom work, the students are required to complete a minimum of one-half hour of computer lab work per week. Microsoft Office Specialist (MOS) approved software is used to provide students with skills needed to complete the MOS Core Certification Exam.
Prerequisite: OIS 100 recommended or keyboarding skills.

OIS 110 Introduction to Microsoft Outlook 1(1-.5)
This course prepares students to identify the basic features of Microsoft Outlook (up-to-date version), send messages, and use the Calendar feature effectively. In addition to classroom work, the students are required to complete a minimum of one-half hour of computer lab work per week. Microsoft Office Specialist (MOS) approved software is used to provide students with skills needed to complete the MOS Core Certification Exam.
Prerequisite: OIS 100 recommended or keyboarding skills.

OIS 120 Office Mathematics 3(3-1.5)
This course covers basic mathematical operations & concepts as applied to a variety of business situations. Examples of topics: review of arithmetic operations, fractions, decimals, mortgages, taxes, checking accounts, payroll, & consumer & business credit. In addition to classroom work, each student is required to complete a minimum of 1 1/2 hours of individual lab work per week.

OIS 126 Introduction to Medical Transcription 3(3-1.5)
This course serves as an introduction to processing medical reports. Students prepare consultation reports, history and physical examination reports, operative reports, discharge summary reports, and special procedure reports including magnetic resonance imaging (MRI) reports, computerized axial tomography (CAT) reports, and sonogram reports. An integrated instructional approach is used where students learn medical terms as they appear in medical reports and relate those terms to the pathologies being treated. This course is an introduction to machine transcription for students pursuing the Associate in Business Degree: Medical Transcriptionist. In addition to classroom work, the students are required to complete a minimum of 1 1/2 hours of computer laboratory work per week.
Prerequisite: OIS 140 or competency
Corequisite: ALH 100 recommended

OIS 127 Applied Office Accounting 4(3-1.5)
This course covers basic accounting skills needed in the medical and legal office. Emphasis is on both the “how” and “why” of accounting and on performing the accounting function. A practice set will be used to simulate accounting transactions in the medical or legal office--based on the students program emphasis. In addition to classroom work, the student is required to complete a minimum of 1 1/2 hours of individual lab work per week.
Prerequisite: OIS 120
Prerequisite for Medical Assistant only: MAT 101
OIS 130 Introduction to Office Information Systems 4(4-0)
This course serves as an introduction to the concepts of word and information processing, and covers such topics as the evolution of word and information processing, the changes to the traditional office structure, a review of equipment and software characteristics, possible career paths, and a review of the types of tasks and duties performed in the word and information processing office. An introduction to office suite software is included, which teaches students the skills needed to pass core certification exams. These exams validate a student's skills, and supply objective proof to an employer, or prospective employer, that the student knows how to use the software efficiently and productively. Microcomputers are used to produce a wide variety of Business and Academic documents. Internet use and E-mail are introduced. Students will be asked to write a research paper and give an oral presentation. In addition to the classroom work, each student is required to complete a minimum of two hours of individual computer laboratory work per week.
Prerequisite: OIS 100 or keyboarding knowledge
Corequisite: OIS 140

OIS 136 Terminology & Proofreading 3(3-1.5)
This course helps the student build a better vocabulary & improve spelling & proofreading skills. Three hundred groups of commonly confused words & special lists of frequently misspelled terms are studied. Topics include working with the dictionary, pronunciation, phonetics, word division, prefixes and suffixes, plurals & possessives, & specialized & reference vocabularies. Students improve proofreading skills by identifying errors in typing, spelling, grammar, punctuation, capitalization, format, numbers, word division, & content using appropriate proofreader's marks. In addition to the classroom work, each student is required to complete a minimum of 1 1/2 hours of individual computer lab work per week.
Prerequisites: OIS 164, ENG 111 (may be taken concurrently)

OIS 138 Basic Legal Terminology 3(3-1.5)
This course is designed to give students knowledge and understanding of approximately 800 terms commonly used in the legal field. The students will learn to spell and define the terms and to use them in a legal context. Students will learn correct pronunciation by studying pronunciation guides taken from the dictionary and by listening to taped dictation. Topics covered include courts and legal systems; litigation—pretrial, trial, proceedings, verdicts, judgments, and appeals; civil actions; criminal law; probate—wills and estates; real property; contracts; leases; domestic relations—marriage, separation, and divorce; commercial paper; bankruptcy; agency; equity; partnerships; and corporations. In addition to classroom work, the students are required to complete a minimum of 1 1/2 hours of individual laboratory work per week.
Prerequisites: OIS 140 or equivalent or concurrent enrollment, OIS 164 recommended or concurrent enrollment

OIS 140 Beginning Word Processing/Keyboarding 3(3-1.5)
This course is for the beginning typist. Topics include mastery of the touch system, development of personal-use skills, basic letter styles, term papers, tabulation, and centering using the most current word processing software. Speed ranges of 25-40 words a minute are needed to pass. In addition to classroom work, each student is required to complete a minimum of 1 1/2 hours of individual computer laboratory work per week.
Prerequisite: OIS 140 or equivalent

OIS 142 Intermediate Word Processing/Keyboarding 3(3-1.5)
This course is designed to build a marketable keyboarding (typewriting) skill. Business letters, business forms, speed, and accuracy are stressed. Students will use the most current word processing software to create documents. Speed ranges of 40-55 words a minute are needed to pass. In addition to classroom work, each student is required to complete a minimum of 1 1/2 hours of individual computer laboratory work per week.
Prerequisite: OIS 140 or equivalent

OIS 164 Business Communications I 3(3-1.5)
Students will learn/review basic grammar rules, punctuation rules, and sentence structure. Students will use the computer and current word processing software for realistic business office applications of the rules. Students will be introduced to machine transcription and will learn to use office reference manuals. In addition to classroom work, students are required to complete a minimum of 1 1/2 hours of individual computer laboratory work per week.
Prerequisite: Recommend concurrent enrollment in OIS 140 or OIS 100 or knowledge of correct keyboarding techniques.
OIS 200 Advanced Word Processing Applications 3(3-1.5)
This course gives students hands-on experience and exposure to a wide variety of advanced word processing applications using computers and the most current word processing software. The advanced word processing features included teach students the skills needed to pass expert certification exams. These exams validate a student's skills, and supply objective proof to an employer, or prospective employer, that the student knows how to use the software efficiently and productively. Microcomputers are used to produce a wide variety of documents, as well as ways in which the software program interacts with Windows and the Internet. Practice exercises and assignments are the primary source of instruction on the microcomputer. In addition to classroom work, each student is required to complete a minimum of 1 1/2 hours of individual computer laboratory work per week. Microsoft Office Specialist (MOS) approved software is used to provide student's with skills needed to complete the MOS Expert Certification Exam.
Prerequisites: OIS 140 or equivalent, OIS 130 recommended

OIS 221 Computers in Business 3(3-1.5)
This course provides insights into the applications of the computer in modern business. The student will study the components of a business computer system, typical applications involving mainframe and personal systems, structure, use of files and databases, and the concepts of networking, teleprocessing, and distributed systems; explore the techniques of business computer system development; and also develop skills in using productivity programs such as databases and spreadsheets to build models solving practical business problems. In addition to the classroom work, each student is required to complete a minimum of 1 1/2 hours of individual computer laboratory work per week.
Prerequisite or Corequisite: ACC 201

OIS 230 Transcription I 3(3-1.5)
Using the computer, current word processing software, transcription machines and a variety of reference materials, students develop skill and accuracy in transcribing from cassette tapes and producing "mailable" documents. Transcription begins with sentences and expands to business letters and other correspondence. Emphasis is placed on correct spelling, grammar, and punctuation skills and proofreading. In addition to classroom work, the students are required to complete a minimum of 1 1/2 hours of individual computer lab work per week.
Prerequisites: ENG 111, OIS 130, OIS 136, OIS 142, OIS 164
Prerequisites for Medical Assistant only: ALH 100, ENG 111, OIS 130, OIS 142, OIS 164

OIS 234 Transcription II 3(3-1.5)
This course is an intense application of skills learned in business communications, English, keyboarding/word processing, transcription, and other OIS courses. The students transcribe dictated material into high-quality (mailable) typewritten documents using computers, current word processing software, cassette transcribing machines, and a variety of reference materials. To provide a realistic experience, a word processing simulation is used. In addition to classroom work, each student is required to complete a minimum of 1 1/2 hours of individual computer lab work per week.
Prerequisites: OIS 200, OIS 230, OIS 240

OIS 236 Medical Transcription I 3(3-1.5)
This course is an intense application of skills learned in business communications, English, keyboarding, transcription, & medical terminology. The students transcribe dictated material into high-quality (mailable/usable) documents using computers, current word processing software, transcribing machines, & a variety of reference materials. To provide a realistic experience, a medical simulation is used along with dictated documents on cassette tapes. In addition to classroom work, students are required to complete a minimum of 1 1/2 hours of individual computer lab work per week.
Prerequisites: ALH 100, OIS 142, OIS 230
Prerequisites for Medical Transcription students: ALH 100, OIS 126. Corequisite: OIS 142

OIS 238 Legal Transcription 3(3-1.5)
This course is an intense application of skills learned in business communications, English, keyboarding/word processing, transcription, and legal terminology. The student will transcribe dictated material into high-quality (mailable) documents using computers, current word processing software, cassette transcribing machines, and a variety of reference materials. A legal simulation will be used along with dictated documents on cassette recordings. In addition to classroom work, each student is required to complete a minimum of 1 1/2 hours of individual computer lab work per week.
Prerequisites: OIS 138, OIS 200, OIS 230, OIS 240

OIS 240 Advanced Word Processing/Keyboarding 3(3-1.5)
Advanced keyboarding (typewriting) techniques as related to mailable production work are emphasized. Problem-solving ability is developed. To provide a realistic experience, a word processing simulation is used. Speed ranges from 55 to 70 words a minute are needed to pass. In addition to classroom work, each student is required to complete a minimum of 1 1/2 hours of individual lab work per week.
Prerequisites: ENG 111, OIS 136, OIS 142, OIS 200
Prerequisites for Medical Transcription students: ENG 111, OIS 136, OIS 142
OIS 246 Medical Transcription II  3(3-1.5)
This course is a continuation of OIS 236 Medical Transcription. Students continue to build their medical terminology knowledge and to transcribe and format high-quality (mailable/usable) medical documents according to guidelines set by the American Association for Medical Transcription (AAMT). Students use computers, current word processing software, transcribing machines, and a variety of reference materials. A medical simulation is used, giving students opportunities to hear and transcribe realistic dictation in many medical specialties as dictated by medical professionals from various ethnic groups. In addition to classroom work, the students are required to complete a minimum of 1 1/2 hours of individual computer lab work per week.
Prerequisite: OIS 236

OIS 250 Records Management  3(3-1.5)
Emphasis is given to clear-cut rules established by the Association of Records Managers and Administrators (ARMA) for the alphabetic indexing and cross-referencing methods (the foundation of records storage methods), as well as the numeric, geographic, chronological, and subject methods. Students are provided realistic records management situations through the use of a simulation. Topics include creation, storage, retrieval, retention, and disposal of records as well as careers in records management. In addition to traditional/paper storage, students use the computer and current software for information storage and retrieval. In addition to classroom work, students are required to complete a minimum of 1 1/2 hours of individual lab work per week.
Prerequisite: OIS 246

OIS 260 Co-op (Medical, Legal, General)  4(1-15)
This is a capstone course planned for the last semester of the student's program. Students will be employed in an approved Co-op position selected in conjunction with the OIS Co-op course instructor, the MMCC Co-op Coordinator, and the student. This course allows students to combine learning in the classroom with learning in the workplace. An agreement is signed by the student, the employer, and the coordinator to establish training outcomes and employer expectations. MMCC cannot guarantee that Co-op positions are "paid" positions. Prerequisites: In order to be placed in a training site and enrolled in OIS 260, the student should have completed the first three semesters of the program and must have approval of the OIS Co-op instructor and the MMCC Co-op Coordinator.

OIS 256 Medical Transcription III  3(3-1.5)
This course is a continuation of OIS 246 Medical Transcription II and is the capstone course on the Associate in Business Degree: Medical Transcriptionist program. Students continue to build their knowledge of medical terminology and to transcribe and format high-quality medical records according to guidelines set by the American Association for Medical Transcription (AAMT). Students use microcomputers, word processing software, cassette transcribing machines, and a variety of reference materials. A medical simulation is used, giving students opportunities to hear and transcribe realistic dictation in several specialties as dictated by medical professionals from various ethnic groups. Students are also given critical-thinking and problem-solving scenarios. In addition to classroom work, the students are required to complete a minimum of 1 1/2 hours of individual computer lab work per week.
Prerequisite: OIS 246

OIS 264 Business Communications II  3(3-1.5)
This course studies approaches to verbal and nonverbal communications in business-related situations. Students will prepare written correspondence including business letters and formal business reports. Students will learn techniques for effective oral presentations including the basic creation and use of PowerPoint slides. Internet use is emphasized throughout the course. In addition to classroom work, students are required to complete a minimum of 1 1/2 hours of individual lab work per week.
Prerequisites: ENG 111, SPE 101, OIS 140, and CIS 100 or CIS 130 or OIS 130

OIS 295-299 Special Topics in Office Information Systems  1-3(1 to 3-0)
These courses are designed to investigate various topics in Office Information Systems that are not included in current courses. Topics will be announced. These courses are offered based on demand.
PHARMACY

PHT 104 Orientation to Pharmacy Technology 4(4-0)
This course presents an orientation to the work of pharmacy technicians and the context in which technicians’ work is performed. The concept of direct patient care and the technicians’ general role in delivery with particular emphasis on the complementary roles of pharmacists and technicians is presented.
Prerequisites-CIS 130 or CIS 100 with a grade of "C" or better and MAT 104 with a "B" or better.
Corequisites-PHT 105 and PHT 106
Students can take ALH 100 as a prerequisite or corequisite.

PHT 105 Pharmacy Law 3(3-0)
This course presents information on the influence that medication laws, standards, and regulations have on pharmacy practice. Federal and State regulations that govern medicine use and standards of practice presented. Laws, regulations and standards which govern the preparation of non-compounded, cytotoxic, and other hazardous medication products is emphasized.
Prerequisites-ALH 100, CIS 130 or CIS 100 with a grade of "C" or better and MAT 104 with a "B" or better.
Corequisites-PHT 104, PHT 106

PHT 106 Pharmaceutical Calculations and Drug Preparation 3(2-3)
This course presents information on preparing compounded and non-compounded products for distribution. The skills of medication preparation, including retrieval from inventory, profiling, calculations, measuring, and safety procedures are taught. Students learn techniques on compounding cytotoxic and other hazardous medication products and the application of corresponding quality assurance processes.
Prerequisites-ALH 100, CIS 130 or CIS 100 with a grade of "C" or better and MAT 104 with a "B" or better.
Corequisites-PHT 104, PHT 105

PHT 113 Institution and Community Pharmacy 3(2-3)
This course presents information on how to assist the pharmacist in institutional and retail pharmacies on the collection, organization, and evaluation of information for direct patient care, medication use review, and departmental management. Communication skills and confidentiality issues are emphasized.
Prerequisites-PHT 104, PHT 105, PHT 106 with a grade of "C" or better.
Corequisite-PHT 114

PHT 114 Therapeutic Agents for Body Systems & Drug Distribution Systems 4(4-0)
This course presents information on the use and side effects of prescription medications, nonprescription medications, and alternative therapies commonly used to treat diseases affecting the body systems. Students learn the brand and generic names, standard pronunciations, dosage forms, and routes of administration for medications.
Prerequisites-PHT 104, PHT 105, PHT 106 with a grade of "C" or better.
Corequisite-PHT 113

PHT 115 Clinical Practicum 4(0-8)
This course presents practice skills developed in the didactic and laboratory phases of their training in home care, acute care, and long term care. Knowledge of computer based programs for pharmacy billing and prescription information is implemented at the various places of the clinical practicum. Random drug screen may be performed.
Prerequisites-PHT 104, PHT 105, PHT 106, PHT 113, PHT 114 with a grade of "C" or better.

PHILOSOPHY

PHL 201 Introductory Philosophy 3(3-0)
A problem approach organized to introduce the student to some of the thinkers, systems, and problems of philosophy facing humanity from ancient times to the present.

PHL 205 Practical Reasoning & Argumentation 3(3-0)
This course develops reasoning skills & equips students to recognize & analyze arguments as they occur in a variety of contexts (ie: editorials, critical discussions, quarrels, advertisements, speeches, academic inquiries, negotiations, legal deliberations, ethical debates, etc.). Study will focus on the features of good arguments, different types of arguments, ways arguments can go wrong, & techniques for criticizing & constructing effective arguments. Emphasis is not on theories but on developing tools for successful thinking in dialogue with others.

PHL 210 Social Philosophy: Ideal & Realities 3(3-0)
This course is an inquiry aimed at discovering which questions are the right ones to ask when evaluating a social system or when designing it. It covers several major social philosophies, as reflected in utopian and dystopian writings, and focuses on issues such as human nature, freedom, rights, and obligations, and the relationship between individual and community.
PHL 220 Ethical Issues 3(3-0)
A study of ethical principles, reasoning and practice as it occurs in such areas as business, law, medicine, ecology, and government. A brief review of the historical development of ethical theory together with case studies will be the primary focus of the course. The main objective is to provide students with the intellectual tools for recognizing and analyzing such ethical issues as confront members of our society.

PHL 290-299 Selected Topics 1-3(1 to 3-0)
These courses are designed to investigate various topics in Philosophy that are not included in current courses. Topics will be announced.

PHYSICAL EDUCATION

PED 102 Body Mechanics and Conditioning 1(0-1)
A physical education activity course designed to emphasize the role of exercise in improving general physiological conditions. Aerobic and anaerobic exercises are done and an actual exercise program is set up by the instructor to meet each individual student’s needs.

PED 103 Body Mechanics/Aerobics 1(0-1)
Exercise through choreographed dancing. The course includes an understanding of aerobic exercise, the proper approach to physical fitness, and its effect on tension and better health.

PED 107 Beginning Kardio-Kickboxing 1(0-1)
This course is designed to provide an intense cardiovascular workout utilizing exercise routines with a combination of martial arts and boxing techniques. The intensity and duration of the workouts can be varied to meet individual needs. Instruction and demonstration is provided during class sessions by Tae Kwon Do certified instructors.

PED 118 Beginning Tennis 1(0-1)
This course is designed to introduce the student to the game of tennis. Major emphasis is on basic strokes, scoring, etiquette, and selection of equipment.

PED 119 Beginning Golf 1(0-1)
This course is designed to introduce students to the basic principles of golf. In addition to learning and practicing the golf swing, rules and etiquette of the game are discussed. Students may use their own equipment or rent from the golf facility where the class is held.

PED 124 Beginning Skiing 1(0-1)
This course is designed to introduce students to basic downhill skiing on an established ski resort hill. Students may use their own equipment or rent from the ski resort.

PED 126 Beginning Bowling 1(0-1)
This course is designed to introduce students to the basic game of bowling. Open to all students; a fee is charged for rental of bowling facilities. Students may use their own equipment or rent from the bowling alley where the class is held.

PED 127 Weight Training and Conditioning 1(0-1)
A course in weight training and conditioning for the individual who desires to increase strength and muscle endurance. The course focuses upon the development of each individual muscle and muscle group. Students are required to have hand-held weights and a mat.

PED 130 Slalom Racing 1(0-1)
This course is designed to introduce recreational skiers to competitive skiing. The course includes different types of races such as slalom, giant slalom, and dual slalom. Exercises on skis to develop a good racing technique are used extensively. Proper ski maintenance and tuning are an integral part of the course.

PED 132 Beginning Karate 1(0-1)
This course has been designed to help the participating student understand the art of karate, not only as a method of self-defense but as a 2,000 year old art developed to better-coordinate the body and mind. Emphasis is placed on physical fitness, history of the art, self-discipline, and self-defense. Involved are body-movement principles, a progressive exercise program, and other desirable health and mental aspects of the art of karate.

PED 133 Modern Dance I 1(0-1)
This course includes basic locomotion and aerial movement skills through demonstration and participation, creation of individual routines emphasizing learning skills, and the development of several group routines for public performance.

PED 134 Dance Techniques I 1(0-1)
A course designed to familiarize the student with dance for partners including jitterbug, fox trot, polka, and waltz.

PED 136 Cross-Country Skiing 1(0-1)
Students are introduced to the fundamentals of Alpine cross-country skiing. Students are taught selection and care of equipment, rudimentary ski movement, step-down, moving ahead over snow, controlling speed, wedge turn polling, compass and map reading, and waxing for various snow conditions and temperatures.

PED 139 Introduction to Nordic Ski Racing 1(0-1)
This course is designed to introduce students to cross-country racing. It teaches different types of techniques, equipment, waxing, clothing, and different types of terrain involved in Nordic skiing.
PED 143 Self Defense 1(0-1)
A course designed to teach basic self-defense skills. The emphasis is on environmental awareness, psychological preparedness, simple and effective self-defense techniques, and strategies for dealing with specific situations. Self-defense is approached in a variety of ways, providing a wide range of alternatives to suit the individual.

PED 203 Intermediate Body Mechanics/Aerobics 1(0-1)
A continuation of PED 103 with emphasis on developing increased cardiovascular fitness.
Prerequisite: PED 103 or permission of the Instructor

PED 207 Intermediate Kardio-Kickboxing 1(0-1)
This course is a continuation of PED 107.
Prerequisite: PED 107

PED 218 Intermediate Tennis 1(0-1)
This course is a continuation of PED 118 with major emphasis shifting to singles and doubles play.

PED 219 Intermediate Golf 1(0-1)
A continuation of PED 119 with emphasis on the use of specific clubs and types of shots, e.g. woods, short irons, chipping, etc.

PED 224 Intermediate Skiing 1(0-1)
Students begin upper/lower body separation leading to steered turns and matching of skis before the fall line is emphasized.

PED 226 Intermediate Bowling 1(0-1)
A continuation of PED 126 with emphasis on spot bowling, consistency, and accuracy.

PED 227 Intermediate Weight Training/Conditioning 1(0-1)
Continuation of PED 127.
Prerequisite: PED 127

PED 232 Intermediate Karate 1(0-1)
The purpose of this course is to provide students already knowledgeable in the rudiments of the art with the opportunity to gain more substantial expertise in specific aspects of the art. These include self-defense, sport fighting, philosophy, and history.

PED 233 Modern Dance II 1(0-1)
A continuation of PED 133 with emphasis on further development of skills. Appreciation and understanding of contemporary dance as an art form and medium of expression are also included.

PED 236 Intermediate Cross-Country Skiing 1(0-1)
A class intended to expand the basic cross-country skiing skills with emphasis on advanced Nordic skiing techniques.

PED 239 Intermediate Nordic Skiing 1(0-1)
A continuation of PED 139.

PED 243 Adv Body Mechanics/Aerobics 1(0-1)
A continuation of PED 203 with emphasis on increasing knowledge of the use of dance techniques for cardiovascular fitness.
Prerequisite: PED 203 or permission of the Instructor

PED 244 Advanced Skiing 1(0-1)
Students are introduced to parallel skiing. Exercises to develop upper level dynamic skiing i.e. short radius, fall line skiing is emphasized.

PED 246 Advanced Bowling 1(0-1)
A continuation of PED 226 with emphasis on adjusting the game to alley conditions, changing lines and spots, etc.

PED 247 Advanced Kardio-Kickboxing 1(0-1)
This course is a continuation of PED 207.
Prerequisite: PED 207

PED 248 Advanced Tennis 1(0-1)
This course is designed primarily to improve a player’s court strategy. The volley net is emphasized.

PED 249 Advanced Golf 1(0-1)
A continuation of PED 219 with emphasis on accuracy, shot placement, selecting the right club, etc.

PED 252 Advanced Karate 1(0-1)
This course is designed for the student who has completed PED 232 or who can perform the basic techniques of Moo Duk Kwan Tang Soo Do. Upon completion of the course the student should be prepared to earn an eighth gup purple belt under requirements set forth by the Karate Institute. Emphasis is on forms, hand and foot techniques, one-step sparring, and class sparring.

PED 255 Physical Training 3(0-3)
This course is designed to help students pass the M.C.O.L.E.S. physical training requirements. The objective is to teach the student to become physically and mentally fit to become a police officer.

PHYSICAL SCIENCE

PSC 101 Introductory Astronomy 4(3-2)
An introduction to astronomy for students who desire a basic understanding of the solar system and the universe. Topics include: historical astronomy, exploration of space, stellar evolution, solar system, galaxies, and the universe. Laboratory work includes individual student use of a telescope.
PSC 102 Introductory Physical Science 4(3-2)
A general course for non-science majors. Selected topics for students interested in energy, meteorology, geology, physics, and chemistry and their interrelationships as they affect the physical environment of persons.
Prerequisite: MAT 104 or equivalent

PSC 105 Awareness of Fine Arts, Science, and Society 1(1-0)
An interdisciplinary study designed to develop the student’s awareness of the interrelationships of the artistic, scientific, and technological aspects of our society and investigate their impact upon contemporary society from a variety of perspectives. Various methods of instruction may be used for this course including independent readings or research, lecture and discussion, projects associated with a field trip, or travel of recognized educational value.

PHYSICS

PHY 101 Introductory Physics (Non-lab) 3(3-0)
A general non-mathematical physics presentation stressing a conceptual as opposed to laboratory approach. Some topics of discussion are mechanics, sound, heat, electricity, light, nuclear concepts, and everyday encounter of principles governing these topics. (Not recommended for students majoring in science.)

PHY 103 Applied Physics 4(3-2)
This course is designed for students enrolled in technical education programs. The purpose of the course is to provide an understanding of physical principles and their application to industry. The course content includes a study of precision measurements; properties of solids, liquids, and gases; force and motion; work energy and power; vectors; analysis of basic machines; temperatures and heat.
Corequisite: MAT 104 or MAT 170

PHY 105 Introductory College Physics I 5(4-2)
This course focuses on the study of motion, forces, energy, sound, wave motion and heat. Students should have had or be currently taking a class in trigonometry.
Corequisite: MAT 124 or equivalent

PHY 106 Introductory College Physics II 5(4-2)
Continuation of PHY 105. Topics studied include optics, electricity and magnetism, atomic and nuclear theory and relativity.
Prerequisite: PHY 105

PHY 211 General Physics I 5(4-2)
This course covers mechanics, sound, and heat. It is a mathematical treatment of problems of force, motion, and energy designed for pre-engineering students and physics or mathematics majors. Not open to students with credit in PHY 105 or PHY 106.
Corequisite: MAT 126 or equivalent

PHY 212 General Physics II 5(4-2)
Electricity, magnetism, light, relativity, and nuclear structure are discussed. Designed for pre-engineering students and physics majors. Not open to students with credit in PHY 105 or PHY 106.
Prerequisite: PHY 211

POLITICAL SCIENCE

POL 100 Current Political Issues 1-3(1 to 3-0)
The purpose of this course is to examine contemporary political issues of local, state, national, or international concern. Typical issues might include: reform of the United States election system; income versus property taxes; local zoning laws; the role of government in the economy; pax Americana.

POL 201 Intro to American Government 3(3-0)
The emphasis of this course is the structure and function of our national government, understanding the processes of decision-making, and assessing the political importance and role of the individual citizen. The student is also introduced to some political theory as applicable to the American experience.

POL 250 International Relations 3(3-0)
A study of the nature of the international community and the forces which produce cooperation and conflict. Particular attention is given to analyzing power in terms of its acquisition and uses.

POL 290-299 Selected Topics 1-3(1 to 3-0)
These courses are designed to investigate various topics in Political Science that are not included in current courses. Topics will be announced.

PSYCHOLOGY

PSY 101 Intro to General Psychology 3(3-0)
This class introduces students to the specific discipline of psychology. This course will include a comprehensive coverage of basic concepts and principles, terminology, important trends in psychological research, and the application of this research. Emphasis will be placed on contemporary perspectives of psychology, including biological, learning, cognitive, sociocultural, psychodynamic, and humanistic perspectives in understanding normal and abnormal behavior and mental processes.
PSY 205 Abnormal Psychology  3(3-0)
This course introduces students to abnormal psychology issues, including the criteria, nature, development, classification and causes of mental disorders. Perspectives from each of the major contemporary perspectives in psychology will be included. In addition, major theories, significant research, and methods of treatment associated with each of these approaches are presented.
Prerequisite: PSY 101

PSY 212 Developmental Psychology  3(3-0)
This course introduces students to the description and explanation of changes in an individual's behavior that are a result of maturation and experiences that fall within the life span concept; e.g. behavior-genetics, critical periods, learning cognition, and abnormal development. In addition, this course provides the student with an introduction into methodological research.
Prerequisite: PSY 101

PSY 220 Intro to Psychological Testing  3(3-0)
This course is designed to introduce the student to the basic principles of psychological testing. The course will cover the history of psychological testing, assessment in a variety of areas including intelligence testing, personality assessment, neurological assessment, and vocational assessment, and issues relating to test development and review.
Prerequisite: PSY 101

PSY 240 Theories of Personality  3(3-0)
This course presents issues in the measurement & research of personality. Historical & contemporary theories and theorists from each of the major domains of psychology will be critically examined regarding each of the domains' emphasis on development and assessment of personality. Application of course material will be emphasized.
Prerequisite: PSY 101

PSY 250 Clinical Interviewing &Counseling  3(3-0)
This course is an introduction to theories of counseling as well as the techniques and processes of client and counselor communication. Students explore attitudes, values, and motivation for counseling. Emphasis is placed on the role of the counselor in various agency capacities as well as the development of empathetic and listening skills.
Prerequisite: PSY 101 or permission of the Instructor

PSY 281 Behavior Modification  3(3-0)
This course presents issues in the measurement and research of personality. Historical and contemporary theories and theorists from each of the major domains of psychology will be critically examined regarding each of the domains' emphasis on the development and assessment of personality. Application of course material will be emphasized.
Prerequisite: PSY 101

PSY 285 Research Methods  3(3-0)
This course provides an introduction to research methods in the social sciences. Research designs, data collection methods, basic statistical procedures, and ethical issues in research will be included. An APA-style research proposal will be completed.
Prerequisite: PSY 101, MAT 212

PSY 290-299 Selected Topics  1-3(1 to 3-0)
These courses are designed to investigate various topics in Psychology that are not included in current courses. Topics will be announced.

RAD 100 Intro to Radiologic Technology  3(2-2)
This course is an introduction to the radiologic technology profession. Areas of study include the history of medicine, development of the practice of radiology and radiologic technology, medical relationships and ethics, principles of radiographic exposure, fundamentals of x-ray production, and principles of x-ray film processing. Practice in the fundamentals of equipment operation and film processing in the Campus x-ray lab provide the basis for developing initial psychomotor skills necessary to function as a radiologic technologist.
Prerequisite: Admission to the Program
RAD 101 Intro to Radiologic Technology
Independent Study  1-3(0-1 to 3)
This course is part of a series of courses to be offered on an independent study basis for students who have previously passed the corresponding MMCC Radiography Program course or its equivalent and require a refresher or remedial course for the purposes of reentering or seeking advanced placement in the Radiography Program, or requalifying for the American Registry of Radiologic Technologists examination. The course is an introduction to the Radiologic Technology profession. Subject areas studied are the introduction of the following topics: hospital and Radiology department organization, professional organizations, medical legal issues and ethics, use of basic x-ray equipment and accessories with emphasis on the prime factors, pathology and effect of density, beam restricting devices, grids, film processing, quality assurance, sensitometry, and intensifying screens.
Prerequisites: All Radiography Program prerequisites or equivalent, and RAD 100 or equivalent with a grade "C" or better.

RAD 110 Radiation Physics  3(2-2)
This course correlates the basic concepts and principles of physics with the production, control, and application of x-radiation. The focus is on the study of the structure of matter, mechanical principles, electricity, and magnetism as related to the development and application of x-ray machinery. The measurement and detection of radiation and laboratory exercises in electrodynamics supplement the principles and concepts.
Prerequisite: Admission to the Program

RAD 111 Radiation Physics (Ind. Study)  3(0-1 to 3)
This course is part of a series of courses to be offered on an independent study basis for students who have previously passed the corresponding MMCC Radiography Program course or its equivalent and require a refresher or remedial course for the purposes of reentering or seeking advanced placement in the Radiography Program, or requalifying for the American Registry of Radiologic Technologists examination. The course reviews units of measurement, forces, motion, electrostatics, magnetism, basic electrical circuits, and introductory concepts in atomic and nuclear physics. It also review x-ray production and interaction of x-rays with matter.
Prerequisites: All Radiography Program prerequisites or equivalent, and RAD 110 or equivalent with a grade "C" or better.

RAD 115 Principles of Radiographic Exposure  3(2-2)
A study of the prime factors in radiographic techniques determination, the geometric and photographic basis of radiographic image formation, and how these relate to radiographic quality. Methods of technical conversions for adjusting radiographic technique to maintain radiographic quality are studied. An overview of the different systems of radiographic techniques is presented and students learn how to formulate a radiographic technique system.
Prerequisite: Successful completion of the first semester RAD courses.

RAD 116 Principles of Radiographic Exposure-Review  1(0-1)
This course is part of a series to be offered on an independent study basis for students who have previously passed the corresponding MMCC Radiography Program course or its equivalent. Students taking this course require a refresher or remedial course for the purposes of reentering or seeking advance placement in the Radiography Program, or re-qualifying for the American Registry of Radiologic Technologists examination. The course is a study of the prime factors in radiographic technique determination, and how these factors relate to radiographic image quality factors. Conversion methods for adjusting radiographic technique to maintain radiographic quality are studied. An overview of radiographic techniques is presented, and students learn how to formulate a technique chart. Also studied are, mobile radiography, image intensification, tomography, and digital radiography.
Prerequisite: RAD 115 or equivalent

RAD 130 Radiographic Positioning I & II  4(2.5-2.5)
Introduction to radiographic positioning fundamentals, terminology and procedures. The fundamentals of patient care are integrated with the study of the basic radiographic procedures of the thorax, abdomen, upper and lower extremities, shoulder, pelvis, and spinal column. Practice of the basic skills required in these procedures is done in the Campus x-ray lab.
Corequisite: RAD 115

RAD 175 Radiographic Positioning III  3(1-5)
A continuation of the fundamentals of radiographic positioning procedures and patient care. Principles of the use of contrast media in radiology are correlated with positioning procedures of the gastrointestinal, urinary, and biliary systems. Adaptation of routine radiographic procedures to mobile and operative radiographic situations is introduced. Practice in the x-ray and nursing labs permit the development of basic skills needed to perform the procedures. A one day a week clinical laboratory schedule orients the student to the hospital and the radiology department operations.
Prerequisite: Successful completion of all 2nd semester RAD and Science courses.
RAD 176 Radiographic Positioning - Review  1(0-1)
A combined review of radiographic positioning and patient care procedures. The study of the fundamentals of patient care and handling is integrated with study of the basic radiographic procedures of the thorax, abdomen, upper and lower extremities, pelvic girdle, spinal column, cranium, facial bones, sinuses, upper gastrointestinal system, lower gastrointestinal system, gall bladder and biliary ducts, urinary system, mammary gland, pediatric radiography, tomography, arthrography, and myelography. Practice of the basic skills required in these procedures may take place in the campus x-ray lab. If the student needs to practice at MMCC, a mutually agreeable time can be arranged. A cumulative final will be given at MMCC following successful completion of review materials and satisfactory demonstration of positioning competency.
Prerequisite: RAD 130, RAD 175 or equivalent

RAD 200 Clinical Education I  8(0-32.4)
The first phase of clinical practicum in the hospital environment. The students review the hospital organization and operation, become familiar with hospital policies and procedures and are introduced to and integrated into the Radiology Department operations. Opportunity to develop and perfect the initial skills needed to function as a radiologic technologist is scheduled, and the basic radiographic procedures are practiced and assessed. Student film conferences are conducted and pertinent clinical issues are discussed. This course will meet for 19 weeks.
Prerequisite: Successful completion of all first-year requirements.
Corequisites: RAD 201, RAD 215

RAD 201 Clinical Issues in Radiography I  2(2-0)
This course is the first in a series of courses intended to augment first year introductory courses and complement clinical education. Topics covered are medical legal issues, medical ethics, communication in radiology, and critical thinking/problem solving in radiography. In addition, students evaluate selected radiographs taken during clinical education. A semester project integrating didactic concepts with clinical education is conducted. Review is begun for the American Registry of Radiologic Technologists examination.
Prerequisite: RAD 175
Corequisite: RAD 200

RAD 214 Review of Radiation Protection, Radiobiology, and Quality Assurance  1(0-1)
This course is part of a series to be offered on an independent study basis for students who have previously passed the corresponding MMCC Radiography Program course or its equivalent. Students taking this course require a refresher or remedial course for the purposes of reentering or seeking advance placement in the Radiography Program, or re-qualifying for the American Registry of Radiologic Technologists examination. The course provides a review of the basic principles of radiation protection, radiobiology, and quality assurance.
Prerequisite: RAD 215, RAD 230 or equivalent

RAD 215 Radiologic Techniques I  2(2-0)
Advanced study of the application of radiation and its effects. Areas of concentration are on biological effects of ionizing radiation, principles of radiation protection, and practical applications of radiation protection in the clinical situation. Laboratory exercises and experiments utilizing low-level radiation sources, radiation-measuring instruments and biological specimens in the microbiology lab provide the student observable evidence of ionizing radiation effects.
Prerequisite: RAD 175
Corequisite: RAD 200

RAD 216 Radiation Protection, Radiobiology, and Quality Assurance Review  1(1-0)
This course is part of a series of independent study courses for students requiring remediation or refresher courses for the purpose of re-entering or seeking advanced placement in the Radiography Program or for re-qualifying for the American Registry of Radiologic Technologists examination.
Prerequisites: Associate Degree in Radiography from an Joint Review Committee on Education in Radiologic Technology accredited program.
Corequisites: RAD 101

RAD 217 Radiologic Techniques II  2(2-0)
A continuation of advanced study in radiologic technology. Radiographic procedures and imaging methods used to demonstrate special anatomical areas or systems are investigated. The pathological processes that necessitate radiological investigation are introduced and correlated with their diagnostic manifestation on the imaging format utilized.
Prerequisites: RAD 200, RAD 201, RAD 215
Corequisites: RAD 220, RAD 221
RAD 218 Radiographic Special Procedures and Pathology Review 1(1-0)
This course is part of a series of independent study courses for students requiring remediation or refresher courses for the purpose of re-entering or seeking advanced placement in the Radiography Program for re-qualifying for the American Registry of Radiologic Technologists examination.
Prerequisites: Associate Degree in Radiography from an Joint Review Committee on Education in Radiologic Technology accredited program.
Corequisites: RAD 101

RAD 220 Clinical Education II 9(0-32.8)
The second phase of clinical practicum in the hospital environment provides the opportunity for the student radiologic technologist to develop and perfect the skills to function as a radiologic technologist. Additional radiographic procedures are practiced and assessed. Student film conferences are again conducted. This course will meet for 20 weeks.
Prerequisite: RAD 215

RAD 221 Clinical Issues in Radiography II 1(1-0)
This course is the second in a series of courses that augment clinical education. In addition to film conference and registry review, topics covered are medical ethics, career planning, and resume writing. A semester project related to clinical education is assigned.
Prerequisites: RAD 200, RAD 201
Corequisites: RAD 220, RAD 217

RAD 224 Principles of Radiographic Exposure 5(0-5)
This course is part of a series to be offered on an independent study basis for students who have previously passed the corresponding MMCC Radiography Program or its equivalent. Students taking this course require a remedial course for the purpose of re-qualifying for the American Registry of Radiologic Technologists examination. The course consists of a clinical education experience in which the student can perform radiographic procedures for the purposes of clinical competency testing. This course may be taken as an unpaid internship or as part of employment as a graduate but unregistered technologist.

RAD 225 Clinical Education III 5(0-33.3)
The final phase of clinical practicum in the hospital environment designed to perfect the basic skills and develop the fundamental skills in more technically-exacting procedures. Remaining entry-level procedures are assessed, and student film conferences are conducted. This course will meet for 12 weeks.
Prerequisites: RAD 217, RAD 220

RAD 226 Clinical Issues in Radiography III 1(1-0)
This course is a third in a series designed to augment clinical education. Included in this course is a capstone component that requires successfully completing a simulated registry examination. Other topics include interviewing skills and continuing education professional requirements.
Prerequisites: RAD 220, RAD 221
Corequisite: RAD 225

RAD 227 Radiography Review Series Capstone 1(0-1)
This course is part of a series to be offered on an independent study basis for students who have previously completed a Radiography Program accredited by the Joint Review Committee on Education in Radiologic Technology. Students taking this course require a refresher or remedial course of study in order to re-qualify for the American Registry of Radiologic Technologists examination. The course primarily provides a review of all basic concepts on Radiography, as contained in the primary textbook. Other topics covered are preparation for review, American Registry of Radiologic Technologists examination procedure, and test-taking skills. As a capstone feature, students are required to take two simulated registry examinations, and must pass (75%) at least one of them.
Prerequisites: RAD 101, RAD 111, RAD 116, RAD 176
Corequisite: RAD 214

RAD 230 Radiographic Quality Assurance 1(1-.5)
The course introduces the student to the principles, concepts, instrumentation, and testing methods used in radiology departments for quality control of the radiographic imaging system(s). Practice in the fundamentals of quality-control testing methods on the imaging system components is done in the Campus x-ray lab. Elements of a department wide quality assurance program are discussed.
Prerequisite: RAD 220
Corequisite: RAD 225

RAD 240 Radiographic Review and Refresher 1-6(1 to 6-0)
A review and/or update course for practicing radiographers or for those who have not been practicing for a period of time. The content is mutually agreed upon by the individual students and program coordinator. The design and methods of implementation of the course are developed by the program coordinator and a contract is drawn up specifying the content, objective, time frame, credit hours, and requirements. The emphasis of the content is tailored to the needs of the individuals with emphasis placed on effective allocation and utilization of available resources to achieve the objectives established.
RELIGION

REL 111 Introduction to Religion  3(3-0)
Major forms of world religions, religious activity, and experience studied as an essential element of human life. Dimensions of the academic study of religion covered include myth, meaning, ritual, symbolism, traditions, religious social institutions, comparative religious study, the sacred, civil religion, religious art, and the social creation of moral ideologies.
Prerequisites:none

REL 290-299 Special Topics in the Academic Study of Religion  3(3-0)
These courses are designed to investigate various topics in Religion that are not included in current courses. Topics will be announced.

SCIENCE

SCI 200 Science, Technology & Society  3(2-2)
This course is designed to introduce students from a variety of programs to the sciences. This introduction will focus on the way science and technology impacts each person's everyday life and their particular role in the environment. Knowledge will be gained for individuals to achieve scientific literacy sufficient to understand public issues. The course will stress interaction through student presentations and student-led discussions.
Prerequisites: Level I General Education courses (CIS 100, ENG 111, MAT, SPE 101 or SPE 257)

SCI 290-299 Selected Topics  1-5(1 to 4-0 to 3)
These courses are designed to investigate various topics in Science that are not included in current courses. Topics will be announced.

SOCIAL SCIENCE

SSC 100 Career Planning  2(2-0)
This participatory course is designed to assist students in developing life planning skills to enable them to make informed choices for career and life. The course focuses on self-awareness and assessment; academic planning; and career awareness, exploration, decision-making, and planning.

SSC 101 Personal Development  2(2-0)
Introduction to the development of home management, parenting skills, and consumer-skill knowledge.

SSC 103 Freshman Seminar  1-3(1 to 3-0)
This course is designed to increase the student's success in college by assisting the student in obtaining skills necessary to reach his/her educational objectives. Topics in this course include time management, thinking strategies, communication and relationship skills, study techniques, resource management and personal issues that face many college students. This course does not satisfy Group III requirements for graduation.

SSC 104 College Study Skills  2(2-0)
The purpose of this course is to provide an opportunity for students to learn and adopt methods to promote their success in college. This course does not satisfy Group III requirements for graduation.

SSC 106 Employment Training Skills  1(1-0)
The goal of this course is to develop and master all skills necessary to secure employment. Topics covered include skill identification, resume writing, job-seeking skills, job-seeking plan, interviewing techniques, applications, letter of application, thank-you notes, and successful job behaviors. It is recommended that students enroll in this course the semester prior to employment. This course does not satisfy Group III requirements for graduation.

SSC 109 Professional Development  3(3-0)
This course is designed to introduce students to expectations and occurrences common to the working world. Emphasis will be placed on developing a plan for permanent employment which will involve the discussion of an employee's role and how one maintains successful employment. A major component of the course will be the interaction between students and instructors as they discuss proper attitudes and behaviors on the job. This course does not satisfy Group III requirements for graduation.

SSC 111 Introduction to the Academic Study of Religion  3(3-0)
Major forms of world religions, religious activity, and experience studied as an essential element of human life. Dimensions of the academic study of religion covered include myth, meaning, ritual, symbolism, traditions, religious social institutions, comparative religious study, the sacred, civil religion, religious art, and the social creation of moral ideologies.
Prerequisites:none

SSC 190-199 Special Topics/Social Science  1-3(1 to 3-0)
Special Topics is a course designed to present various topics in Social Science that are not included in current courses. Topics will be announced. This course is offered based on demand and does not satisfy Group III requirements for graduation.
This course will introduce each of the various social sciences and demonstrate their respective and unique perspectives on the human experience. It will also endeavor to help the student to understand the scientific method of inquiry and its advantages, as well as other ways of knowing. Finally, through a thematic approach, the student will seek to apply the various social science perspectives to illuminate understanding of his/her world.

Prerequisites: Level I General Education courses (CIS 100, MAT, ENG 111, SPE 101 or SPE 257)

SOCIOLOGY

SOC 101 Principles of Sociology 3(3-0)
This course discusses the principles governing relationships among human beings & the organization of human societies. Primary emphasis on contemporary American society with integration of classical theories of sociology.

SOC 105 Awareness of Fine Arts/Science/Society 1(1-0)
An interdisciplinary study designed to develop the student's awareness of the interrelationships of the artistic, scientific, and technological aspects of our society and investigate their impact upon contemporary society from a variety of perspectives. Various methods of instruction may be used for this course, including independent readings or research, lecture and discussion, projects associated with a field trip, or travel of recognized educational value.

SOC 200 Contemporary Social Problems 3(3-0)
This course identifies the factors and issues in humanity's quest of a high quality of life in a changing technological society. The nature, extent, and consequences of major social problems are examined in terms of underlying social processes as well as specific factors.
Prerequisite: SOC 101 recommended

SOC 202 Social Psychology 3(3-0)
This course examines the relationship between the individual and society. Contemporary theory and research are applied to areas such as symbol interaction, self, socialization, conformity, aggression and violence, group behavior, the social construction of reality, etc. Students are also introduced to the basic methods in social psychology and their application in everyday life.
Prerequisite: SOC 101 recommended

SOC 220 Sexuality and Society 3(3-0)
This course analyzes the impact of society on sex and sexuality. Emphasis is on interpersonal relationships and factual information necessary to enable students to understand better their own sexuality. Topics including sex roles, sexual interaction, sexual physiology, and public issues related to sex are discussed utilizing contemporary research and cultural definitions.
Prerequisite: SOC 101 recommended

SOC 222 Juvenile Delinquency 3(3-0)
This course provides the student with a concentrated overview of theory and research in the field of juvenile delinquency. Students will review research findings on various aspects of juvenile delinquency, of the characteristics of young offenders, and of the results of different forms of judicial and therapeutic interventions designed to prevent or control delinquent activities.
Prerequisite: SOC 101

SOC 250 The American Family 3(3-0)
This course analyzes the development of the family as a contemporary social-institution. Factors which influence the makeup, stability, and the cultural and interpersonal contributions of the modern American family are discussed.

SOC 289 Gender Studies 3(3-0)
This course is an analysis of the impact of gender throughout the social world. The impact of gender in social institutions, cultural definitions, & interpersonal relationships will be explored. Gender inequality & its reproduction will be a focus. Emphasis will be on the relationship of gender to other aspects of social location and diversity.
Prerequisite: SOC 101 recommended

SOC 290-298 Current Topics / Sociology 1-3(1 to 3-0)
Courses designed to investigate current topics of sociological relevance not included in courses currently listed. Topics will be announced.

SPANISH

SPN 101 Elementary Spanish I 4(3-1)
Basic language skills, emphasizing oral practice & aural comprehension. Open to students who have not previously had Spanish.

SPN 102 Elementary Spanish II 4(3-1)
A continuation of SPN 101.
Prerequisite: SPN 101 or equivalent or 1 year of high school Spanish.

SPN 201 Intermediate Spanish I 4(4-0)
A continuation of SPN 102
Prerequisite:SPN 102 or equivalent course, or 2 years of High School Spanish
SPE 101 Fund of Communication 3(3-0)
A basic course in interpersonal communication & public speaking. Through observation, presentation, games, role play, valuing, & personal encounter, the student learns to encode & receive messages, verbal & nonverbal, with confidence & empathy. Skills in perception & concentration are emphasized.

SPE 105 Basic American Sign Language 3(2-2)
This course is designed to give students a basic introduction to American Sign Language which includes signing and finger spelling, expressive and receptive, and information about deaf culture and different sign systems.

SPE 121 Listening Skills 2(2-2)
A course designed for study and practice in the development of effective listening skills.

SPE 195 Intercultural Communication 3(3-0)
This course introduces the student to the field of intercultural communication, emphasizing the way in which culture influences perception of your "self" and others and the manner in which it affects communication behaviors and expectations. In addition, this course provides an opportunity to explore other cultures, heighten cultural awareness and sensitivity, and develop communication skills to successfully negotiate through diverse cultural experiences. In that "culture" refers not only to national differences, but to differences of all types (e.g., values, gender, race, communication patterns), this course will focus on the way we can manage the differences between ourselves and others in a mutually satisfying manner.

SPE 205 Basic American Sign Language II 3(2-2)
Continuation of SPE 105. This course increases the student's receptive and expressive skills while continuing to provide information and knowledge of deaf culture. Prerequisite: SPE 105 or permission of the instructor

SPE 215 Basic American Sign Language III 3(2-2)
This course continues to increase students' sign vocabulary and knowledge of the grammatical structure of American Sign Language (ASL). English and ASL idioms are explored, as well as additional uses of classifiers. Students will begin to develop skills in changing English text to ASL.

SPE 225 Basic American Sign Language IV 3(2-2)
This course will build upon previously learned American Sign Language (ASL) vocabulary, grammar, and structure. Students will continue to increase their understanding of and correct use of ASL. Special emphasis will be placed on developing skills in signing English texts in ASL. Prerequisite: SPE 215

SPE 241 Statics & Perspectives 3(3-0)
Focus on the way we can manage the differences between ourselves and others in a mutually satisfying manner.

SPE 245 Small Group Communication 3(3-0)
This course introduces the student to the field of interpersonal communication, emphasizing the way in which culture influences perception of your "self" and others and the manner in which it affects communication behaviors and expectations. In addition, this course provides an opportunity to explore other cultures, heighten cultural awareness and sensitivity, and develop communication skills to successfully negotiate through diverse cultural experiences. In that "culture" refers not only to national differences, but to differences of all types (e.g., values, gender, race, communication patterns), this course will focus on the way we can manage the differences between ourselves and others in a mutually satisfying manner.

SPE 251 Foundations of Communication 3(3-0)
This course concerns itself with theories and research in the field of human communication. There will be three segments to this course. The first will consider preliminary issues of definitions of communication and theory and broad theoretical approaches to communication. The second will consider theories specific to elements of the communication process (such as persuasive outcomes and verbal/nonverbal behaviors). The final segment will focus on context-specific theories. Prerequisite: 9 hours of SPE completed

SPE 253 Small Group Communication 3(3-0)
This course examines the major concepts, principles, and theories associated with human communication behavior in small groups and provides practice with effective group communication skills. This course will enable you to be better able to analyze and evaluate your own participation in groups and to engage in competent communication practices in the group context. Since both interpersonal processes and problem-solving features of groups are important determinants of the group’s overall effectiveness, this course will focus on both these areas.

SPE 257 Public Speaking 3(3-0)
This course is designed to build and refine the student's overall communication skills, with special emphasis given to public speaking contexts. Students will examine theories and techniques for creating public speaking and apply these principles in class activities.

SPE 261 Interpersonal Communication 3(3-0)
This course is designed to build and refine the student's interpersonal communication skills. Special emphasis will be given to understanding how relationships form and the role of communication in initiating, maintaining, and terminating relationships. Students will examine and develop skills in interpersonal communication for both personal and professional contexts. Although the central theme of the course will remain consistent for all students, assignments and communication activities will be adapted to each student's chosen professional emphasis.

SPE 263 Professional Interviewing 3(3-0)
This course is designed to build and refine the student's overall communication skills, with special emphasis given to various professional interviewing situations (employment, counseling, etc.). Students will examine the concepts and theories relevant to interview communication practices, apply these principles to communication issues and problems encountered in interview situations, and, through continued practice, set and achieve goals essential to preparing for and conducting successful interviews. Although the central theme of the course will remain consistent for all students, assignments and communication activities will be adapted to each student's chosen professional emphasis.
SPE 264 Organizational Communication  3(3-0)
This course is designed to introduce the student to the current theories and practices relevant to the management of communication systems in formal organizations and provide the student with a practical understanding of organizational communication.

SPE 265 Theories of Persuasion  3(3-0)
This course is structured to give the student an understanding of persuasion theory and how it functions within society. Specifically, this course will focus on the principles of attitude formation and change, its relationship to behavioral outcomes, and the role of communication in actuating those outcomes.

SPE 267 Nonverbal Communication  3(3-0)
This course is designed to increase awareness of the different concepts and theories associated with nonverbal communication and to allow the student to improve skills in this area of communication. Throughout the course, students will examine the different elements which make up the nonverbal message system and, within each area, talk about some of the current social and communication issues relevant to today's world.

SPE 270-279 Special Topics in Communication  1-6(1 to 6-0)
Variable topics/credit course designed to address special issues and/or employ innovative teaching techniques in the study of communication.
Prerequisite: Permission of the Instructor

SPE 285 Directed Activities in Forensics  1-3(0-1 to 3)
This course is designed to build and refine the student's overall communication skills, with special emphasis given to public speaking contexts and interactions that go beyond those traditionally available in a classroom setting. Students may choose to compete (at the local, state, and/or national level) in debate, individual events (persuasive speaking, impromptu speaking, etc.), or both. Students will participate in forensics activities as part of the Central Michigan University Forensics Team.
Prerequisite: Permission of the Instructor

SPE 290 Internship in Communication Studies  1-3(25 to 1 - 3.25 to 10)
This course is designed to provide the student with "real world" experience in which to apply the knowledge and skills he/she has developed in studying communication. With an advisor, the student will arrange to work with an organization for college credit. The student will be expected to participate and process his/her experience with both the college advisor and the organizational supervisor. Students must obtain application forms and internship guidelines from the Chair of the Communication Studies program.
Prerequisite: Permission of Chair of the Communication Studies program.

THEATRE AND INTERPRETATION

TAI 204 Theatre - Musical  3(3-0)
Discussion of musical theatre including all aspects of a production. A musical production is included as part of the course.

TAI 205 Children's Theatre  3(3-0)
Discussion of theatre for children including all aspects of a production. A children's theatre production is included as part of the course.

TAI 206 Theatre - Mystery  3(3-0)
Discussion of mystery as a form of theatre including all aspects of a production. A mystery production is included as part of the course.

TAI 207 Theatre - Comedy  3(3-0)
Discussion of comedy theatre including all aspects of a production. A comedy production is included as part of the course.

TAI 208 Theatre - Serious Drama  3(3-0)
Discussion of serious drama including all forms of tragedy. A serious dramatic production is included as part of the course.

TAI 275 Appreciation of the Theatre  3(3-0)
A survey of theatre history and an introduction to basic types of plays; concepts of professional and amateur; and principles of play selection, casting, and promotion are covered in this course.

TAI 277 Stagecraft and Stagelighting  4(4-0)
This course includes the basic principles of scenery construction and the theory and practice of stage lighting.

TAI 287 Costuming  3(3-0)
This course is a survey of costume history, Egyptian to the present, and includes an introduction to design and construction techniques.
WELDING TECHNOLOGY

WLD 126 Basic Welding I  3(2-2)
Fundamentals of oxyacetylene brazing, oxyacetylene cutting, oxyacetylene welding, arc welding, MIG welding, and TIG welding are included in this course. Emphasis is placed on penetration welds in the flat position.

WLD 127 Basic Welding II  3(2-2)
Fundamentals of oxyacetylene brazing, cutting, arc welding, and MIG welding are included in this course. Emphasis is placed on penetration welds and out-of-position welds.
Prerequisite: WLD 126 or permission of the Instructor

WLD 130 Metal Fabrication  3(2-2)
Fundamentals of metal fabrication procedures and metal layout procedures are covered in this course. Pipe layout and procedures are also covered.
Prerequisites: WLD 127 and DRF 101

WLD 150 Non-Destructive Testing  3(3-0)
A course to familiarize the student with the theory, technique, and equipment used for magnetic particle and liquid penetrant test methods as they are applied to inspection and nondestructive testing in the metal fabrication industry for quality control.

WLD 225 Advanced Welding  8(4-8)
Multi-position welding will be emphasized. The use of arc, TIG, and MIG welding equipment and weld-testing devices are covered. Reading of welding prints and use of A.W.S. welding symbols are also included. This course prepares students to pass A.W.S. structural code welding tests on plate.
Prerequisite: WLD 127

WLD 226 Industrial Welding  8(4-8)
This course builds further proficiency in manual welding processes along with the associated welding theories. The welding processes in this course include submerged arc welding, TIG, MIG, SMAW, and pattern layout; and operation of multi-oxyacetylene electric-eye cutting torches.
Prerequisite: WLD 225

WLD 227 Advanced Industrial Welding  8(4-8)
A further study of destructive and nondestructive testing, study and operation of plasma-arc welding (PAW) and plasma-arc cutting (PAC) are included in the course. The students also become more proficient in their chosen areas of manual welding processes.
Prerequisite: WLD 226

WLD 245 Pipe Welding  3(2-2)
This course is designed to prepare students to meet the requirements of the A.W.S. D1.1-79 (American Welding Society) and A.S.M.E. Section 9 code (American Society of Mechanical Engineers) for power piping. This course includes safety in welding and cutting; pipe beveling; preparation of beveled or branch pipe; electrode selection; butt weld-vertical fixed position 2G; butt weld-horizontal fixed position 5G; and pipe layout.
Prerequisite: WLD 127

WLD 246 Advanced TIG Pipe Welding  3(2-2)
This course is designed for the individual who is interested in becoming proficient in the TIG process in all welding positions for pipe welding. Students weld ferrous and nonferrous piping in horizontal and vertical fixed positions as required of A.W.S. D1.1-79 (American Welding Society), A.S.M.E. Section 9 code (American Society of Mechanical Engineers), and A.P.I. Standard 1104, 15th Edition (American Petroleum Institute).
Prerequisite: WLD 245

WLD 281 Special Project - Welding I  2(2-0)
Students engage in intensive practice in a chosen welding technique or process such as MIG or TIG welding.
Prerequisite: WLD 127 or equivalent experience as determined by the Instructor

WLD 282 Special Project - Welding II  2(2-0)
Continuation of WLD 281.
Prerequisite: WLD 281

WLD 290 Special Project  3(0-3)
This course is designed to introduce students to the art of shaping and joining various types of metal to create works of art. They will learn how to gas weld, braze, solder, and arc weld many types of metals. They will also learn how to fabricate, cut, bend and roll all types of metals. This course will also prepare students to continue in a specific area of concentration or interest in Advanced Metal Sculpture II.
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<thead>
<tr>
<th>Name</th>
<th>Title/Department</th>
<th>Education</th>
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<tbody>
<tr>
<td>Bernard E. Alford</td>
<td>English, Humanities, Communications</td>
<td>B.S. Central Michigan University, M.A. Central Michigan University, Ph.D. Michigan State University</td>
</tr>
<tr>
<td>Luzdelys Andarcia</td>
<td>Foreign Language Coordinator</td>
<td>A.S. Indiana State University, B.A. Indiana State University, M.A. Indiana State University, M.A. Central Michigan University</td>
</tr>
<tr>
<td>Patricia A. Block</td>
<td>Visual Art/Graphic Design</td>
<td>B.F.A. Michigan State University, M.F.A. Central Michigan University</td>
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<td>Charles W. Bowden</td>
<td>Sociology, Social Science</td>
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<tr>
<td>René Branch</td>
<td>Faculty Coordinator of Allied Health</td>
<td>M.A. Spring Arbor University</td>
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<tr>
<td>Deborah M. Claypool</td>
<td>(1994) Biology</td>
<td>B.S. Southeast Missouri State University, M.S. Oklahoma State University, Ph.D. Oklahoma State University</td>
</tr>
<tr>
<td>David Demski</td>
<td>Automotive Technology</td>
<td>B.S. Central Michigan University</td>
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<td>Larry D. Derscheid</td>
<td>Science, Mathematics</td>
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<td>B.S., M.S. Chemistry, Biology</td>
<td>Central Michigan University</td>
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<tr>
<td>William Reader</td>
<td>B.S., M.A. English/Humanities</td>
<td>Central Michigan University, Central Michigan University</td>
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<td>Lori Recker</td>
<td>B.A. Mathematics</td>
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<tr>
<td>Eric Sander</td>
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<tr>
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<td>Mark A. Todd</td>
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<td>James H. VanderMey</td>
<td>B.A., M.A. ENG, PHL, Communications</td>
<td>University of Michigan, University of Michigan</td>
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<tr>
<td>Lorie Tuma</td>
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## PERSONNEL DIRECTORY

### PART-TIME FACULTY

<table>
<thead>
<tr>
<th>Name</th>
<th>Field</th>
<th>Education Details</th>
</tr>
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<tbody>
<tr>
<td>Karen Crowley</td>
<td>Allied Health</td>
<td>B.S. Central Michigan University , M.A. Central Michigan University</td>
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<tr>
<td>Kendra Curtiss</td>
<td>Early Childhood Education</td>
<td>B.S. Central Michigan University , M.A. Central Michigan University</td>
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<tr>
<td>Sallie Dangler</td>
<td>English</td>
<td>B.S. Central Michigan University , M.A. Central Michigan University</td>
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<tr>
<td>Carol J. Darlington</td>
<td>Psychology</td>
<td>A.A. Mid Michigan Community College , B.S. Central Michigan University , M.A. Central Michigan University</td>
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<tr>
<td>Vivian Dassay</td>
<td>English</td>
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<tr>
<td>Raymond Davies</td>
<td>Music</td>
<td>Certification University of Massachusetts Boston</td>
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<tr>
<td>David DeGraaf</td>
<td>Psychology</td>
<td>B.A. Calvin College , M.A. Western Michigan University , Ph.D. Western Michigan University</td>
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<tr>
<td>Betty Derscheid</td>
<td>Psychology</td>
<td>B.S. Central Michigan University</td>
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<td>Andrew Devenney</td>
<td>History</td>
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<tr>
<td>Ryan Doran-Fisher</td>
<td>English/Philosophy</td>
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<td>Herman Duerr</td>
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<td>B.F.A. Wayne State University</td>
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<td>Paul Dunn</td>
<td>Computer Information Systems</td>
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<td>Amy Durfee</td>
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<td>Nancy Eaton</td>
<td>Music</td>
<td>B.A. Alma College , M.A. Central Michigan University , L.P.C. Central Michigan University</td>
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<td>Julie Ehle</td>
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<td>Katherine Ellison</td>
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<td>Eve Elden</td>
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<td>Robert Elmore</td>
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<td>Janet Essig</td>
<td>Office Information Systems</td>
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<tr>
<td>Joshua Farrell</td>
<td>Law Enforcement</td>
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<td>Nathanael Farrell</td>
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<td>Robert Foley</td>
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<td>Anthony Freds</td>
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<td>Ruth Freebury</td>
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<td>Tammy Funnell</td>
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<td>Marci Garcia</td>
<td>Theatre</td>
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<td>Chris Goffnett</td>
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<td>Joleen Golden</td>
<td>Early Childhood</td>
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<td>Shelley Greer</td>
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<td>Robert Guilian</td>
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<td>Maria Greskowiak</td>
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<td>Thomas Harms</td>
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<tr>
<td>Kristen Haskin</td>
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<td>Jennifer Henry</td>
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<td>Jason Hitsman</td>
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<td>John Holland</td>
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<tr>
<td>Dean Holsworth</td>
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<tr>
<td>Amy Howard</td>
<td>Natural Therapies</td>
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<td>Donna Hynes</td>
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<tr>
<td>Dara John</td>
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<td>Alicyn Johnson</td>
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<tr>
<td>Raymond Johnson</td>
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<tr>
<td>Michael Johnston</td>
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<td>Karen Juday</td>
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<td>Patricia Judson</td>
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<td>Louis Kanyo</td>
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<td>Elizabeth Kindermann</td>
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<td>Marcy Klaus</td>
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<td>Jacque Mattes</td>
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<td>Elmer Tofteland, CPA</td>
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</table>
### PERSONNEL DIRECTORY

#### PART-TIME FACULTY
- **Joshua Vick** - English  
  B.A. Central Michigan University
- **Carol Waters** - Psychology  
  B.A. Central Michigan University
- **Kenneth Wawersik** - Science  
  B.A. Central Michigan University
- **Mark Weaver** - Mathematics  
  B.A. Central Michigan University
- **Sarah Wells** - Speech  
  B.A. Central Michigan University, M.Ed. Marygrove College
  Guidance & Counseling Indorsement CMU
- **Perry Wiles** - Automotive Technology  
  B.A. Ferris State University
- **Ronald Williamson** - History  
  B.A. Ferris State University
- **Janice Wolfe** - Office Information Systems  
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- **Diane Wood** - Education/Speech  
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- **George Wylie** - History  
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- **Brian Wyllys** - Mathematics/Computer Information Systems  
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- **Sarah Wells** - Speech  
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- **Ronald Williamson** - History  
  B.A. Ferris State University
- **Janice Wolfe** - Office Information Systems  
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- **Ronald Williamson** - History  
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- **Janice Wolfe** - Office Information Systems  
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- **Diane Wood** - Education/Speech  
  B.A. University of Michigan
- **George Wylie** - History  
  B.A. University of Michigan
- **Brian Wyllys** - Mathematics/Computer Information Systems  
  B.S. Ferris State University, M.A. Central Michigan University
- **Nathan Yuille** - Economics

### ADMINISTRATION

#### SENIOR ADMINISTRATORS
- **Linda Girard, Ph.D.** (2005) Dean of Arts and Sciences  
  B.A. San Diego State University, M.A. San Diego State University, Ph.D. Kent State University
- **L. Scott Govitz** (2000) Executive Director of M-TEC  
  B.S. Central Michigan University
- **Catherine L. King** (1998) Dean of Nursing and Health Technologies  
  M.S.N. University of Phoenix, NNP Childrens Hospital Columbus, OH, B.S.N. Eastern Michigan University, A.S.N. - RN Wayne County Community College
- **Kirk A. Lehr** (1995) Director of Computer & Communication Services  
  B.A. Grand Rapids Baptist College
- **Matt Miller** (2002) College Information Officer  
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- **Carol J. Santini** (1987) Dean of Student Services and Enrollment Management  
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#### UNIT MANAGERS
- **Kimberly M. Barnes** (1992) Director-Admissions & Placement  
  A.Sec.Sci. Mid Michigan Community College, B.B.A. Northwood University, M.A. Central Michigan University
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  A.S.S. Delta College, B.S. Central Michigan University
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- **Corey Goethe** (2002) Director of Academic Support Center  
  A.S. Monroe County Community College, B.S. Central Michigan University, M.A. Central Michigan University
- **Karen Kleinhardt** (1986) Director of BIDC  
  A.G.T. Mid Michigan Community College
- **Scott Mertes** (2005) Registrar/Mt. Pleasant Campus Manager  
  B.A. Winona State University, M.A. University of Iowa
ADMINISTRATION

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John B. Skinner, R.T. (R) (1990) Director of Radiography
B.A. Alma College
M.Ed. Boston University
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Shawn Troy (2003) Director of Library/Media Services
A.A. Oakland Community College
B.S. Central Michigan University
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William D. Whitman (1979) Director of Physical Plant

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A.B.A. Mid Michigan Community College
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ADMINISTRATION

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B.S. Western Michigan University
R.T. Florida Hospital School of Radiologic Technology

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M.B.A. Saginaw Valley State University

Camille Spitzley (2005) Student of Promise Coordinator/Advisor
B.S. Central Michigan University
M.A. Central Michigan University

Todd Treece (2006) Distance Education Technical Coordinator

B.S. Central Michigan University

B.A. Adrian College

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Eric Gilbert (2003) Food Service Manager
E.P.A. Certification

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A.B. Mid Michigan Community College

Kelly Koch (2000) Bookstore Manager
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B.S.B.A. Central Michigan University

Terry J. Loafman (1996) Custodial Foreman
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A.G.T. Mid Michigan Community College

CAMPUS SERVICES STAFF

Jeremy Carrier (2003) Operation Support Assistant
A.A.S. Ferris State University
B.S. Ferris State University
Larry Doty (2003) Custodian
Carl Fouts (2001) Custodian
Ronald Gepford (2001) Maintenance
Charlotte Keel (2002) Custodian
Phillip Miller (2002) Custodian
William Shell (2005) Custodian
Donald J. Zuker (1997) Custodian, Mt. Pleasant
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