Great careers start here.
MESSAGE FROM THE PRESIDENT

If you are looking through this catalog, you must be searching for something.

Perhaps you want to acquire skills that can lead to a high wage, high demand career or that can enhance your current job. Perhaps you need competitively priced classes for transfer to a four-year college or university. Maybe you want education that provides short term, real world benefits, offered conveniently online or close to your home or place of work.

You may need assistance in starting your own business or training your employees. You may want to stay current with the technological changes that impact every facet of life in today’s fast paced, rapidly changing society. You may be unsure of what we offer, but you have recognized that continuing your education will enrich your life.

Whatever prompted you to look through this catalog, be assured that we can help. At Mid Michigan Community College, you will find a caring, personalized environment where people listen to you with respect and assist you in getting from where you are to where you want to be. Great careers – and changed lives – start at Mid Michigan Community College. Why not start today?

Carol A. Churchill, MMCC President

LOCATIONS

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 with several nature trails.

MMCC has two locations in Mt. Pleasant, 27 miles south of the Harrison Campus. The Pickard Campus in Mt. Pleasant Campus is located on M-20 East near the U.S. 127 freeway. Its suburban environment complements the modern atmosphere of the campus facility. The Herbert D. Doan Center for Science and Health Technologies is located on 44 acres on the corner of Broadway and Summerton. The Doan Center is the most recent expansion of the college.

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.

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

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. Published April 1, 2009.

For the most current information go to our website at www.midmich.edu.
# TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Campus Directory</td>
<td>8</td>
</tr>
<tr>
<td>Academic Calendar</td>
<td>9</td>
</tr>
<tr>
<td><strong>Admissions</strong></td>
<td></td>
</tr>
<tr>
<td>&quot;Open Door&quot; Admissions Policy</td>
<td>9</td>
</tr>
<tr>
<td>How to Apply</td>
<td>9</td>
</tr>
<tr>
<td>Guest Applicants</td>
<td>9</td>
</tr>
<tr>
<td>Transfer Applicants</td>
<td>10</td>
</tr>
<tr>
<td>Readmission</td>
<td>10</td>
</tr>
<tr>
<td>Dual Enrollment Program</td>
<td>10</td>
</tr>
<tr>
<td>Applications for Health Programs</td>
<td>10</td>
</tr>
<tr>
<td>International Student Admissions</td>
<td>10</td>
</tr>
<tr>
<td>Special Admissions</td>
<td>10</td>
</tr>
<tr>
<td><strong>Financial Aid</strong></td>
<td></td>
</tr>
<tr>
<td>How to Apply for Financial Aid</td>
<td>11</td>
</tr>
<tr>
<td>Eligibility for Federal &amp; State Financial Aid Programs</td>
<td>11</td>
</tr>
<tr>
<td>How Financial Aid is Determined</td>
<td>11</td>
</tr>
<tr>
<td>Financial Aid Awards and Package</td>
<td>12</td>
</tr>
<tr>
<td>Disbursement of Financial Aid Awards</td>
<td>12</td>
</tr>
<tr>
<td>MMCC Financial Aid Satisfactory Academic Progress Policy</td>
<td>12</td>
</tr>
<tr>
<td>Standards of Progress</td>
<td>12</td>
</tr>
<tr>
<td>Suspension</td>
<td>12</td>
</tr>
<tr>
<td>Reinstatement</td>
<td>12</td>
</tr>
<tr>
<td>Appeals - Financial Aid Academic Probation</td>
<td>13</td>
</tr>
<tr>
<td>Statement of Student Financial Aid Rights and Responsibilities</td>
<td>13</td>
</tr>
<tr>
<td>Responsibilities of Financial Aid Applicants</td>
<td>13</td>
</tr>
<tr>
<td>MMCC Financial Aid Programs</td>
<td>14</td>
</tr>
<tr>
<td>State of Michigan Financial Aid Programs</td>
<td>15</td>
</tr>
<tr>
<td>Federal Financial Aid Programs</td>
<td>15</td>
</tr>
<tr>
<td>Other Financial Aid Programs</td>
<td>17</td>
</tr>
<tr>
<td><strong>The Cost of Attending College</strong></td>
<td></td>
</tr>
<tr>
<td>Tuition Rates</td>
<td>20</td>
</tr>
<tr>
<td>Fees</td>
<td>21</td>
</tr>
<tr>
<td>Tuition Refund Policy</td>
<td>21</td>
</tr>
<tr>
<td>Return of Title IV Funds Policy</td>
<td>21</td>
</tr>
</tbody>
</table>
Tuition Pay Plan .................................................................................................................... 22
Outstanding Bills .................................................................................................................... 22
College Bookstore Purchases .................................................................................................... 22
College Programs ...................................................................................................................... 22
General Education Requirements ............................................................................................ 23
Distribution Groups .................................................................................................................. 23
MACRAO Agreement ............................................................................................................. 24
Cancellation of Courses and Programs .................................................................................... 24
Programs of Study Index ......................................................................................................... 25
Course Descriptions Index ....................................................................................................... 93
M-TEC Introduction .................................................................................................................. 151

Construction Technology Programs:
NCCER Core Curriculum ......................................................................................................... 152
NCCER Carpentry Fundamentals Level I ................................................................................... 153
NCCER Carpentry Framing and Finishing Level II ................................................................. 154
NCCER Electrical Level I ........................................................................................................ 155
NCCER Electrical Level II ........................................................................................................ 157
NCCER Electrical Level III ...................................................................................................... 158
NCCER Electrical Level IV ...................................................................................................... 159
NCCER Plumbing Level I ........................................................................................................ 160
NCCER Plumbing Level II ....................................................................................................... 161
Masonry Level I ...................................................................................................................... 162

Manufacturing Technologies Programs:
Fluid & Air Power Technology .............................................................................................. 163
CNC Programmer .................................................................................................................... 164
Industrial Electrical Technician I ........................................................................................... 166
Maintenance Technology ......................................................................................................... 167
Principles of Quality Control .................................................................................................. 168
Robotics .................................................................................................................................. 169
Electronics Technician ............................................................................................................. 170

Business & Industry Development Center .............................................................................. 171

Michigan Small Business & Technology Development Center ............................................. 172

Advanced Credit ..................................................................................................................... 174
Advanced Placement Program ............................................................................................... 174
Articulation ............................................................................................................................... 174
Credit by Examination .............................................................................................................. 174
College Level Examination Program (CLEP) ......................................................................... 174
Military Training Credit ........................................................................................................... 174
Non-Traditional Credit ............................................................................................................ 174
Transfer Credit ......................................................................................................................... 175

Placement and Advising
Placement ................................................................................................................................. 175
Orientation ................................................................................................................................. 175
Academic Advising ................................................................................................................... 175
Career Exploration and Planning ............................................................................................ 176
Personal Counseling .................................................................................................................. 176
Students With Disabilities ........................................................................................................ 176
Special Populations .................................................................................................................. 176
Enrollment Services
Registration ...................................................................................................................... 176
Adding Courses .................................................................................................................. 176
Dropping Courses .............................................................................................................. 176
Institutional Drop .............................................................................................................. 176
Auditing a Course .............................................................................................................. 176
Repeating a Course .......................................................................................................... 176
Same Course Re-Enrollment ............................................................................................ 176
Withdrawing From College ............................................................................................... 176
Student Credit Hour Load ................................................................................................. 176
Honors Section .................................................................................................................. 177
Honors Option ................................................................................................................... 177
Independent Study Course Work ...................................................................................... 177
Change of Program ........................................................................................................... 177
Grades
Grading System .................................................................................................................. 178
Incomplete Grades .............................................................................................................. 179
Credit/No Credit ................................................................................................................. 179
Grade Reports .................................................................................................................... 179
Grade Change and Review Procedures .............................................................................. 179
Academic Alert .................................................................................................................. 179
Academic Probation and Dismissal Policy ......................................................................... 180
Academic Probation and Dismissal Procedures ................................................................. 180
Academic Honesty ............................................................................................................. 180
MMCC Policy on Academic Dishonesty and Plagiarism ................................................... 180
Academic Amnesty ............................................................................................................. 180
Graduation Requirements ................................................................................................. 181
Graduating with Honors or High Honors ......................................................................... 182
Course Substitutions .......................................................................................................... 182
Supplemental Services
Campus Bookstores ........................................................................................................ 182
Books & Beans Espresso Cafe .......................................................................................... 182
College Food Service ........................................................................................................ 182
Computer Laboratories ................................................................................................... 182
Media Center .................................................................................................................... 182
Academic Support Center (ASC) ..................................................................................... 183
Access to Campus Facilities ............................................................................................. 183
Health Care Services ........................................................................................................ 184
Housing ............................................................................................................................. 184
Student Activities
Student Identification Cards .............................................................................................. 184
Mid's Campus Council - MC² ............................................................................................. 184
Phi Theta Kappa International Honor Society ................................................................. 184
Continuing Education Non-Credit Courses ..................................................................... 184
Campus Crime Prevention and Security Regulations ....................................................... 184
Crime Prevention ............................................................................................................. 184
Campus Law Enforcement ............................................................................................... 184
Crime Reporting and Emergency Procedures ................................................................. 184
# CAMPUS DIRECTORY

## Harrison Campus Switchboard
(989) 386-6622

## Mt. Pleasant Campus Switchboard
(989) 773-6622

### College Fax Numbers:
- Mt. Pleasant Campus: (989) 772-2386
- Administration - Harrison: (989) 386-9088
- ASC - Harrison: (989) 317-4632
- ASC - Mt. Pleasant: (989) 773-0862
- Doan Center - Mt. Pleasant: (989) 317-4634
- SOAR Center - Harrison: (989) 386-6613
- M-TEC/SBTDC - Harrison: (989) 802-0971
- M-TEC - Gladwin: (989) 426-2992
- Library - Harrison: (989) 386-2411
- Nursing - Harrison: (989) 386-6666

### BUSINESS OFFICE

<table>
<thead>
<tr>
<th>Phone Number</th>
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</tr>
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<tbody>
<tr>
<td>386-6610</td>
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<tr>
<td>386-6611</td>
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<tr>
<td>386-6639</td>
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<td>HC Room 151</td>
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<tr>
<td>386-6688</td>
<td>HC Food Service</td>
</tr>
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<td>386-6621</td>
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<td>386-6601</td>
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### STUDENT SERVICES

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### TRANSCRIPTS

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<tr>
<td>773-6622</td>
<td>MPC</td>
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(Schedule Subject to Change)

**Spring Session 2009**
Classes Begin....................................................... May 18
Memorial Day/No Classes.............................. May 25
6-Week Spring Classes End......................... June 25
12-Week Spring Classes End.......................... August 7

**Summer Session 2009**
Classes Begin...................................................... June 29
College Closed/No Classes............................ July 3
College Closed/No Classes.............................. July 10
Classes End ....................................................... August 7

**Fall Semester 2009**
Classes Begin.......................................................... August 22
Labor Day/No Classes.......................... September 7
Faculty In-service/No Classes .................... November 25
Thanksgiving Break/No Classes........... November 26-27
Classes End ......................................................... December 11

**Winter Semester 2010**
Classes Begin............................................................ January 9
Spring Break/No Classes .................. March 6-12
College-In-Service/No Classes ................ March 24
Good Friday/No Classes ........................... April 2
Classes End ........................................................ May 7
Commencement ..................................................... May 8

**Spring Session 2010**
Classes Begin....................................................... May 17
Memorial Day/No Classes.......................... May 31
6-Week Spring Classes End......................... June 24
12-Week Spring Classes End.......................... August 6

**Summer Session 2010**
Classes Begin....................................................... June 28
Classes End ........................................................ August 6

**Fall Semester 2010**
Classes Begin.......................................................... August 21
Labor Day/No Classes.......................... September 6
College In-Service/No Classes ................ November 24
Thanksgiving Break/No Classes ............ November 25-26
Classes End ........................................................ December 10

**ADMISSIONS**

“OPEN DOOR” ADMISSIONS POLICY
Mid Michigan Community College has an “open door” admissions policy which encourages admissions of all persons 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 may 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.

Students who have a felony charge on their record will be required to meet with the Dean of Student Success 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. If you have questions, please contact the Dean of Student Success at 989-371-4601

**HOW TO APPLY**

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, the Admissions Office on the Harrison Campus or Mt. Pleasant Campus or online at www.midmich.edu. 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 for scholarship and grant consideration. A high school diploma is not required for general admission.

**GUEST APPLICANTS**

Complete and return a Guest Application. This may be obtained from the Admissions Office on either campus, online at www.midmich.edu. This form should be completed and returned to the Admissions Office well in advance of the semester for which the student is applying to allow time for assessment, orientation, academic advising, and class reservations. Guest students are not eligible for Title IV Federal Student Aid.
Students who are admitted to the program need to be aware random drug screening may be done at any time during the program at the student's expense.

The following programs have a limited enrollment: Medical Assistant, Medical Coder and Biller, Medical Lab Technician, Nursing, Pharmacy Technician, Physical Therapist Assistant, Registered Health Technologist, and Radiography.

For further information about any health program, contact the Health Technologies Department.

INTERNATIONAL STUDENT ADMISSIONS

MMCC only accepts international students in the Fall Semester. International students applying for admission to MMCC must submit all necessary paperwork by June 15.

The following steps must be completed by all international students seeking admission:

1. Submit a completed International Application for Admission.
2. Submit original or certified copies, plus English translations of high school and ALL college transcripts.
3. Proficiency in the English language is required. MMCC does not offer an English as a Second Language (ESL) program. The applicant for admission whose native language is not English must take the Test of English as a Foreign Language (TOEFL). A minimum score of 213 is required on the computer-based tests; a minimum score of 79-80 is required for the internet-based tests.
4. Before admission, non-health science applicants must arrange to have at least $15,000 USD for each year to cover expenses. Health science applicants must arrange to have $23,000 USD for each year to cover expenses. Applicants must complete the financial statement and submit official documents indicating the ability to cover all expenses for the entire stay in the United States.

MMCC has NO grants or loans available for international students. Based upon F-1 visa requirements, international students are not eligible to work off-campus and there are NO on-campus jobs available. Students must have enough money to provide for all their needs while attending MMCC. Mid Michigan Community College must be satisfied that the student is financially secure before he/she is admitted.

Upon completion of the steps listed above, international students will receive a letter of acceptance and a Form I-20 Certificate of Eligibility. The Form I-20; paid SEVIS fee of $100 to be paid at http://www.fmjfee.com/index.jhtml; a valid passport; and proof of sufficient finances must be presented to the U.S. Consul abroad by the applicant for entry into the United States on an F-1 student visa.
SPECIAL ADMISSIONS

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 Executive Director of Enrollment Services at least eight weeks in advance of the start of the enrollment period for which the exception is being requested.

FINANCIAL AID

Harrison Campus:
Phone 989-386-6664 Fax: 989-386-6613
Pickard Campus (Mt. Pleasant):
Phone 989-773-6622, ext. 264 Fax: 989-772-2386
Email: finaid@midmich.edu

The MMCC financial aid office encourages all students to apply for federal financial aid by completing the Free Application for Federal Student Aid (FAFSA). You may apply online at www.fafsa.ed.gov. Approximately 57% of all MMCC students carrying 6 credits or more receive some form of financial assistance. Financial aid programs offer all students the opportunity to pursue their educational goals. MMCC along 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.

HOW TO APPLY FOR FINANCIAL AID

The Free Application for Federal Student Aid (FAFSA) is the first step in the financial aid process. This application can be submitted on the web at www.fafsa.ed.gov or by mailing a paper FAFSA directly to the federal processor. The paper FAFSA may be obtained online at www.federalstudentaid.ed.gov.

Once a student’s financial aid has been completely processed they may charge their tuition, fees and books against eligible financial aid awards. Some types of federal and state financial aid funds are limited. MMCC students who apply by April 1st will be given priority when those funds are awarded by MMCC.

Students selected for verification may be required to submit documents to the MMCC Financial Aid Office. For those students, MMCC must compare the information from the FAFSA to the applicable tax forms and other required documents. Financial aid will not be awarded until all required documents are provided. If it is determined that additional documents are required, financial aid previously awarded may be cancelled. Falsification of income information submitted for the purpose of receiving financial assistance will result in cancellation of all future assistance and repayment of all previously awarded financial aid. If federal and/or state funds are involved, the appropriate government agencies will be notified including the U.S. Department of Education, Michigan Higher Education Assistance Authority, and/or the Office of Inspector General.

Students that are transferring to MMCC must add MMCC’s school code, 006768, to their FAFSA at www.fafsa.ed.gov. Students must renew their FAFSA each year. Contact the financial aid office for spring and summer semester eligibility.

ELIGIBILITY FOR FEDERAL & STATE FINANCIAL AID PROGRAMS

To be eligible for federal and state financial aid, employment and student loan programs, students must meet all of the following requirements:

- Be admitted to or enrolled in a qualified academic program leading to a degree or certificate.
- Be a U.S. citizen or an eligible noncitizen.
- Most males must be registered with Selective Service. Go to www.sss.gov to determine if you are or were required to register between age 18 and 25.
- Students cannot be in default on a federal student loan or owe money back on a federal student grant.
- Have a high school diploma, GED or equivalent or pass an ability to benefit test.
- Make satisfactory academic progress.
- Meet any additional requirements for specific federal and state financial aid programs.
- Have financial need, except for some loan programs.
- Have a valid social security number.
- Complete and sign a Free Application for Federal Student Aid (FAFSA) stating that student financial aid will be used only to pay the cost of attending an institution of higher education.
- Cannot have a conviction for drug possession or sale while receiving financial aid.

HOW FINANCIAL NEED IS DETERMINED

Financial need is determined by subtracting a student’s Expected Family Contribution (EFC) from their MMCC cost of attendance budget. Additional information regarding MMCC’s cost of attendance and need based aid can be
found on the Financial Aid page of college’s website at www.midmich.edu. MMCC must consider all sources of financial assistance and subtract the estimated amount of all assistance from the student’s estimated total financial need.

To determine a student’s eligibility for need-based assistance, MMCC must consider the student’s EFC. The EFC is calculated by the U.S. Department of Education from the information submitted in the student’s FAFSA. The EFC measures your family’s financial strength and determines your eligibility for federal student aid. The MMCC financial aid office must use the EFC calculated by the U.S. Department of Education. However, when appropriate the MMCC financial aid office may make adjustments. Contact the MMCC financial aid office for more information.

FINANCIAL AID AWARDS AND PACKAGE
A student’s financial aid package includes all awards; scholarships, grants, work-study, and student loans. The awards are determined annually. The MMCC Financial Aid Office notifies students of the estimated financial aid that they are eligible for by mail or email. Financial aid awards are subject to change due to changes in the student’s enrollment or finances. Changes in enrollment status, including a reduction of credit hours or withdrawing from all classes before the end of the semester, may result in a reduction or cancellation of all financial aid. Students should check with the MMCC Financial Aid Office before dropping classes. If a student or student’s family experience a change in financial circumstances, the student may contact the MMCC financial aid office to determine if an adjustment may be made to the student’s FAFSA.

DISBURSEMENT OF FINANCIAL AID AWARDS
All financial aid funds, scholarships, grants, and student loans are credited to the student’s account. If the student has any remaining funds, 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 financial aid balance. Refund checks for remaining financial aid are available approximately six to eight weeks after the semester starts. Students should plan their personal finances with this time frame in mind. Checks are mailed by the MMCC Business Office and cannot be picked up on campus.

MMCC FINANCIAL AID SATISFACTORY ACADEMIC PROGRESS POLICY
To receive financial aid students must maintain satisfactory academic progress toward their degree or certificate. The Mid Michigan Community College (MMCC) Financial Aid Standards of Satisfactory Academic Progress governs all federal and many state financial aid, grant, loan, and work-study programs. Students who have attempted 14 or more credits will have their academic records reviewed yearly for satisfactory academic progress. Students enrolled in certificate programs or are on Level 2 Probation are reviewed at the end of each semester.

STANDARDS OF PROGRESS
There are three elements in the MMCC Standards of Satisfactory Academic Progress:
• The grade point average (GPA) students must maintain,
• The number of credit hours students must complete, and
• The maximum credit hours for which students may receive financial aid.

Element 1
Students must maintain a cumulative grade point average of not less than the following:

<table>
<thead>
<tr>
<th>Credit Hours Attempted</th>
<th>Minimum Cumulative GPA Required</th>
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<tr>
<td>14-29</td>
<td>1.50</td>
</tr>
<tr>
<td>30 and above</td>
<td>2.00</td>
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Element 2
Students, who have attempted 14 or more credits at MMCC, must satisfactorily complete 67% of those credits, whether or not financial aid was received. Any student attempting 6 or more credits in a semester that fails and/or withdraws from all credits will be immediately suspended.
2. Grades of W, I, and E are not considered passing, and must be considered attempted credits.
3. The highest grade of a repeated class is used when calculating a cumulative GPA.
4. Remedial course work is included in the number of attempted credits.

Element 3
1. Federal Regulations state that a student cannot 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 Associates Degree normally takes 62 credit hours to complete, a student cannot attempt more than 93 credit hours toward that degree and still receive aid (62 x 150% = 93). Attempted credit hours include incomplete, withdrawals, repeated and remedial courses and transfer credits. Students who reach the upper limit of attempted credit hours for their program of study will have their aid eligibility suspended.

SUSPENSION
Students not meeting Elements 1, 2, or 3 will be suspended and not eligible to receive Financial Aid until they attain the requirements or successfully file an appeal. See the Reinstatement and Appeal Progress below.
REINSTATEMENT
Students will be ineligible for further financial aid until they attain the minimum cumulative grade point average required and satisfactorily complete 67% of all the credits attempted (see Elements 1 & 2). If the student was suspended for dropping all classes but meets the GPA and completion ratio requirements, the student is ineligible for financial aid for the semester (Fall, Winter, or Spring) immediately following the semester of the total drop. Students seeking reinstatement must then advise the Financial Aid Office when they meet the requirements.

APPEALS – LEVEL 2 - FINANCIAL AID ACADEMIC PROBATION
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. Appeals are generally limited to one per student.

Elements 1 & 2
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. 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. Documentation supporting the reasons for the appeal may be required by the reviewing Financial Aid Officer.

If appeals are approved students will receive one additional semester of aid. Conditions of probation may include limiting the number of credits or classes the student can attempt, requiring the student to develop an educational plan, meeting with staff for the approval of a class schedule, etc., or other conditions that may be appropriate.

During this probationary semester students will be required to attain all required satisfactory academic progress standards. Failing to do so will result in the reinstatement of the suspension status unless the student has completed at least 2/3 of their semester attempted credits and obtained a minimum semester GPA of 2.0. Students meeting these criteria will continue on probationary status until the student meets the Mid Michigan Community College Standards of Academic Progress. Students who fail to meet these requirements will return to a suspended status.

Element 3
A student with mitigating circumstances may file a written request for an extension of eligibility. Transfer credits and program changes will be considered when approving an appeal and will be used in determining the amount of credits eligible for financial aid. If an extension is granted, the student will be allowed to receive aid for the additional number of approved credits. It is the student’s responsibility to complete the classes required to obtain their degree.

Appeal Committee
All appeals are reviewed by the Financial Aid Committee. The student will be notified in writing of the committee’s decision.

If the first appeal for Elements 1, 2, or 3 is denied and the student feels there are circumstances that were not considered in the first appeal, a second appeal may be made. Second appeals must be made in writing to the Director of Financial Aid, who will convene the Financial Aid Advisory Committee to review the appeal. The Director will inform the student of the Advisory Committee’s decision within ten business days. The Committee’s decision will be considered to be final. The Financial Aid Advisory Committee is made up of the following membership: Executive Director of Enrollment Management, Dean of Student Success, Financial Aid Director, one Financial Aid Officer, one Admissions Office Representative, and one Faculty Member. A minimum of three members is required to review a student appeal.

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 and what resources (such as parental contribution, other financial aid, your assets, etc.) were considered in the calculation of your need.
5. You have the right to know how much of your financial need as determined by the institution has been met.
6. You have the right to request an explanation of the various programs in your student aid package.
7. You have the right to know the MMCC refund policy.
8. 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.
9. 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. If you purposefully give false or misleading information, you may be fined up to $20,000, sent to prison, or both.
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.
9. You must be attending your classes in order to be eligible for Federal Aid funding.

**MID MICHIGAN COMMUNITY COLLEGE FINANCIAL AID PROGRAMS**

**Eugene W. Gillaspy Honors Scholarships:** Students who are returning for their second consecutive year of college and received either the Admissions, Trustee's or Technical Education scholarship will be awarded this $800 ($400 fall/winter semesters) scholarship if they have attained a 3.0 to 4.0 GPA and are a full-time student. This scholarship is good for one year (fall and winter semesters) and will automatically be assigned to the student’s financial aid account.

**President's Scholarship:** This scholarship for $1,600 ($800 fall/winter semesters) will be awarded for one year (fall and winter semesters) to one student from each in-district high school with the highest GPA. The President's Scholarship is non-need-based and must be used for the semester for which it was awarded and cannot be held for attendance in a different semester. Students should submit their transcript with six completed semesters by April 1 in order to be considered.

**Mid Michigan Community College Trustees’ Scholarships:** High school or alternative education seniors will be awarded this $600 ($300 fall/winter semesters) scholarship based on their high school GPA of 3.0 to 4.0. This scholarship is for one year (fall and winter semesters) and the student must attend full-time (12 credit hours or more). The Trustee’s Scholarship is non-need-based and must be used for the semester for which it was awarded and cannot be held for attendance in a different semester. Selection for this scholarship is on a first come first serve basis. Students who qualify for more than one institutional scholarship will be awarded the scholarship with the highest monetary amount.

**Mid Michigan Community College Admissions Scholarship:** High school and alternative education seniors will be awarded this $400 ($200 fall/winter semesters) scholarship based on their high school/alternative education GPA of 2.0 to 2.9. This scholarship is for one year (fall and winter semesters) and the student must attend full-time (12 credit hours or more). The Admissions Scholarship is non-need-based and must be used for the semester for which it was awarded and cannot be held for attendance in a different semester. Selection for this scholarship is on a first come first serve basis. Students who qualify for more than one institutional scholarship will be awarded the scholarship with the highest monetary amount.

**Mid Michigan Community College Technical Education Awards:** Students who enroll in one of the following programs: Automotive Technology; Heating, Refrigeration & Air Conditioning; Industrial Technology/Drafting & Design; Industrial Technology/Machine Tool; Business Information Systems; Graphic Design; Welding Technology; or M-TEC classes will be awarded this $500 ($250 fall/winter semesters) scholarship based on their GPA of 2.0 or higher. This scholarship is for one year (fall and winter semesters). The Technical Education Award is non-need-based and must be used for the semester for which it was awarded and cannot be held for attendance in a different semester. Selection for this scholarship is on a first come first serve basis. High school senior or alternative education students should submit their transcript with six completed semesters in order to qualify. Current MMCC students should pick up a scholarship application in the Financial Aid Department. Students who qualify for more than one institutional scholarship will be awarded the scholarship with the highest monetary amount.

**Mid Michigan Community College Scholastic Incentive Scholarships:** Students are eligible for $300 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 FINANCIAL AID PROGRAMS**

**Adult Part-Time Grant:** The Adult Part-Time Grant provides grant assistance for needy self-supporting independent 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 Labor and Economic Growth and provides rehabilitative services to vocationally handicapped or impaired individuals. Any person with impairment can make an application for service by contacting the Office of the State of Michigan Rehabilitation Services serving the student’s local area. 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.

**Michigan Competitive Scholarships:** These scholarships are credited to tuition and fees of Michigan residents of 12 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 ten 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 Student Loan Authority/Michigan Guaranty Agency:** 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 for most of the community college tuition and fees for students from families determined by criteria set by the State of Michigan to be lower-income. High school students are notified of eligibility by the Michigan office of scholarships and grants.

**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.

**Michigan Promise Scholarship:** The Michigan Promise Scholarship provides up to $4,000 to high school graduates for successfully completing two years of postsecondary education beginning with the high school graduating class of 2007. All students that took the state assessment test
Loans are insured by a guarantee agency and reinsured by other lenders that participate in the program. Student low-interest Stafford Student Loans by banks, credit unions, Federal Family Educational Loan Program provides federal guidelines. Awards are made in multiple disbursements throughout the academic loan period. The lender may charge up to 3% in fees on each loan disbursement. Students can receive a subsidized loan and an unsubsidized loan for the same enrollment period as long as the annual loan limits are not exceeded.

The annual loan limits for dependent students are:
- $5,500 for students with less than 24 completed credit hours. No more than $3500 can be in Subsidized Stafford Loans.
- $6,500 for students with 24 or more completed credit hours. No more than $4500 can be in Subsidized Stafford Loans.

The annual loan limits for independent students are:
- $9,500 for students with less than 24 completed credit hours. No more than $3500 can be in Subsidized Stafford Loans.
- $10,500 for students with 24 or more completed credit hours. No more than $4500 can be in Subsidized Stafford Loans.

For either type of Stafford loan, students must first fill out a FAFSA and provide the college all necessary forms to complete the financial aid file requirements. Students may be eligible for a Federal Family Educational Loan if they meet the requirements included in the Financial Aid Eligibility section and are enrolled at least half-time (6 credits). Students must complete all federal and school requirements such as completing Entrance Loan Counseling and a Master Promissory Note (MPN). If the loan is approved, the borrower will receive a Notice of Loan Guarantee and
Disclosure Statement from their lender listing the approved amount of the loan and the approximate date(s) the loan funds will be sent to the school.

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 are enrolled less than half-time;
2. Change their name or address; and/or
3. Transfer schools.

In their last semester of attendance, students must complete Exit Counseling. Six months after a student is no longer enrolled at least half-time, payment arrangements must be set up with the lending institution. Payment arrangements are subject to all of the following regulations:

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

Students may be entitled to a temporary postponement of payments called a “deferment.” Lenders have a complete listing of all authorized deferments and time limitations. This information may also be found on the student’s master promissory note.

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 or servicer, 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 or federal funds; 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 Federal or State Financial Aid.

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 FAFSA. Parent Plus loan eligibility is contingent upon credit history. Parents may borrow up to the remaining need of the dependent student cost of attendance minus other financial aid. PLUS loans are issued at a fixed interest rate and cannot exceed 8.5%. Parent Plus loan funds are disbursed to the school at equal intervals within the loan period. Repayment on the PLUS loan normally begins within 60 days of disbursement, however payment deferment is available. Repayment terms are scheduled by the lender and usually range from 5 to 10 years. In general, the minimum monthly payment is $50.

Veterans Administration Benefits are available to veterans of the armed services. To quality for VA benefits, veterans must apply online at www.gibill.va.gov. All students must complete the MMCC Admissions Application and then contact the MMCC VA Certifying Official. To ensure prompt receipt of VA payments, veterans must be registered for classes at least 30 days prior to start of each semester. To be eligible for maximum benefits, veterans must enroll full time each semester. Students enrolled less than full time are eligible for prorated payments. Veterans who have attended other schools beyond high school must have an official transcript from their previous school(s) sent to the MMCC Office of Enrollment Services for evaluation of possible transfer credit(s). MMCC will notify the US Department of Veterans Affairs and the veteran, of the credit(s) granted. In accordance with VA guidelines, veterans must make satisfactory academic progress towards their degree. Veterans not meeting the minimum standards of the MMCC Financial Aid Satisfactory Academic Progress Policy will no longer be eligible to receive VA benefits. Veterans who have previously received VA benefits at other institutions must complete the “Change of Study/Program” form.

Michigan Children of Veterans Tuition Grant: Dependent children of deceased or disabled veterans whose injuries were a result of military service may be eligible for VA Benefits. Children must be between the ages of 18 and 23. They must be enrolled at least half-time and the amount will depend on enrollment. Applications may be obtained from the Financial Aid Office. Students that are covered under any of the veteran’s programs must contact the Financial Aid Office each semester.

OTHER FINANCIAL AID PROGRAMS

Scholarship applications are available in the MMCC financial aid office and on the MMCC website. Students may apply for any and all scholarships they believe they may be eligible for. Information about other scholarships is available through the MMCC Financial Aid Office.

Beaverton Alumni Association Award: This $500 scholarship ($250 per semester for 2 semesters) will be awarded to a Beaverton High School graduating senior
who has a parent or grandparent who also graduated from Beaverton High School. 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 where he or she will be a full-time student (12 credit hours or more).

**Bernard F. & Melissa Ann Bailey Family Fund:** This scholarship is awarded to applicants who have been accepted into an accredited clinical health care curriculum and maintain a cumulative GPA of 3.0 or higher. Recipient must be a resident of the mid-Michigan area: Arenac, Bay, Clare, Gladwin, Gratiot, Isabella, Midland, Montcalm, Ogemaw, Osceola, Roscommon, or Saginaw County. Applications are accepted from November 1 to March 15 and applicants must apply each year.

**Bureau of Indian

Affairs:** Grants and tuition waivers 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.

**Bicknell Family Nursing Scholarship:** This $1,000 per year scholarship is awarded to a full-time student pursuing a Nursing degree. Additionally, the student must demonstrate financial need, have a minimum GPA of 3.3, and live in either Clare, Gladwin, or Midland Counties.

**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 Michigan Community Hospital will be given first priority if all other qualifications are equal.

**Chemistry Catalyst Scholarship:** This scholarship is awarded for two consecutive semesters to a student who is majoring in Chemistry. Stipends of $250 per year are awarded. Criteria for awarding is based on GPA and the number of Science/Math courses successfully completed.

**Computer Information Systems Academic Scholarship:** A $500 ($250 per consecutive semester in one academic year) scholarship will be awarded to a MMCC student pursuing a Associates Degree in Computer Information Systems who has a minimum 3.0 GPA and has completed a minimum of 12 MMCC credits. Preference will be given but is not limited to students from Harrison High School. The student shall receive $250 per semester provided a full-time status and overall 3.0 GPA is maintained.

**Dan & Genevieve McDonald Excellence in Nursing Scholarship:** This $1,000 one academic year scholarship ($500 per consecutive semester) 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 High School graduate and a recent Farwell High School graduate with a minimum 2.0 or better high school GPA. Additionally, the candidates must demonstrate some financial need and enroll in an Associate degree program at MMCC. This award of $600 per semester is renewable for up to four consecutive semesters provided the student maintains a 2.0 GPA & attends MMCC full-time (12 credit hours or more).

**Federal Broach Scholarship:** This $500 scholarship ($250 per semester) is 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 full-time (12 credit hours or more) in one of the following programs at MMCC: Accounting, Computer Information Systems, Management & Marketing, or Business Information Systems.

**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 scholarship ($200 per semester) is awarded to a Harrison High School senior. Preference will be given to students who are not recipients of other financial aid and who are students of literature or theater. Students maintaining a minimum 2.0 GPA may receive the scholarship for two consecutive semesters.

**Geoffrey A. Sweeney Memorial Scholarship:** This $200 scholarship will be awarded to a high school senior from Coleman High School who has a minimum 2.0 GPA and enrolls at MMCC for the following fall semester. Depending on the fund balance up to two scholarships may be awarded per year.

**Geoffrey A. Cotter Memorial Scholarship:** This $1,200 scholarship is awarded to a high school graduate from Isabella County with a cumulative GPA of 2.0 or better. The recipient of this scholarship must be a full-time student (12 credit hours or more) and enrolled in an allied health program.

**HRA Academic Scholarship:** This scholarship, in the amount of $250 per semester/session (for up to two semesters/sessions) is awarded to students who are in the HRA program, have a minimum 3.0 GPA and have completed at least 12 credit hours. To maintain this scholarship, the student must have a full-time enrollment status (12 credit hours or more), & continue in the HRA program with a minimum 3.0 GPA.
Isabella Bank/Cynthia A. Brownson Scholarship for Women in Business: This scholarship, in the amount of $500 is offered to women pursuing an Associate degree in Business Administration, Management and Marketing, Small Business Management or Accounting and who reside in Isabella, Clare, or Mecosta County. To be eligible, the student must have a current college GPA of 2.5 or higher. This scholarship is not renewable.

Janice A. Langdon Scholarship: A $1,000 scholarship ($500 per consecutive semester in one academic year) will be awarded to an MMCC student who has a minimum 3.0 GPA and has been accepted into the LPN program. The recipient shall receive $500 per semester provided he/she maintain full-time status (12 credit hours or more) and an overall 2.7 GPA.

Janice E. Haskin Memorial Award: This $1,000 award ($500 per semester for up to four semesters) will be awarded to a Clare County high school graduate with a minimum 2.0 high school grade point average or better who is residing in Clare County. Additionally, the candidate must enroll full-time in an associate degree program in any health related field at MMCC. This award of $500 per semester 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 $1,000 per year scholarship ($500 per semester) is awarded to a student pursuing an Associate degree at MMCC. Additionally, the student must demonstrate financial need, have a minimum 3.0 high school or college GPA & maintain a minimum 3.0 college GPA. Preference will be given to students who reside in Isabella County, attend full time, and major in a health career program. This scholarship is renewable for an additional five consecutive semesters.

James & Sharon Manning Scholarship: This scholarship, in the amount of $1,000 per year ($500 per semester) 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. Preference will be given to Gladwin or Clare County Residents.

Jean Willis BIS Scholarship: A $300 scholarship to a full time student who resides in the College's district. The student must have a minimum GPA of 3.0 and be majoring in Business Information Systems, Medical Secretary, Legal Secretary, Medical Transcriptionist.

Lickyly Chemistry Scholarship: This scholarship is awarded for two consecutive semesters to a student who is majoring in Chemistry. Stipends of $800 per year are awarded. Criteria for awarding is based on GPA and the number of Science/Math courses successfully completed.

Mark E. Wilson Scholarship: This $500 scholarship ($250 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 enrolls in MMCC’s accounting program. The recipient must maintain a 3.0 GPA and be enrolled as a full-time student (12 credit hours or more).

Michael A. Stuart Scholarship: The Stuart Endowment was established to support scholarships for deserving students. The fund is designated toward a scholarship for a full or part time student who is likely to use their education to succeed after graduation.

Ralph Myers Memorial Scholarship: This scholarship, in the amount of $250 per year will be awarded to a graduate of Gladwin High School who has a minimum 3.0 GPA from high school or college and is a full-time (12 credit hours or more) student enrolled in an Associate degree program. This one time $250 scholarship may be applied towards any semester.

MMCC Retiree’s Scholarship: This $500 scholarship provides assistance to academically promising students who are involved in their community and have a demonstrated financial need.

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.

North Woods Nursing Center Memorial Scholarship: This $250 scholarship is awarded each semester to an employee of North Woods Nursing Center pursuing a health-related degree at MMCC. The student must be currently taking 4 or more credits and have a GPA of 2.5 or higher.

Vocational Education Assistance Program: The Carl D. Perkins Grant 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 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. Funds may be available for educational expenses including tuition, fees, books, transportation, child care, etc.

**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 to continue this scholarship & must also maintain a 3.5 college GPA to receive the scholarship for a second semester.

**Rebecca & Harry Goldberg Scholarship:** One $1,000 scholarship ($500 per semester) is awarded to one full-time student and a $500 scholarship ($250 per semester) is awarded to one part-time student who is pursuing studies in Early Childhood Education. This scholarship may be used for tuition, fees and books. To be eligible, a student must be enrolled part-time (6 to 11 credit hours) to full-time (12 or more credit hours) in an Early Childhood Education program at MMCC and have a minimum 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.

**Tandem Transport Scholarship:** A $500 scholarship ($250 per semester) is awarded to a new student to MMCC who demonstrates financial need for one year (students may reapply for a 2nd year). Student must be a resident of the Clare-Gladwin Regional Education School District, have a background in agriculture and or 4-H participation. Student must maintain a minimum 2.5 overall GPA and be enrolled full-time. Application to this scholarship requires a composition (no more than 500 words). In your composition, please address each of the following: Educational, Community, Career goals and interests, and Agricultural and/or 4-H affiliation.

**Thomas Grabmeyer MC² 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 Success, and the MC² President or MC² Advisor will make award decisions. This scholarship honoring the memory of Thomas Grabmeyer, a former MMCC Librarian, is sponsored by MMCC’s Campus Council (MC²).

**The Christopher Smith & Estell Bergey Smith Award:** This award amount varies and provides funding for students with unique circumstances that are not always accounted for in federal and state aid programs as follows:

1. **First time Veterans:** A one semester award for recently discharged veterans who are enrolling at MMCC but do not have their Veterans Education Benefits established yet. To qualify the veteran must have been honorably discharged from active duty in the last 12 months and demonstrate financial need.

2. **Students with exceptional circumstances are eligible for a one semester award if they have met with obstacles that prevent them from qualifying for other financial aid sufficient to cover expenses. The award is limited to a maximum of 6 credits hours of tuition expense and students must demonstrate financial need.**

**Witbeck Award:** This award is offered to one resident of Beaverton, Clare, Farwell, Gladwin or Harrison School district who possesses either a high school diploma or GED. The award is for full tuition (12 credit hours per semester), 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 Witbeck’s 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 contact hour.

In-state tuition will be granted to an active duty armed forces member, spouse or dependent child. Once the student qualifies for in-state tuition, that status will continue while the student stays enrolled in the same degree program at MMCC. The in-state tuition rate would remain in effect even if the student’s military spouse or parents are transferred out of Michigan.

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 appropriations laws, a student’s residency must be verified each semester. To accomplish this, informational postcards will be mailed to the student’s address on our system using the “POSTMASTER DO NOT FORWARD” label. If a postcard is return to MMCC because the mail is undeliverable, future registrations will be billed at the out-of-district rate until the student proves residency.

**Contact Hour(s):** As of the summer 2002 session students will be charged tuition on contact hours instead of academic credit hours.

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

- **BIO.101 4 credits (3 lecture + 2 lab)** 3+2 = 5 contact hours

The exceptions are: 1) a cap of 15 contact 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 BIS. For example: CIS.100 formerly reported 3 credits (3 lecture + 3 lab) now is adjusted to 4.5(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 Academic Support Center (ASC). (A complete listing of fees is available in the ASC).

Course Fees: Such fees are charged for selected courses to defray the cost of special equipment, facilities, materials and/or malpractice insurance.

**Enrollment Fee:** An Enrollment Fee is required for each session with the amount based upon total contact 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)
- Enrollment Fee: $25 (5.9 contact hours or less)

**Non-Resident Student Facility Fee:** A $10 per contact hour facility fee is charged to non-resident students.

**Student Activity Fee:** A $20 fee is charged all students enrolling in 3 or more credit hours. The fee is non-refundable unless a total withdrawal is made within the 100% refund period.

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

**PERCENT OF TUITION AND FEE REFUND SCHEDULE**

<table>
<thead>
<tr>
<th>Calendar days</th>
<th>1</th>
<th>2</th>
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<th>4</th>
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</tbody>
</table>

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

Students that withdraw from all classes prior to completing more than 60% of a semester will have their eligibility for aid recalculated based on the percent of the semester completed. For example, a student who withdraws and completes 30% of the semester will have “earned” only 30% of any Title IV aid they are entitled to. The school and/or the student must return the remaining 70%. Students considering withdrawal from all classes PRIOR to completing 60% of the semester are strongly encouraged to contact the Financial Aid Office to determine how withdrawal will affect current and future financial aid.

1. This policy applies to all students who withdraw, drop out, unofficially withdraw, receive all F’s, receive all F’s and/or W’s, or are expelled from MMCC and receive financial aid from Title IV funds:
   A. Title IV Funds include Federal financial aid programs authorized under the Higher Education Act of 1965, as amended, and includes the following programs: Family Federal Education Loans including Stafford Unsubsidized, Stafford Subsidized, and PLUS Loans, Federal Pell Grants, Federal SEOG, and Academic Competitiveness Grant.
   B. A student’s official withdrawal date is the date the student began the institution’s withdrawal process as defined in the MMCC Catalog and Class Schedule Booklet, officially notified the institution of intent to withdraw, or the midpoint of the period for a student who leaves without notifying the institution, or the student’s last date of attendance at a documented academically related activity.

2. 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 60% of the semester is complete.
   A. 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. PLUS - Parent Loans to Undergraduate*
      4. Federal Pell Grant
      5. Academic Competitiveness Grant
      6. Federal SEOG
*Loan amounts are returned within the terms of the promissory note.
   3. A notice of refund calculation and a detailed statement of charges owed to the college and/or the federal aid program will be sent to the student’s home address following the withdrawal.
   A. Students are responsible for any portion of their institutional charges that the college has to return to the federal aid program. Repayment arrangements may be made with the MMCC Business Office within thirty days to avoid further action.
   B. Students who owe unearned grant aid directly to the federal program may repay the college within thirty days to avoid losing Title IV eligibility and being turned over to the U.S. Department of Education (FSA) Collection Division.

4. If you did not receive all of the funds that you earned, you may be due a post-withdrawal disbursement. If the post-withdrawal disbursement includes loan funds, you must notify MMCC that you which to receive the loan funds. MMCC may automatically use all or a portion of your post-withdrawal disbursement including loan funds, if you accept them for current year tuition and fees. For all other school charges, the school needs your permission to use the post-withdrawal disbursement. If you do not give your permission, you will be offered the funds. However, it may be in your best interest to allow MMCC to keep the funds to reduce your debt.

5. 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.

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.

TUITION PAY 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 Nelnet Business Solutions 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 NBS at (800) 609-8056.

OUTSTANDING BILLS

Any student with an outstanding bill with the College 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

MMCC Bookstore purchases are payable by using cash, check, credit card or by using Financial Aid. Financial Aid includes: Federal Pell Grants, student loans, third party sponsorships, Michigan Works, VA funding and others. All aid will be verified by MMCC’s Financial Aid Office before any bookstore charges will be allowed.

COLLEGE PROGRAMS

Mid Michigan Community College offers training credentials, certificates and associate degrees. Also available are transfer programs and career programs. Transfer programs are planned for students intending to transfer credits earned at Mid Michigan Community College to baccalaureate-degree-granting institutions. Transfer guides for many institutions are available in the counseling/advising offices. Students planning to transfer are strongly encouraged to consult early with the transfer receiving institution for specific course selection.

The College is a signatory to the Michigan Association of Collegiate Registrars and Admissions Officers agreement (MACRAO). Students may meet requirements without obtaining an Associate degree.

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.

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 w/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 with the exception of math. 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 with the exception of math.

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 104, 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, MID 103, 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

VIII Professional Development

MACRAO AGREEMENT

The College is a signatory 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 signatories* 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 fulfilled 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 signatories 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.
PROGRAMS OF STUDY INDEX

Associate Degree (AD)
Certificate of Achievement (CA)
Credentials (TC)

Associate Degrees:
Accounting (AD) ................................................................. 27
Accounting: Northwood (AD) .................................................. 28
Arts (AD) ............................................................................. 29
Associate in Baccalaureate Studies (AD) .............................. 30
Automotive Technology (AD) ............................................... 31
Biography (AD) ................................................................... 34
Business Administration (AD) .............................................. 35
Business Information Systems (AD) .................................... 36
Chemistry (AD) ................................................................... 38
Communication Studies (AD) ............................................. 39
Computer Information Systems - Networking (AD) ............ 41
Computer Information Systems - Programming (AD) ....... 41
Criminal Justice - Corrections (AD) ................................... 42
Criminal Justice - Law Enforcement - 4 yr. Transfer (AD) ...... 43
Criminal Justice - Law Enforcement - Pre-Service (AD) ...... 44
Early Childhood Education (AD) ........................................ 45
Elementary Education – CMU (AD) ................................. 47
Emergency Medical Services (AD) ..................................... 48
Entrepreneurship – CMU (AD) ............................................ 49
Fire Science (AD) ............................................................... 50
General Studies (AD) ......................................................... 51
General Technology (AD) .................................................. 52
Graphic Design (AD) ......................................................... 53
Heating/Refrigeration/Air Conditioning (AD) ....................... 54
Legal Secretary/Office Professional (AD) ......................... 60
Management and Marketing (AD) .................................... 62
Mathematics (AD) ............................................................. 63
Medical Assistant (AD) ...................................................... 64
Medical Secretary/Office Professional (AD) ...................... 66
Medical Transcriptionist (AD) .......................................... 68
Nursing Degree (Laddered): (Program Levels I & II) (AD) ...... 69
Nursing (Part-Time) (AD) .................................................. 72
Nursing (Step-Up) (AD) ..................................................... 74
Physical Therapist Assistant (AD) ..................................... 77
Pre-Engineering (AD) ......................................................... 79
Psychology (AD) ............................................................... 80
Radiography (AD) ............................................................ 81
Registered Health Information Technologist (AD) ............ 84
Secondary Education – CMU (AD) ................................. 85
Science (AD) ..................................................................... 86
Small Business Management (AD) .................................... 87
Sociology (AD).............................................................................................................................. 88
Theatre (AD).................................................................................................................................... 89
Visual Arts (AD).................................................................................................................................. 90

Certificate of Achievement:
Automotive Service Mechanic (Year) (CA) .................................................................................. 32
Automotive Technology (2 Year) (CA) ............................................................................................. 33
Business Information Systems (CA)................................................................................................. 37
Computer Assisted Drafting (CAD) (CA) ......................................................................................... 40
Early Childhood Education (CA)....................................................................................................... 46
Heating/Refrigeration/Air Conditioning (CA) .................................................................................... 56
Machine Tool Operation (CA) .......................................................................................................... 61
Nursing (Practical Nursing - Program Level I) (CA) ......................................................................... 69
Welding Technology (CA).................................................................................................................. 91

Training Credentials:
Heating/Electricity Specialist (TC) .................................................................................................... 57
Legal Office Specialist (TC) .............................................................................................................. 59
Medical Coder Biller (TC) ................................................................................................................. 65
Medical Office Specialist (TC) ........................................................................................................... 67
Pharmacy Technician (TC) ................................................................................................................ 76
Records Information Management Specialist (TC) ............................................................................ 83
Refrigeration/Air Conditioning Specialist (TC) .................................................................................. 58

MACRAO ........................................................................................................................................ 92
**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.

**Prerequisite to the Program:** BIS 140 (3) Beginning Word Processing/Keyboarding OR equivalent.

### First Semester (Fall) - 16 credit hours

<table>
<thead>
<tr>
<th>Required:</th>
<th>ACC 201 (4) Financial Accounting</th>
<th>@Prerequisites</th>
<th>Completed</th>
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<tbody>
<tr>
<td></td>
<td>BUS 153 (3) Business Law</td>
<td>(a)</td>
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<td>CIS 100 (3) Intro. to Computer Processing Systems</td>
<td>(b)</td>
<td>________</td>
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<td>ENG 111 (3) Freshman English Composition</td>
<td>(c)</td>
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<td>SPE 101 (3) Fundamentals of Communication OR SPE 257 (3) Public Speaking</td>
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### Second Semester (Winter) - 16 credit hours

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<thead>
<tr>
<th>Required:</th>
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<th>@Prerequisites</th>
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<tbody>
<tr>
<td></td>
<td>BUS 255 (3) Entrepreneurial Finance</td>
<td>(e)</td>
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<td>CIS 130 (3) Applications with Microcomputers</td>
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<td>BUS 151 (3) Introduction to Business Issues</td>
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<td>MAT 116 (3) Business Mathematics I</td>
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### Third Semester (Fall) - 18 credit hours

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<tr>
<td></td>
<td>ACC 251 (3) Tax Accounting I</td>
<td>(i)</td>
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<td>ACC 261 (3) Computerized Accounting</td>
<td>(j)</td>
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<td></td>
<td>CIS 260 (3) Systems Analysis</td>
<td>(k)</td>
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<td>SCI 200 (3) Science, Technology, &amp; Society</td>
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<td>SSC 200 (3) The Social Sciences &amp; Contemporary America</td>
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### Fourth Semester (Winter) - 15 credit hours

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<th>Required:</th>
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<td>ACC 252 (3) Tax Accounting II</td>
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<td>ACC 280 (3) Co-op (Accounting)</td>
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<td>BIS 264 (3) Business Communications II</td>
<td>(p)</td>
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<td>HUM 200 (3) Modernity &amp; Culture</td>
<td>(q)</td>
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</tbody>
</table>

**@ PREREQUISITES**

- a. Touch keyboarding skills recommended
- b. Student must meet with an advisor to register
- c. Grade of “C” or better in ACC 201
- d. CIS 100 with a “C” or better
- e. Grade of “C” or better in MAT 105 or equivalent
- f. ACC 201 recommended
- g. CIS 130, ACC 211
- h. CIS 100
- i. Level 1 General Education: CIS 100, MAT, ENG 111, and SPE 101-or-SPE 257
- j. ACC 211
- k. ACC 251
- l. Completed at least 45 credit hours into the Accounting Program
- m. BIS 164 or ENG 111
ASSOCIATE IN BUSINESS DEGREE:

ACCOUNTING - NORTHWOOD
(Transfer Program to Northwood University)

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.

**Prerequisite to the Program:** BIS 140 (3) Beginning Word Processing/Keyboarding OR equivalent.

<table>
<thead>
<tr>
<th>First Semester (Fall) - 16 credit hours</th>
<th>@Prerequisites</th>
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<tbody>
<tr>
<td>Required: ACC 201 (4) Financial Accounting</td>
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<tr>
<td>BUS 153 (3) Business Law</td>
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<td>SPE 101 (3) Fundamentals of Communications OR</td>
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<tr>
<td>SPE 257 (3) Public Speaking</td>
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</table>

<table>
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<tr>
<th>Second Semester (Winter) - 16 credit hours</th>
<th>@Prerequisites</th>
<th>Completed</th>
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</thead>
<tbody>
<tr>
<td>Required: ACC 211 (4) Managerial Accounting (c)</td>
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<tr>
<td>BUS 122 (3) Management Theory and Practice</td>
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<tr>
<td>BUS 162 (3) Principles of Marketing</td>
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<tr>
<td>CIS 130 (3) Applications with Microcomputers (d)</td>
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<tr>
<td>MAT 212 (3) Introduction to Probability and Statistics (e)</td>
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<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Third Semester (Fall) - 18 credit hours</th>
<th>@Prerequisites</th>
<th>Completed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Required: ACC 205 (3) Payroll Accounting (f)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ACC 251 (3) Tax Accounting I (f)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ACC 261 (3) Computerized Accounting (g)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CIS 260 (3) Systems Analysis (h)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SCI 200 (3) Science, Technology, &amp; Society (i)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SSC 200 (3) The Social Sciences &amp; Contemporary America (i)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Fourth Semester (Winter) - 15 credit hours</th>
<th>@Prerequisites</th>
<th>Completed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Required: ACC 231 (3) Principles of Cost Accounting (j)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ACC 252 (3) Tax Accounting II (k)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ECO 201 (3) Principles of Economics (Macro)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BIS 264 (3) Business Communications II (l)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>HUM 200 (3) Modernity &amp; Culture (i)</td>
<td></td>
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</tr>
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</table>

<table>
<thead>
<tr>
<th>Fifth &amp; Sixth Semesters (Fall** &amp; Winter**) - 19 credit hours</th>
<th>@Prerequisites</th>
<th>Completed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Required: ECO 202 (3) Principles of Economics (Micro)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BUS 202 (3) Legal Environment of Business</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MAT 124 (5) Precalculus (m)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MAT 126 (5) Calculus I (n)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PHL 220 (3) Ethical Issues</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**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.

**@PREREQUISITES**

- a. Touch keyboarding skills recommended
- b. Student must meet with an advisor to register
- c. Grade of "C" or better in ACC 201
- d. CIS 100 with a grade of "C" or better
- e. Grade of "C" or better in ACC 201 recommended
- f. CIS 130, ACC 211
- g. CIS 100
- i. Level I Gen. Ed.: CIS 100, MAT, ENG 111, and SPE 101-or-SPE 257
- j. ACC 211
- k. ACC 251
- l. BIS 164 or ENG 111
- m. Grade of "C" or better in MAT 105 or equivalent
- n. Grade of "C" or better in MAT 124 or equivalent

28
## 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.

### Communication Skills (Group I) - 9 credit hours

<table>
<thead>
<tr>
<th>Required:</th>
<th>@Prerequisites</th>
<th>Completed</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENG 111*</td>
<td>(3) Freshman English Composition</td>
<td>(a)</td>
</tr>
<tr>
<td>ENG 222*</td>
<td>(3) Expository Writing &amp; Research</td>
<td>(b)</td>
</tr>
<tr>
<td>SPE 101*</td>
<td>(3) Fundamentals of Communication OR</td>
<td></td>
</tr>
<tr>
<td>SPE 257</td>
<td>(3) Public Speaking</td>
<td></td>
</tr>
</tbody>
</table>

### Science and Mathematics (Group II) - 12 credit hours

<table>
<thead>
<tr>
<th>Required:</th>
<th>@Prerequisites</th>
<th>Completed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Natural or Physical Science</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MAT 105</td>
<td>(3) (or higher) *</td>
<td></td>
</tr>
<tr>
<td>Elective</td>
<td>(2-4) Group II</td>
<td></td>
</tr>
<tr>
<td>SCI 200</td>
<td>(3) Science, Technology &amp; Society</td>
<td>(c)</td>
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</table>

### Social Sciences (Group III) - 15 credit hours

<table>
<thead>
<tr>
<th>Required:</th>
<th>@Prerequisites</th>
<th>Completed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electives</td>
<td>(15) Group III</td>
<td></td>
</tr>
<tr>
<td>(15 hours in 2 Social Science disciplines)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Humanities and Fine Arts (Group IV) - 12 credit hours

<table>
<thead>
<tr>
<th>Required:</th>
<th>@Prerequisites</th>
<th>Completed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electives</td>
<td>(12) Group IV</td>
<td></td>
</tr>
<tr>
<td>(12 hours of Humanities with at least 3 credits at the 200 level OR 9 hours of Humanities &amp; 3 hours Fine Arts, with at least 3 credits at the 200 level)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Required:</th>
<th>@Prerequisites</th>
<th>Completed</th>
</tr>
</thead>
<tbody>
<tr>
<td>CIS 100</td>
<td>(3) Intro to Information Processing Systems</td>
<td>(d)</td>
</tr>
</tbody>
</table>

### Electives - 11 credit hours

<table>
<thead>
<tr>
<th>Electives</th>
<th>@Prerequisites</th>
<th>Completed</th>
</tr>
</thead>
<tbody>
<tr>
<td>(11) Groups I, II, III, IV and VI. (maximum of 2 credit hours in Group VI)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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

### PREREQUISITES

a. Student must meet with an advisor to register
b. Grade of “C” or better in ENG 111
c. LEVEL I General Ed: CIS 100, MAT, ENG 111 and SPE 101-or-SPE 257
d. Touch keyboarding skills recommended
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.

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. Go to www.midmich.edu/abs for more information.

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
Required: 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
Required: Mathematics (104 or higher)
SCI 200 (3) Science, Technology, & Society

Social Sciences (Group III) - 3 credit hours
Required: SSC 200 (3) The Social Sciences & Contemporary America

Humanities and Fine Arts (Group IV) - 3 credit hours
Required: HUM 200 (3) Modernity & Culture

Applied Arts and Sciences (Group V) - 3 credit hours
Required: 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 MMCC and/or their transferring institution 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.

@PREREQUISITES
a. Student must meet with an advisor to register
b. Grade of “C” or better in ENG 111
c. LEVEL I General Ed: CIS 100, MAT, ENG 111 and SPE 101-or-SPE 257
d. Touch keyboarding skills recommended
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.

<table>
<thead>
<tr>
<th>FIRST SEMESTER (Fall) - 17.5 credit hours</th>
<th>@Prerequisites</th>
<th>Completed</th>
</tr>
</thead>
<tbody>
<tr>
<td>AMS 104 (2) Basic Automotive Electricity</td>
<td></td>
<td></td>
</tr>
<tr>
<td>AMS 110 (4.5) Engine Fundamentals and Overhaul</td>
<td></td>
<td></td>
</tr>
<tr>
<td>AMS 125 (5) Engine Performance I</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CIS 100 (3) Intro to Information Processing Systems</td>
<td>(a)</td>
<td></td>
</tr>
<tr>
<td>MAT 101 (3) Basic Mathematics</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SECOND SEMESTER (Winter) - 18 credit hours</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>AMS 116 (3) Electrical Systems I: Electrical Accessories</td>
<td>(b)</td>
</tr>
<tr>
<td>AMS 124 (4) Automotive Heating &amp; Air Conditioning</td>
<td></td>
</tr>
<tr>
<td>AMS 126 (5) Engine Performance II</td>
<td>(c)</td>
</tr>
<tr>
<td>ENG 111 (3) Freshman English Composition</td>
<td>(d)</td>
</tr>
<tr>
<td>SPE 101 (3) Fundamentals of Communication OR</td>
<td></td>
</tr>
<tr>
<td>SPE 257 (3) Public Speaking</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>THIRD SEMESTER (Fall) - 15 credit hours</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>AMS 205 (4) Steering &amp; Suspension Systems</td>
<td></td>
</tr>
<tr>
<td>AMS 206 (4) Brakes</td>
<td></td>
</tr>
<tr>
<td>AMS 223 (4) Electrical Systems II: Engine Electrical Systems</td>
<td></td>
</tr>
<tr>
<td>SCI 200 (3) Science, Technology &amp; Society</td>
<td>(e)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>FOURTH SEMESTER (Winter) - 18.5 credit hours</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>AMS 214 (4.5) Automatic Transmissions</td>
<td></td>
</tr>
<tr>
<td>AMS 222 (4) Manual Transmissions</td>
<td></td>
</tr>
<tr>
<td>AMS 232 (4) Automotive Co-op</td>
<td>(f)</td>
</tr>
<tr>
<td>HUM 200 (3) Modernity &amp; Culture</td>
<td>(e)</td>
</tr>
<tr>
<td>SSC 200 (3) The Social Sciences &amp; Contemporary America</td>
<td>(e)</td>
</tr>
</tbody>
</table>

@ PREREQUISITES

a. Touch keyboarding skills recommended
b. AMS 104 (may be taken concurrently) or Instructor approval.
c. AMS 104, AMS 125, OR State certified in engine tune-up area.
d. Student must meet with an advisor to register
e. LEVEL I General Ed: CIS 100, MAT, ENG 111 and SPE 101-or-SPE 257
f. Passed first, second, and third semester AMS courses with grade “C” or better. Permission of the Co-op Coordinator required. Professional tools required.
CERTIFICATE OF ACHIEVEMENT:

AUTOMOTIVE SERVICE MECHANIC
(1 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 35.5 credits is required to complete this program.

<table>
<thead>
<tr>
<th>FIRST SEMESTER (Fall) - 17.5 credit hours</th>
<th>@Prerequisites</th>
<th>Completed</th>
</tr>
</thead>
<tbody>
<tr>
<td>AMS 104 (2) Basic Automotive Electricity</td>
<td></td>
<td></td>
</tr>
<tr>
<td>AMS 110 (4.5) Engine Fundamentals &amp; Overhaul</td>
<td></td>
<td></td>
</tr>
<tr>
<td>AMS 125 (5) Engine Performance I</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CIS 100 (3) Introduction to Information Processing Systems</td>
<td>(a)</td>
<td></td>
</tr>
<tr>
<td>WLD 126 (3) Basic Welding I</td>
<td></td>
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</table>

<table>
<thead>
<tr>
<th>SECOND SEMESTER (Winter) - 18 credit hours</th>
<th>@Prerequisites</th>
<th>Completed</th>
</tr>
</thead>
<tbody>
<tr>
<td>AMS 116 (3) Electrical Systems I: Electrical Accessories</td>
<td>(b)</td>
<td></td>
</tr>
<tr>
<td>AMS 124 (4) Automotive Heating &amp; Air Conditioning</td>
<td></td>
<td></td>
</tr>
<tr>
<td>AMS 126 (5) Engine Performance II</td>
<td>(c)</td>
<td></td>
</tr>
<tr>
<td>ENG 111 (3) Freshman English Composition</td>
<td>(d)</td>
<td></td>
</tr>
<tr>
<td>MAT 101 (3) Basic Mathematics</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

@ PREREQUISITES

a. Touch keyboarding skills recommended
b. AMS 104 (may be taken concurrently) or Instructor approval
c. AMS 104, AMS 125, OR State certified in tune-up area
d. Student must meet with an advisor to register
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

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>@Prerequisites</th>
<th>Completed</th>
</tr>
</thead>
<tbody>
<tr>
<td>AMS 104</td>
<td>Basic Automotive Electricity</td>
<td></td>
<td></td>
</tr>
<tr>
<td>AMS 110</td>
<td>Engine Fundamentals &amp; Overhaul</td>
<td></td>
<td></td>
</tr>
<tr>
<td>AMS 125</td>
<td>Engine Performance I</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CIS 100</td>
<td>Intro to Information Processing Systems</td>
<td></td>
<td></td>
</tr>
<tr>
<td>WLD 126</td>
<td>Basic Welding I</td>
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</table>

### SECOND SEMESTER (Winter) - 18 credit hours

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>@Prerequisites</th>
<th>Completed</th>
</tr>
</thead>
<tbody>
<tr>
<td>AMS 116</td>
<td>Electrical Systems I: Electrical Accessories</td>
<td></td>
<td></td>
</tr>
<tr>
<td>AMS 124</td>
<td>Automotive Heating &amp; Air Conditioning</td>
<td></td>
<td></td>
</tr>
<tr>
<td>AMS 126</td>
<td>Engine Performance II</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ENG 111</td>
<td>Freshman English Composition</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MAT 101</td>
<td>Basic Mathematics</td>
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</table>

### THIRD SEMESTER (Fall) - 15 credit hours

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>@Prerequisites</th>
<th>Completed</th>
</tr>
</thead>
<tbody>
<tr>
<td>AMS 205</td>
<td>Steering &amp; Suspension Systems</td>
<td></td>
<td></td>
</tr>
<tr>
<td>AMS 206</td>
<td>Brakes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>AMS 223</td>
<td>Electrical Systems II: Engine Electrical Systems</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SPE 101</td>
<td>Fundamentals of Communication OR</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SPE 257</td>
<td>Public Speaking</td>
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</table>

### FOURTH SEMESTER (Winter) - 12.5 credit hours

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>@Prerequisites</th>
<th>Completed</th>
</tr>
</thead>
<tbody>
<tr>
<td>AMS 214</td>
<td>Automatic Transmissions</td>
<td></td>
<td></td>
</tr>
<tr>
<td>AMS 222</td>
<td>Manual Transmissions</td>
<td></td>
<td></td>
</tr>
<tr>
<td>AMS 232</td>
<td>Automotive Co-op</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

---

@ PREREQUISITES

a. Touch keyboarding skills recommended
b. AMS 104 (may be taken concurrently) or Instructor approval.
c. AMS 104, AMS 125, OR State certified in engine tune-up area.
d. Student must meet with an advisor to register
e. Passed first, second, and third semester AMS courses with grade “C” or better. Permission of the Co-op Coordinator required. Professional tools required.
ASSOCIATE IN SCIENCE DEGREE:

BIOLOGY

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.

FIRST SEMESTER (Fall) - 18 credit hours

<table>
<thead>
<tr>
<th>Course</th>
<th>Credit Hours</th>
<th>Prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIO 101</td>
<td>4</td>
<td>BIO 101</td>
</tr>
<tr>
<td>ENG 111</td>
<td>3</td>
<td>Freshman English Composition (a)</td>
</tr>
<tr>
<td>MAT 124</td>
<td>5</td>
<td>Precalculus (b)</td>
</tr>
<tr>
<td>Elective</td>
<td>3</td>
<td>Group IV</td>
</tr>
<tr>
<td>SPE 101</td>
<td>3</td>
<td>Fundamentals of Communication OR SPE 257 (3) Public Speaking</td>
</tr>
</tbody>
</table>

SECOND SEMESTER (Winter) - 16 credit hours

<table>
<thead>
<tr>
<th>Course</th>
<th>Credit Hours</th>
<th>Prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIO 203</td>
<td>4</td>
<td>BIO 101</td>
</tr>
<tr>
<td>CIS 100</td>
<td>3</td>
<td>Intro to Information Processing Systems (d)</td>
</tr>
<tr>
<td>Electives</td>
<td>6</td>
<td>Group III</td>
</tr>
</tbody>
</table>

THIRD SEMESTER (Fall) - 16 credit hours

<table>
<thead>
<tr>
<th>Course</th>
<th>Credit Hours</th>
<th>Prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIO 201</td>
<td>4</td>
<td>BIO 101 OR a college course equivalent to BIO 101 OR a grade of “B” or better, within the past 3 years, in a High School Advanced Placement Biology course.</td>
</tr>
<tr>
<td>CHM 111</td>
<td>4</td>
<td>General College Chemistry I (k)</td>
</tr>
<tr>
<td>ENG 222</td>
<td>3</td>
<td>Expository Writing &amp; Research (e)</td>
</tr>
<tr>
<td>PHY 105</td>
<td>5</td>
<td>Introductory College Physics I (f)</td>
</tr>
</tbody>
</table>

FOURTH SEMESTER (Winter) - 14 credit hours

<table>
<thead>
<tr>
<th>Course</th>
<th>Credit Hours</th>
<th>Prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIO 210</td>
<td>4</td>
<td>PHY 105</td>
</tr>
<tr>
<td>CHM 112</td>
<td>4</td>
<td>General College Chemistry II (h)</td>
</tr>
<tr>
<td>HUM 200</td>
<td>3</td>
<td>Modernity &amp; Culture (i)</td>
</tr>
<tr>
<td>SSC 200</td>
<td>3</td>
<td>The Social Sciences &amp; Contemporary America (i)</td>
</tr>
</tbody>
</table>

OPTIONAL* PHY 106 (5) Introductory College Physics II (j)

I. 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 course 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.

@ PREREQUISITES

a. Student must meet with an advisor to register
b. Grade of “C” or better in MAT 105 OR equivalent
c. BIO 101
d. Touch keyboarding skills recommended
e. Grade of “C” or better in ENG 111
f. Corequisite: MAT 124 OR equivalent
g. BIO 101 OR a college course equivalent to BIO 101 OR a grade of “B” or better, within the past 3 years, in a High School Advanced Placement Biology course.
h. CHM 111
i. LEVEL I General Ed: CIS 100, MAT, ENG 111 and SPE 101-or-SPE 257
j. PHY 105
k. CHM 105 OR one year high school chemistry OR equivalent MAT 105 (concurrent) OR two years of high school algebra OR equivalent
# Associate in Business Administration 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.

## Communication Skills (Group I) - 9 credit hours

<table>
<thead>
<tr>
<th>Required</th>
<th>@Prerequisites</th>
<th>Completed</th>
</tr>
</thead>
<tbody>
<tr>
<td>EN 111</td>
<td>(3) Freshman English Composition (a)</td>
<td></td>
</tr>
<tr>
<td>EN 222</td>
<td>(3) Expository Writing &amp; Research (b)</td>
<td></td>
</tr>
<tr>
<td>SPE 101</td>
<td>(3) Fundamentals of Communication OR SPE 257 (3) Public Speaking</td>
<td></td>
</tr>
</tbody>
</table>

## Science and Mathematics (Group II) – 9-11 credit hours

<table>
<thead>
<tr>
<th>Required</th>
<th>@Prerequisites</th>
<th>Completed</th>
</tr>
</thead>
<tbody>
<tr>
<td>SCI 200</td>
<td>(3) Science, Technology &amp; Society (c)</td>
<td></td>
</tr>
<tr>
<td>MAT 212</td>
<td>(3) Intro to Probability &amp; Statistics (d)</td>
<td></td>
</tr>
<tr>
<td>MAT 116*</td>
<td>(3) Business Mathematics I OR (e)</td>
<td></td>
</tr>
<tr>
<td>MAT 124</td>
<td>(5) Precalculus (e)</td>
<td></td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Required</th>
<th>@Prerequisites</th>
<th>Completed</th>
</tr>
</thead>
<tbody>
<tr>
<td>ECO 201</td>
<td>(3) Principles of Economics (Macro) (c)</td>
<td></td>
</tr>
<tr>
<td>ECO 202</td>
<td>(3) Principles of Economics (Micro)</td>
<td></td>
</tr>
<tr>
<td>Elective</td>
<td>(3) Group III - other than ECO</td>
<td></td>
</tr>
</tbody>
</table>

## Humanities and Fine Arts (Group IV) - 9 credit hours - (minimum of 2 disciplines)

<table>
<thead>
<tr>
<th>Required</th>
<th>@Prerequisites</th>
<th>Completed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electives</td>
<td>(9) Group IV</td>
<td></td>
</tr>
</tbody>
</table>

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) - 17 credit hours

<table>
<thead>
<tr>
<th>Required</th>
<th>@Prerequisites</th>
<th>Completed</th>
</tr>
</thead>
<tbody>
<tr>
<td>CIS 100</td>
<td>(3) Intro to Information Processing Systems (f)</td>
<td></td>
</tr>
<tr>
<td>Electives*</td>
<td>(14) ACC, BUS, CIS, or BIS only</td>
<td></td>
</tr>
</tbody>
</table>

## Electives – 7-9 credit hours

<table>
<thead>
<tr>
<th>Electives</th>
<th>@Prerequisites</th>
<th>Completed</th>
</tr>
</thead>
<tbody>
<tr>
<td>(4) Groups I, II, III, IV, V (ACC, BUS, CIS or BIS) and VI. (maximum of 2 credit hours in Group VI.)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* Requirement varies with transferring school - please check with an advisor.

### @PREREQUISITES

- a. Student must meet with an advisor to register
- b. Grade of “C” or better in EN 111
- c. LEVEL I General Ed: CIS 100, MAT, EN 111 and SPE 101-or-SPE 257
- d. Grade of “C” or better in MAT 104 OR equivalent
- e. Grade of “C” or better in MAT 105 OR equivalent
- f. Touch keyboarding skills recommended
**ASSOCIATE IN BUSINESS DEGREE:**

**BUSINESS INFORMATION SYSTEMS**

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:** BIS 140 (3) Beginning Word Processing/Keyboarding OR equivalent OR concurrent enrollment.

**FIRST SEMESTER (Fall) - 15 credit hours**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
<th>Title</th>
<th>Prerequisites</th>
<th>Completed</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIS 120</td>
<td>3</td>
<td>Office Mathematics</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BIS 130</td>
<td>3</td>
<td>Intro to Business Information Systems</td>
<td>(b)</td>
<td></td>
</tr>
<tr>
<td>BIS 164</td>
<td>3</td>
<td>Business Communications I</td>
<td>(o)</td>
<td></td>
</tr>
<tr>
<td>ENG 111</td>
<td>3</td>
<td>Freshman English Composition</td>
<td>(a)</td>
<td></td>
</tr>
<tr>
<td>SPE 101</td>
<td>3</td>
<td>Fundamentals of Communication OR</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SPE 257</td>
<td>3</td>
<td>Public Speaking</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**SECOND SEMESTER (Winter) - 18 credit hours**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
<th>Title</th>
<th>Prerequisites</th>
<th>Completed</th>
</tr>
</thead>
<tbody>
<tr>
<td>BUS 151</td>
<td>3</td>
<td>Introduction to Business Issues</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BUS 153</td>
<td>3</td>
<td>Business Law</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CIS 130</td>
<td>3</td>
<td>Applications With Microcomputers</td>
<td>(c)</td>
<td></td>
</tr>
<tr>
<td>BIS 136</td>
<td>3</td>
<td>Terminology and Proofreading</td>
<td>(d)</td>
<td></td>
</tr>
<tr>
<td>BIS 142</td>
<td>3</td>
<td>Intermediate Word Processing/Keyboarding</td>
<td>(e)</td>
<td></td>
</tr>
<tr>
<td>BIS 200</td>
<td>3</td>
<td>Advanced Word Processing Applications</td>
<td>(f)</td>
<td></td>
</tr>
</tbody>
</table>

**THIRD SEMESTER (Fall) - 18 credit hours**

* BIS 230 (3) Transcription I
* BIS 240 (3) Advanced Word Processing/Keyboarding
* CIS 100 with a grade of “C” or better
* BIS 250 (3) Records Management
* BIS 264 (3) Business Communications II
* HUM 200 (3) Modernity & Culture
* SCI 200 (3) Science, Technology & Society

**FOURTH SEMESTER (Winter) - 17 credit hours**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
<th>Title</th>
<th>Prerequisites</th>
<th>Completed</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIS 127</td>
<td>4</td>
<td>Applied Office Accounting</td>
<td>(j)</td>
<td></td>
</tr>
<tr>
<td>BIS 234</td>
<td>3</td>
<td>Transcription II</td>
<td>(l)</td>
<td></td>
</tr>
<tr>
<td>BIS 254</td>
<td>3</td>
<td>Office Procedures</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BIS 260</td>
<td>4</td>
<td>Co-op (General)</td>
<td>(n)</td>
<td></td>
</tr>
<tr>
<td>SSC 200</td>
<td>3</td>
<td>The Social Sciences &amp; Contemporary America</td>
<td>(o)</td>
<td></td>
</tr>
</tbody>
</table>

*BIS 130 is highly recommended for the Business Information Systems, Legal Secretary, and Medical Secretary programs. However, it is an acceptable substitute if students have already taken CIS 100.

**@ PREREQUISITES**

a. Student must meet with an advisor to register
b. BIS 100 OR knowledge of keyboarding: Corequisite: BIS 140
c. CIS 100 with a grade of “C” or better
d. BIS 164, ENG 111 (may be corequisite)
e. BIS 140 OR equivalent
f. BIS 140 OR equivalent, BIS 130 recommended
g. ENG 111, BIS 130, BIS 136, BIS 142, BIS 164
h. ENG 111, BIS 136, BIS 142, BIS 200
i. BIS 130 or CIS 100, BIS 140 OR equivalent
j. BIS 120 or for Medical Assistant program only – MAT 104
k. BIS 164 or ENG 111
l. BIS 200, BIS 230, BIS 240
m. Completed the first three semesters AND approval of Instructor and MMCC Co-op Coordinator to be placed in a training site.

# PROGRAM GUIDES

2009/2010 Revised 03/16/09
420.05 BIS.AB
Certificate of Achievement:

**Business Information Systems**

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>
<th>Prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIS 120</td>
<td>3</td>
<td>Office Mathematics</td>
<td>(a)</td>
</tr>
<tr>
<td>BIS 130</td>
<td>3</td>
<td>Intro to Business Information Systems</td>
<td></td>
</tr>
<tr>
<td>BIS 140</td>
<td>3</td>
<td>Beginning Word Processing/Keyboarding</td>
<td></td>
</tr>
<tr>
<td>BIS 164</td>
<td>3</td>
<td>Business Communications I</td>
<td></td>
</tr>
<tr>
<td>BIS 250</td>
<td>3</td>
<td>Records Management</td>
<td></td>
</tr>
</tbody>
</table>

### SECOND SEMESTER (Winter) - 16 credit hours

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
<th>Description</th>
<th>Prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACC 201</td>
<td>4</td>
<td>Financial Accounting</td>
<td>(d)</td>
</tr>
<tr>
<td>BUS 151</td>
<td>3</td>
<td>Introduction to Business Issues</td>
<td></td>
</tr>
<tr>
<td>BIS 142</td>
<td>3</td>
<td>Intermediate Word Processing/Keyboarding</td>
<td></td>
</tr>
<tr>
<td>ENG 111</td>
<td>3</td>
<td>Freshman English Composition</td>
<td>(f)</td>
</tr>
<tr>
<td>SPE 101</td>
<td>3</td>
<td>Fundamentals of Communication OR</td>
<td></td>
</tr>
<tr>
<td>SPE 257</td>
<td>3</td>
<td>Public Speaking</td>
<td></td>
</tr>
</tbody>
</table>

* BIS 130 is highly recommended for the Business Information Systems, Legal Secretary, Medical Secretary, and Medical Assistant programs. However, it is an acceptable substitute if students have already taken CIS 100.

### PREREQUISITES

1. **BIS 100 OR** knowledge of keyboarding. Corequisite: BIS 140
2. Recommend concurrent enrollment in BIS 140 OR BIS 100 OR knowledge of correct keyboarding techniques.
3. BIS 130 or CIS 100, BIS 140 or equivalent
4. BIS 120 for Business Information Systems students only
5. BIS 140 or equivalent
6. Student must meet with an advisor to register
**ASSOCIATE IN SCIENCE DEGREE:**

**CHEMISTRY***

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.

<table>
<thead>
<tr>
<th>FIRST SEMESTER (Fall) - 15 credit hours</th>
<th>@Prerequisites</th>
<th>Completed</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHM 111 (4) General College Chemistry I</td>
<td>(a)</td>
<td></td>
</tr>
<tr>
<td>ENG 111 (3) Freshman English Composition</td>
<td>(b)</td>
<td></td>
</tr>
<tr>
<td>MAT 126 (5) Calculus I</td>
<td>(c)</td>
<td></td>
</tr>
<tr>
<td>SPE 101 (3) Fundamentals of Communication <strong>OR</strong> SPE 257 (3) Public Speaking</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SECOND SEMESTER (Winter) - 16 credit hours</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>CHM 112 (4) General College Chemistry II</td>
<td>(d)</td>
<td></td>
</tr>
<tr>
<td>ENG 222 (3) Expository Writing &amp; Research</td>
<td>(e)</td>
<td></td>
</tr>
<tr>
<td>Elective (3) SOC only</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Elective (3) Group IV</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Elective (3) Group IV - other than HUM</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>THIRD SEMESTER (Fall) - 19 credit hours</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>CHM 241 (5) Organic Chemistry I</td>
<td>(f)</td>
<td></td>
</tr>
<tr>
<td>CIS 130 (3) Applications with Microcomputers</td>
<td>(g)</td>
<td></td>
</tr>
<tr>
<td>ECO 201 (3) Principles of Economics (Macroeconomics)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PHY 211 (5) General Physics I</td>
<td>(h)</td>
<td></td>
</tr>
<tr>
<td>HUM 200 (3) Modernity &amp; Culture</td>
<td>(i)</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>FOURTH SEMESTER (Winter) - 18 credit hours</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>CHM 201 (5) Quantitative Analysis</td>
<td>(f)</td>
<td></td>
</tr>
<tr>
<td>CHM 242 (5) Organic Chemistry II</td>
<td>(j)</td>
<td></td>
</tr>
<tr>
<td>PHY 212 (5) General Physics II</td>
<td>(k)</td>
<td></td>
</tr>
<tr>
<td>POL 201 (3) Introduction to American Government</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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 course load, a student may wish to consider an extra semester or spring/summer session.

*This degree is designed to be the first half of a baccalaureate degree. Students planning to complete a Baccalaureate degree with a major in chemistry should also select MAT 225 to follow after MAT 126.

**@ PREREQUISITES**

- a. CHM 105 OR one year high school chemistry OR equivalent MAT 105 (concurrent) OR two years of high school algebra OR equiv.
- b. Student must meet with an advisor to register
- c. Grade of “C” or better in MAT 124 OR equivalent
- d. CHM 111
- e. Grade of “C” or better in ENG 111
- f. CHM 112
- g. CIS 100 with “C” or better
- h. Corequisite: MAT 126 OR equivalent
- i. LEVEL I General Ed: CIS 100, MAT, ENG 111 and SPE 101-or-SPE 257
- j. CHM 241
- k. PHY 211
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.

<table>
<thead>
<tr>
<th>Communication Skills (Group I) - 24 credit hours</th>
<th>@Prerequisites</th>
<th>Completed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Required: ENG 111* (3) Freshman English Composition</td>
<td>(a)</td>
<td>____________</td>
</tr>
<tr>
<td>ENG 222* (3) Expository Writing &amp; Research</td>
<td>(b)</td>
<td>____________</td>
</tr>
<tr>
<td>SPE 101* (3) Fundamentals of Communication OR SPE 257 (3) Public Speaking</td>
<td></td>
<td>____________</td>
</tr>
<tr>
<td>SPE 251 (3) Foundations of Communication</td>
<td>(e)</td>
<td>____________</td>
</tr>
<tr>
<td>SPE 253 (3) Small Group Communication</td>
<td></td>
<td>____________</td>
</tr>
<tr>
<td>SPE 264 (3) Organizational Communication</td>
<td></td>
<td>____________</td>
</tr>
<tr>
<td>SPE XXX (6) Communication Studies Electives (see below)</td>
<td></td>
<td>____________</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Science and Mathematics (Group II) - 9 credit hours</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Required: Natural or Physical Science</td>
<td></td>
<td>____________</td>
</tr>
<tr>
<td>Mathematics (105 or higher)*</td>
<td>(g)</td>
<td>____________</td>
</tr>
<tr>
<td>SCI 200 (3) Science, Technology &amp; Society</td>
<td>(d)</td>
<td>____________</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Social Sciences (Group III) - 9 credit hours</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Required: SSC 200 (3) The Social Sciences &amp; Contemporary America</td>
<td>(d)</td>
<td>____________</td>
</tr>
<tr>
<td>PSY 101 (3) Intro to General Psychology</td>
<td></td>
<td>____________</td>
</tr>
<tr>
<td>Elective (3) Group III</td>
<td></td>
<td>____________</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Humanities and Fine Arts (Group IV) - 9 credit hours (minimum of two disciplines)</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Required: Electives (9) Group IV</td>
<td></td>
<td>____________</td>
</tr>
<tr>
<td>(9 Hours of Humanities with at least 3 Credits at the 200 Level OR 6 Hours of Humanities &amp; 3 Hours Fine Arts with at least 3 Credits at the 200 Level).</td>
<td></td>
<td>____________</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Applied Arts and Sciences (Group V) - 3 credit hours</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Required: CIS 100 (3) Intro to Information Processing Systems</td>
<td>(c)</td>
<td>____________</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Electives - 8 credit hours</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Electives (8) Groups I, II, III, IV, or V</td>
<td></td>
<td>____________</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SPE.XXX Communication Studies Electives - (see above)</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>SPE 195 (3) Intercultural Communication</td>
<td>SPE 265 (3) Theories of Persuasion</td>
<td></td>
</tr>
<tr>
<td>SPE 263 (3) Professional Interviewing</td>
<td>SPE 270-279 (1-6) Special Topics in Communication</td>
<td>(f)</td>
</tr>
<tr>
<td>SPE 267 (3) Nonverbal Communication</td>
<td>SPE 285 (1-3) Directed Activities in Forensics</td>
<td>(f)</td>
</tr>
<tr>
<td>SPE 261 (3) Interpersonal Communication</td>
<td>SPE 290 (1-3) Internship in Communication Studies</td>
<td>(f)</td>
</tr>
</tbody>
</table>

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

@ PREREQUISITES

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Student must meet with an advisor to register</td>
<td></td>
</tr>
<tr>
<td>b. Grade of &quot;C&quot; or better in ENG 111</td>
<td></td>
</tr>
<tr>
<td>c. Touch keyboarding skills recommended</td>
<td></td>
</tr>
<tr>
<td>d. LEVEL I General Ed: CIS 100, MAT, ENG 111 and SPE 101-or-SPE 257</td>
<td></td>
</tr>
<tr>
<td>g. 9 hours of SPE completed 2003/04 Revised 4/1/03</td>
<td></td>
</tr>
<tr>
<td>h. Permission of instructor required for enrollment 800.15 SPE.AA</td>
<td></td>
</tr>
<tr>
<td>i. Grade of &quot;C&quot; or better in MAT 104 or equivalent</td>
<td></td>
</tr>
</tbody>
</table>
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 34 credits is required to complete this program.

<table>
<thead>
<tr>
<th>FIRST SEMESTER (Fall) - 14-15 credit hours</th>
<th>@Prerequisites</th>
<th>Completed</th>
</tr>
</thead>
<tbody>
<tr>
<td>DRF 101 (3) Technical Drawing</td>
<td></td>
<td></td>
</tr>
<tr>
<td>DRF 120 (3) Introduction to AutoCAD</td>
<td></td>
<td></td>
</tr>
<tr>
<td>IND 101 (4) Basic Machine Shop Practices</td>
<td></td>
<td></td>
</tr>
<tr>
<td>IND 113 (2) CNC Machining</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MAT 170 (3) Technical Math II</td>
<td>(a)</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SECOND SEMESTER (Winter) - 16 credit hours</th>
<th>@Prerequisites</th>
<th>Completed</th>
</tr>
</thead>
<tbody>
<tr>
<td>DRF 201 (4) Mechanical Detail Drafting w/CAD</td>
<td>(b)</td>
<td></td>
</tr>
<tr>
<td>DRF 105 (2) Intro to Geometric Dimensioning &amp; Tolerancing</td>
<td>(c)</td>
<td></td>
</tr>
<tr>
<td>DRF 210 (3) Introduction to SolidWorks</td>
<td></td>
<td></td>
</tr>
<tr>
<td>DRF 220 (3) Introduction to SoftPlan</td>
<td></td>
<td></td>
</tr>
<tr>
<td>IND 116 (4) CNC Programming</td>
<td>(d)</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>THIRD SEMESTER (Spring or Summer) - 3 credit hours</th>
<th>@Prerequisites</th>
<th>Completed</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENG 111 (3) Freshman English Composition</td>
<td>(e)</td>
<td></td>
</tr>
</tbody>
</table>

@ PREREQUISITES

a. MAT 101 OR equivalent
b. DRF 120
c. DRF 101, IND 101 and 113
d. IND 101, IND 113, Grade of “C” or better in MAT 105 or MAT 170 or equivalent
e. Student must meet with an advisor to register
At time of publication this program is pending revision. Please contact MMCC’s Admissions Office for updated program guide. Specific questions regarding this program may be directed to Stephen Eaton, (989)386-6655, seaton@midmich.edu.
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.

**Communication Skills (Group I) - 9 credit hours**

<table>
<thead>
<tr>
<th>Required</th>
<th>Credit Hours</th>
<th>Prerequisites</th>
<th>Completed</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENG 111</td>
<td>3</td>
<td>Freshman English Composition</td>
<td>(a)</td>
</tr>
<tr>
<td>ENG 222</td>
<td>3</td>
<td>Expository Writing &amp; Research</td>
<td>(b)</td>
</tr>
<tr>
<td>SPE 101</td>
<td>3</td>
<td>Fundamentals of Communication OR</td>
<td></td>
</tr>
<tr>
<td>SPE 257</td>
<td>3</td>
<td>Public Speaking</td>
<td></td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Required</th>
<th>Credit Hours</th>
<th>Prerequisites</th>
<th>Completed</th>
</tr>
</thead>
<tbody>
<tr>
<td>MAT 105</td>
<td>3</td>
<td>Intermediate Algebra</td>
<td>(c)</td>
</tr>
<tr>
<td>Elective</td>
<td>3</td>
<td>Group II</td>
<td></td>
</tr>
<tr>
<td>SCI 200</td>
<td>3</td>
<td>Science, Technology &amp; Society</td>
<td>(f)</td>
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</tbody>
</table>

**Social Sciences (Group III) - 15 credit hours**

<table>
<thead>
<tr>
<th>Required</th>
<th>Credit Hours</th>
<th>Prerequisites</th>
<th>Completed</th>
</tr>
</thead>
<tbody>
<tr>
<td>PSY 101</td>
<td>3</td>
<td>Intro to General Psychology</td>
<td>(d)</td>
</tr>
<tr>
<td>PSY 205</td>
<td>3</td>
<td>Abnormal Psychology</td>
<td></td>
</tr>
<tr>
<td>SOC 101</td>
<td>3</td>
<td>Principles of Sociology</td>
<td>(e)</td>
</tr>
<tr>
<td>SOC 200</td>
<td>3</td>
<td>Contemporary Social Problems</td>
<td></td>
</tr>
<tr>
<td>Elective</td>
<td>3</td>
<td>Group III</td>
<td></td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Required</th>
<th>Credit Hours</th>
<th>Prerequisites</th>
<th>Completed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electives</td>
<td>9</td>
<td>Group IV</td>
<td></td>
</tr>
<tr>
<td>(9 Hours of Humanities with at least 3 Credits at the 200 Level OR 6 Hours of Humanities &amp; 3 Hours Fine Arts with at least 3 Credits at the 200 Level).</td>
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</table>

**Applied Arts and Sciences (Group V) - 18 credit hours**

<table>
<thead>
<tr>
<th>Required</th>
<th>Credit Hours</th>
<th>Prerequisites</th>
<th>Completed</th>
</tr>
</thead>
<tbody>
<tr>
<td>CIS 100</td>
<td>3</td>
<td>Intro to Information Processing Systems</td>
<td>(g)</td>
</tr>
<tr>
<td>CRJ 200</td>
<td>3</td>
<td>Introduction to Corrections</td>
<td></td>
</tr>
<tr>
<td>CRJ 201</td>
<td>3</td>
<td>Legal Issues in Corrections</td>
<td></td>
</tr>
<tr>
<td>CRJ 210</td>
<td>3</td>
<td>Correctional Institutions</td>
<td></td>
</tr>
<tr>
<td>CRJ 211</td>
<td>3</td>
<td>Client Growth &amp; Development</td>
<td></td>
</tr>
<tr>
<td>CRJ 221</td>
<td>3</td>
<td>Client Relations in Corrections</td>
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</table>

**Health and Physical Education (Group VI) - 3 credit hours**

<table>
<thead>
<tr>
<th>Elective</th>
<th>Credit Hours</th>
<th>Prerequisites</th>
<th>Completed</th>
</tr>
</thead>
<tbody>
<tr>
<td>(3 Group VI</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**PREREQUISITES**

- a. Student must meet with an advisor to register
- b. Grade of “C” or better in ENG 111
- c. Grade of “C” or better in MAT 104 OR equivalent
- d. PSY 101
- e. Recommended: SOC 101
- f. LEVEL I General Ed: CIS 100, MAT, ENG 111 and SPE 101-or-SPE 257
- g. Touch keyboarding skills recommended.
ASSOCIATE IN APPLIED SCIENCE DEGREE:

CRIMINAL JUSTICE - LAW ENFORCEMENT
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 66 credits is required to complete this program.

<table>
<thead>
<tr>
<th>Communication Skills (Group I) - 9 credit hours</th>
<th>@Prerequisites</th>
<th>Completed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Required: ENG 111 (3) Freshman English Composition</td>
<td>(a)</td>
<td></td>
</tr>
<tr>
<td>ENG 222 (3) Expository Writing &amp; Research</td>
<td>(b)</td>
<td></td>
</tr>
<tr>
<td>SPE 101 (3) Fundamentals of Communication OR SPE 257 (3) Public Speaking</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Science and Mathematics (Group II) - 9 credit hours</th>
<th>@Prerequisites</th>
<th>Completed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Required: MAT 105 (3) Intermediate Algebra</td>
<td>(c)</td>
<td></td>
</tr>
<tr>
<td>Elective (3) Group II</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SCI 200 (3) Science, Technology &amp; Society</td>
<td>(f)</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Social Sciences (Group III) - 15 credit hours</th>
<th>@Prerequisites</th>
<th>Completed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Required: POL 201 (3) Intro to American Government</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PSY 101 (3) Intro to General Psychology</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SOC 101 (3) Principles of Sociology</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SOC 200 (3) Contemporary Social Problems</td>
<td>(e)</td>
<td></td>
</tr>
<tr>
<td>PSY 205 (3) Abnormal Psychology OR SOC 250 (3) The American Family</td>
<td>(d)</td>
<td></td>
</tr>
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</table>

<table>
<thead>
<tr>
<th>Humanities and Fine Arts (Group IV) - 9 credit hours (minimum of two disciplines)</th>
<th>@Prerequisites</th>
<th>Completed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Required: Electives (9) Group IV</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(9 Hours of Humanities with at least 3 Credits at the 200 Level OR 6 Hours of Humanities &amp; 3 Hours Fine Arts with at least 3 Credits at the 200 Level).</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Applied Arts and Sciences (Group V) - 21 credit hours</th>
<th>@Prerequisites</th>
<th>Completed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Required: CIS 100 (3) Intro to Information Processing Systems</td>
<td>(g)</td>
<td></td>
</tr>
<tr>
<td>LEN 205 (3) Intro to Law Enforcement &amp; Criminal Justice</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LEN 203 (3) Criminal Law for Police Officers</td>
<td>(h)</td>
<td></td>
</tr>
<tr>
<td>LEN 204 (3) Criminal Investigation</td>
<td>(h)</td>
<td></td>
</tr>
<tr>
<td>LEN 200 (3) Evidence</td>
<td>(i)</td>
<td></td>
</tr>
<tr>
<td>LEN 201 (3) Fundamentals of Supervision &amp; Mngmt in CRJ</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LEN 202 (3) Juvenile Law &amp; Procedures</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Health and Physical Education (Group VI) - 3 credit hours</th>
<th>@Prerequisites</th>
<th>Completed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Elective (3) Recommended: PED 255 Physical Training</td>
<td></td>
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</tbody>
</table>

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.

@ PREREQUISITES

- Student must meet with an advisor to register
- Grade of “C” or better in ENG 111
- Grade of “C” or better in MAT 104 OR equivalent
- PSY 101
- Recommended: SOC 101
- LEVEL I General Ed: CIS 100, MAT, ENG 111 and SPE 101-or-SPE 257
- Touch keyboarding skills recommended.
- LEN 205
- LEN 203
**ASSOCIATE IN APPLIED SCIENCE DEGREE:**

**CRIMINAL JUSTICE**  
**LAW ENFORCEMENT PRE-SERVICE**

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) - 15 credit hours

<table>
<thead>
<tr>
<th>Required</th>
<th>@Prerequisites</th>
<th>Completed</th>
</tr>
</thead>
<tbody>
<tr>
<td>LEN 205 (3) Intro to Law Enforcement &amp; Criminal Justice</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CIS 100 (3) Intro to Information Processing Systems</td>
<td>(a)</td>
<td></td>
</tr>
<tr>
<td>ENG 111 (3) Freshman English Composition</td>
<td>(b)</td>
<td></td>
</tr>
<tr>
<td>MAT 105 (3) Intermediate Algebra</td>
<td>(c)</td>
<td></td>
</tr>
<tr>
<td>SPE 101 (3) Fundamentals of Communication OR</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SPE 257 (3) Public Speaking</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### SECOND SEMESTER (Winter) - 15 credit hours

<table>
<thead>
<tr>
<th>Required</th>
<th>@Prerequisites</th>
<th>Completed</th>
</tr>
</thead>
<tbody>
<tr>
<td>LEN 203 (3) Criminal Law for Police Officers</td>
<td>(d)</td>
<td></td>
</tr>
<tr>
<td>LEN 204 (3) Criminal Investigation</td>
<td>(d)</td>
<td></td>
</tr>
<tr>
<td>HUM 200 (3) Modernity &amp; Culture</td>
<td>(e)</td>
<td></td>
</tr>
<tr>
<td>SCI 200 (3) Science, Technology &amp; Society</td>
<td>(e)</td>
<td></td>
</tr>
<tr>
<td>SSC 200 (3) The Social Sciences &amp; Contemporary America</td>
<td>(e)</td>
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</table>

### THIRD SEMESTER (Fall) - 12 credit hours

<table>
<thead>
<tr>
<th>Required</th>
<th>@Prerequisites</th>
<th>Completed</th>
</tr>
</thead>
<tbody>
<tr>
<td>LEN 200 (3) Evidence</td>
<td>(f)</td>
<td></td>
</tr>
<tr>
<td>LEN 201 (3) Fundamentals of Supervision &amp;</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Management in Criminal Justice</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LEN 202 (3) Juvenile Law &amp; Procedures</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PED 255 (3) Physical Training</td>
<td></td>
<td></td>
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</tbody>
</table>

### FOURTH SEMESTER (Winter) - 21 credit hours

<table>
<thead>
<tr>
<th>Required</th>
<th>@Prerequisites</th>
<th>Completed</th>
</tr>
</thead>
<tbody>
<tr>
<td>LEN 289 (21) Police Academy</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**NOTE:** Please see your advisor prior to entering Law Enforcement Associate Pre-Service Program. Students should be made aware of the pre-employment reading/writing test and a physical skills test mandated by the Michigan Commission on Law Enforcement Standards (MCOLES).

---

**@ PREREQUISITES**

a. Touch keyboarding skills recommended  
b. Student must meet with an advisor to register  
c. Grade of “C” or better in MAT 104 OR equivalent  
d. LEN 205  
e. LEVEL 1 General Ed: CIS 100, MAT, ENG 111 and SPE 101-or-SPE 257  
f. LEN 203
ASSOCIATE IN APPLIED SCIENCE DEGREE:

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 62 credits is required to complete this program.

<table>
<thead>
<tr>
<th>SEMESTER</th>
<th>CREDIT HOURS</th>
<th>PREREQUISITES</th>
<th>COMPLETED</th>
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</thead>
<tbody>
<tr>
<td>FIRST SEMESTER (Fall) - 14 credit hours</td>
<td></td>
<td>@Prerequisites</td>
<td>Completed</td>
</tr>
<tr>
<td>ECE 101 (4) Intro to Early Childhood Education</td>
<td>(h)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ECE 112 (4) Infancy</td>
<td>(a)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CIS 100 (3) Intro to Information Processing Systems</td>
<td>(c)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ENG 111 (3) Freshman English Composition</td>
<td>(b)</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SECOND SEMESTER (Winter) - 17 credit hours</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ECE 113 (4) Early Childhood</td>
<td>(e)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ECE 114 (4) Interacting with Children, Parent/Adult Child Relations</td>
<td>(e)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MAT 101 (3) Basic Mathematics</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PSY 101 (3) Introduction to General Psychology</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SPE 101 (3) Fundamentals of Communication OR</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SPE 257 (3) Public Speaking</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>THIRD SEMESTER (Fall) - 15 credit hours</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ECE 201 (3) Guidance &amp; Implementation of Programs for Young Children</td>
<td>(g)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ECE 202 (3) Creative Development of the Child</td>
<td>(g)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ECE 206 (3) Parent, School &amp; Community Involvement</td>
<td>(g)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PSY 212 (3) Developmental Psychology OR</td>
<td>(f)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PSY 281 (3) Behavior Modification</td>
<td>(f)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SSC 200 (3) The Social Sciences &amp; Contemporary America OR</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Select ONE: ANT 170, POL 201, SOC 101, SOC 250</td>
<td>(d)</td>
<td></td>
<td></td>
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<tr>
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<td></td>
<td></td>
</tr>
<tr>
<td>FOURTH SEMESTER (Winter) - 16 or 17 credit hours</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ECE 207 (4) Early Childhood Education Practicum</td>
<td>(i)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ECE 208 (4) Early Childhood Administration</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HUM 200 (3) Modernity &amp; Culture</td>
<td>(d)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SCI 200 (3) Science, Technology &amp; Society</td>
<td>(d)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Elective (2-3) Select ONE: ART 245, ECE 150, EDU 107, ENG 222, ENG 281, MUS 131</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

NOTE: All courses listed on this program guide 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.

@ PREREQUISITES

a. Corequisite: ECE 101
b. Student must meet with an advisor to register
c. Touch keyboarding skills recommended
d. LEVEL I General Ed: CIS 100, MAT, ENG 111 and SPE 101-or-SPE 257
e. Corequisite: ECE 101
f. PSY 101
g. Corequisites are ECE 112 or ECE 113 and 114 and ENG 111 or permission of Instructor or Coordinator.
h. Current Cardiopulmonary Resuscitation (CPR) Certification is highly recommended throughout the student tenure.
i. Prerequisites: ECE 101, 112, or 113 and 114. Corequisites: ECE 201, 202, 206, and ENG 111.
j. Corequisites: ECE 112 + 114 or 113 +114; and ENG 111 or permission of ECE instructor or ECE coordinator.
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:

Required:  First Aid and CPR Certification
Validation of no Evidence of Child Abuse or Neglect per Public Act 68 of 1993
Health Requirements Met

<table>
<thead>
<tr>
<th>FIRST SEMESTER (Fall) - 14 credit hours</th>
<th>@Prerequisites</th>
<th>Completed</th>
</tr>
</thead>
<tbody>
<tr>
<td>ECE 101 (4) Introduction to Early Childhood Education (a)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ECE 112 (4) Infancy (b)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CIS 100 (3) Introduction to Information Processing Systems (c)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ENG 111 (3) Freshman English Composition (d)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

|SECOND SEMESTER (Winter) - 17 credit hours| | |
|-----------------------------------------| | |
| ECE 113 (4) Early Childhood (b) | | |
| ECE 114 (4) Interacting with Children, Parent/Adult Child Relations | | |
| MAT 101 (3) Basic Mathematics (b) | | |
| PSY 101 (3) Introduction to General Psychology | | |
| SPE 101 (3) Fundamentals of Communication OR | | |
| SPE 257 (3) Public Speaking | | |

Please Note: If going for an Associate’s degree, all courses must be completed with a grade of “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 the third week of class.

@ PREREQUISITES

a. Current (CPR) Current Cardiopulmonary Resuscitation and First Aid certification are highly recommended throughout the student tenure

b. Corequisite: ECE 101

c. Touch keyboarding skills recommended

d. Student must meet with an advisor to register
**ASSOCIATE IN ARTS DEGREE:**

**ELEMENTARY EDUCATION 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 62 credits is required to complete this program.

<table>
<thead>
<tr>
<th>Communication Skills (Group I) - 9 credit hours</th>
<th>@Prerequisites</th>
<th>Completed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Required: 1ENG 11 (3) Freshman English Composition</td>
<td>(a)</td>
<td></td>
</tr>
<tr>
<td>1ENG 222 (3) Expository Writing &amp; Research</td>
<td>(b)</td>
<td></td>
</tr>
<tr>
<td>2SPE 101 (3) Fundamentals of Communication OR</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2SPE 257 (3) Public Speaking</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Science and Mathematics (Group II) - 20 - 21 credit hours</th>
<th>@Prerequisites</th>
<th>Completed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Required: 3MAT 105 (3) Intermediate Algebra</td>
<td>(c)</td>
<td></td>
</tr>
<tr>
<td>MAT 118 (3) Math for Elementary Teachers I</td>
<td>(d)</td>
<td></td>
</tr>
<tr>
<td>MAT 218 (3) Math for Elementary Teachers II</td>
<td>(e)</td>
<td></td>
</tr>
<tr>
<td>Select ONE from the following: (4) GEL 101 or (4) PSC 101</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Select ONE from the following: (4) BIO 101 or (3) BIO 221</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Select ONE from the following: (4) PSC 102 or (4) CHM 105</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Social Sciences (Group III) - 8 credit hours</th>
<th>@Prerequisites</th>
<th>Completed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Required: Electives (8) credit hours from Group III in 2 social science disciplines (If SSC 200 is not included, student required to take 9 credit hours in at least 2 social science disciplines for associate degree.)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Humanities and Fine Arts (Group IV) - 8 credit hours</th>
<th>@Prerequisites</th>
<th>Completed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Required: ART 245 (3) Art in the Elementary School</td>
<td>(f)</td>
<td></td>
</tr>
<tr>
<td>Electives: (5) from Group IV (If HUM 200 is not included, student required to take a total in Group IV of 9 credit hours, with no more than 3 of those credits from fine arts for associate degree.)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Applied Arts and Sciences (Group V) - 3 credit hours</th>
<th>@Prerequisites</th>
<th>Completed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Required: 3CIS 100 (3) Intro to Information Processing Systems</td>
<td>(g)</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Education (Group VII) - 6 credit hours</th>
<th>@Prerequisites</th>
<th>Completed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Required: 4EDU 107 (3) Introduction to Teaching</td>
<td>(h)</td>
<td></td>
</tr>
<tr>
<td>EDU 290 (3) Technology in Education</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Electives: 7-8 credit hours</th>
<th>@PREREQUISITES</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>a. Student must meet with an advisor to register</td>
</tr>
<tr>
<td></td>
<td>b. Grade of “C” or better in ENG 111</td>
</tr>
<tr>
<td></td>
<td>c. Grade of “C” or better in ENG 222</td>
</tr>
<tr>
<td></td>
<td>d. Grade of “C” or better in MAT 104 OR equivalent.</td>
</tr>
<tr>
<td></td>
<td>e. Grade of “C” or better in MAT 105 OR equivalent.</td>
</tr>
<tr>
<td></td>
<td>f. Grade of “B” or better in EDU 107</td>
</tr>
<tr>
<td></td>
<td>g. Touch keyboarding skills recommended.</td>
</tr>
<tr>
<td></td>
<td>h. Student should have basic computer and keyboarding skills. Student must have taken EDU 107.</td>
</tr>
</tbody>
</table>

**CMU Course Grade Requirements (Do not apply to MMCC associate degree completion):**

1. 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.
2. Grade of “C” or better in MAT 105 and SPE 101 or SPE 257.
3. CIS 100 is required for MMCC associate degree; not required for CMU’s bachelor degree.
4. Grade of “B” or better in EDU 107 is required.

**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.
ASSOCIATE IN APPLIED SCIENCE DEGREE:

EMERGENCY MEDICAL SERVICES

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

FIRST SEMESTER (Fall) - 16 credit hours @Prerequisites Completed

ALH 100 (2) Medical Terminology _______________
BIO 141 (4) Anatomy & Physiology I (a) _______________
BIO 110 (1) Concepts in Microbiology (a) _______________
CIS 100 (3) Intro to Info Processing Systems (b) _______________
ENG 111 (3) Freshman English Composition (c) _______________
MAT 104 (3) Basic Algebra (d) _______________

SECOND SEMESTER (Winter) - 16 credit hours

BIO 142 (4) Anatomy & Physiology II (e) _______________
EMT 100 (9) Basic Emergency Medical Technician OR EMT License _______________
SPE 101 (3) Fundamentals of Communication OR SPE 257 (3) Public Speaking _______________

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

THIRD SEMESTER (Spring) - 6 credit hours

SSC 200 (3) The Soc. Sciences & Contemp. America (g) _______________
SCI 200 (3) Science, Technology & Society (g) _______________

FOURTH SEMESTER (Fall) - 16.5 credit hours

EMS 200 (13) Paramedic I (h) _______________
EMS 205 (.5) Paramedic Clinical I (i) _______________
HUM 200 (3) Modernity & Culture (g) _______________

FIFTH SEMESTER (Winter) - 12.75 credit hours

EMS 220 (10.5) Paramedic II (j) _______________
EMS 225 (2.25) Paramedic Clinical II (k) _______________

SIXTH SEMESTER (Spring through October) - 14.5 credit hours

EMS 230 (9) Paramedic III (l) _______________
EMS 235 (5.5) Paramedic Clinical III (m) _______________

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.

@ PREREQUISITES

a. BIO 101 or equivalent.  i. EMS 200, EMS 205; corequisite EMS 225.
b. Touch keyboarding skills recommended.  j. EMS 200, EMS 205; corequisite EMS 220.
c. Competency OR a grade of "C" or better in ENG 101 OR equivalent.  k. EMS 200, EMS 205; corequisite EMS 220.
d. Grade of "C" or better in either MAT 101 OR MAT 102 OR equivalent.  l. EMS 200, EMS 235; corequisite EMS 235.
e. BIO 141.  m. EMS 220, EMS 225; corequisite EMS 230.
f. 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.
g. LEVEL I Gen. Ed: CIS 100, MAT, ENG 111 and SPE 101-or-SPE 257.
h. EMT 100 or equivalent; corequisite: EMS 205; recommended: ALH 100, BIO 141, BIO 142. 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.
i. EMT 100 or equivalent; corequisite: EMS 200; recommended: ALH 100, BIO 141, BIO 142. 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.
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.

Communication Skills (Group I) - 9 credit hours

Required:
- *ENG 111 (3) Freshman English Composition (a)
- *ENG 222 (3) Expository Writing & Research (b)
- *SPE 101 (3) Fundamentals of Communication OR *SPE 257 (3) Public Speaking

Science and Mathematics (Group II) – 8 credit hours

Required:
- *MAT 212 (3) Introduction to Probability & Statistics (c)
- SCI 200 (3) Science, Technology & Society (d)
- Electives (3) Group II

Social Sciences (Group III) - 9 credit hours

Required:
- ECO 201 (3) Principles of Economics (Macro)
- Elective (3) Group III
- Elective (3) Group III - other than ECO

Humanities and Fine Arts (Group IV) - 9 credit hours - (minimum of 2 disciplines)

Required:
- 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

Required:
- CIS 100 (3) Intro to Information Processing Systems (e)
- BUS 151 (3) Introduction to Business Issues
- ACC 201 (4) Financial Accounting
- BUS 153 (3) Business Law
- ENT 221 (3) Marketing for Entrepreneurs

Electives – 11 credit hours (Maximum of 2 credits from Group VII)

Consult with a transfer advisor at CMU and/or MMCC to determine the best courses to fill these credit hours. May be used to fulfill minor requirements. 50% of courses towards a bachelor's degree must be outside of the College of Business.

* 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.

@PREREQUISITES

a. Student must meet with an advisor to register
b. Grade of “C” or better in ENG 111 Freshman English Composition.
c. Grade of “C” or better in MAT 104 OR equivalent.
d. Level I General Education Courses: CIS 100, MAT, ENG 111 and SPE 101 or SPE 257
e. Touch keyboarding skills recommended.
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.

**Communication Skills (Group I) - 6 credit hours**

<table>
<thead>
<tr>
<th>Required</th>
<th>@Prerequisites</th>
<th>Completed</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENG 111 (3)</td>
<td>Freshman English Composition (a)</td>
<td>___________</td>
</tr>
<tr>
<td>SPE 101 (3)</td>
<td>Fundamentals of Communication OR SPE 257 (3) Public Speaking</td>
<td>___________</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Required</th>
<th>@Prerequisites</th>
<th>Completed</th>
</tr>
</thead>
<tbody>
<tr>
<td>MAT 101 (3)</td>
<td>Basic Mathematics</td>
<td>___________</td>
</tr>
<tr>
<td>Elective (3)</td>
<td>Recommended: CHM 105</td>
<td>___________</td>
</tr>
<tr>
<td>SCI 200 (3)</td>
<td>Science, Technology &amp; Society (b)</td>
<td>___________</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Required</th>
<th>@Prerequisites</th>
<th>Completed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electives (9)</td>
<td>Group III (9 Hours in 2 Social Science Disciplines)</td>
<td>___________</td>
</tr>
</tbody>
</table>

**Humanities and Fine Arts (Group IV) - 3 credit hours**

<table>
<thead>
<tr>
<th>Required</th>
<th>@Prerequisites</th>
<th>Completed</th>
</tr>
</thead>
<tbody>
<tr>
<td>HUM 200 (3)</td>
<td>Modernity &amp; Culture (b)</td>
<td>___________</td>
</tr>
</tbody>
</table>

**Applied Arts and Sciences (Group V) - 30 credit hours**

<table>
<thead>
<tr>
<th>Required</th>
<th>@Prerequisites</th>
<th>Completed</th>
</tr>
</thead>
<tbody>
<tr>
<td>CIS 100 (3)</td>
<td>Intro to Information Processing Systems (c)</td>
<td>___________</td>
</tr>
<tr>
<td>FFT 101 (8)</td>
<td>Fire Fighter I Training</td>
<td>___________</td>
</tr>
<tr>
<td>FFT 102 (8)</td>
<td>Fire Fighter II Training</td>
<td>___________</td>
</tr>
<tr>
<td>Electives (7)</td>
<td>FFT, EMS, EMT, MET, HED only (d)</td>
<td>___________</td>
</tr>
<tr>
<td>FFT 105 (4)</td>
<td>Fire Fighter Training IIIA OR</td>
<td>___________</td>
</tr>
<tr>
<td>FFT 100 (4)</td>
<td>Electives from FFT 100 level to equal 4 credit hours</td>
<td>___________</td>
</tr>
</tbody>
</table>

**Electives - 5 credit hours**

| Electives (5)     | Groups I - VII | ___________ |

**@ PREREQUISITES**

- Student must meet with an advisor to register
- LEVEL I General Ed: CIS 100, MAT, ENG 111 and SPE 101-or-SPE 257
- Touch keyboarding skills recommended
- FFT 101
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.

Communication Skills (Group I) - 9 credit hours

<table>
<thead>
<tr>
<th>Required:</th>
<th>Course</th>
<th>@Prerequisites</th>
<th>Completed</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENG 111 (3)</td>
<td>Freshman English Composition</td>
<td>(a)</td>
<td></td>
</tr>
<tr>
<td>ENG 222 (3)</td>
<td>Expository Writing &amp; Research</td>
<td>(b)</td>
<td></td>
</tr>
<tr>
<td>SPE 101 (3)</td>
<td>Fundamentals of Communication <strong>OR</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SPE 257 (3)</td>
<td>Public Speaking</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Science and Mathematics (Group II) - 9 credit hours

<table>
<thead>
<tr>
<th>Required:</th>
<th>Course</th>
<th>@Prerequisites</th>
<th>Completed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mathematics (105 or higher)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Elective (3)</td>
<td>Group II</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SCI 200 (3)</td>
<td>Science, Technology &amp; Society</td>
<td>(c)</td>
<td></td>
</tr>
</tbody>
</table>

Social Sciences (Group III) - 9 credit hours

<table>
<thead>
<tr>
<th>Required:</th>
<th>Course</th>
<th>@Prerequisites</th>
<th>Completed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electives (9)</td>
<td>Group III</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(9 hours in 2 Social Science disciplines)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Required:</th>
<th>Course</th>
<th>@Prerequisites</th>
<th>Completed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electives (9)</td>
<td>Group IV</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(9 hours of Humanities with at least 3 credits at the 200 level)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>OR</strong> 6 credits of Humanities &amp; 3 hours Fine Arts, with at least 3 credits at the 200 level)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Applied Arts and Sciences (Group V) - 12 credit hours

<table>
<thead>
<tr>
<th>Required:</th>
<th>Course</th>
<th>@Prerequisites</th>
<th>Completed</th>
</tr>
</thead>
<tbody>
<tr>
<td>CIS 100 (3)</td>
<td>Intro to Information Processing Systems</td>
<td>(d)</td>
<td></td>
</tr>
<tr>
<td>Electives (9)</td>
<td>Group V</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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.

@ PREREQUISITES

a. Student must meet with an advisor to register
b. Grade of “C” or better in ENG 111
c. LEVEL I General Ed: CIS 100, MAT, ENG 111 and SPE 101-or-SPE 257
d. Touch keyboarding skills recommended
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.

### Communication Skills (Group I) - 9 credit hours

<table>
<thead>
<tr>
<th>Required</th>
<th>@Prerequisites</th>
<th>Completed</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENG 111 (3)</td>
<td>Freshman English Composition (a)</td>
<td></td>
</tr>
<tr>
<td>Elective (3)</td>
<td>Group I</td>
<td></td>
</tr>
<tr>
<td>SPE 101 (3)</td>
<td>Fundamentals of Communication OR</td>
<td></td>
</tr>
<tr>
<td>SPE 257 (3)</td>
<td>Public Speaking</td>
<td></td>
</tr>
</tbody>
</table>

### Science and Mathematics (Group II) - 6 credit hours

<table>
<thead>
<tr>
<th>Required</th>
<th>@Prerequisites</th>
<th>Completed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mathematics (104 or higher) (b)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SCI 200 (3)</td>
<td>Science, Technology, &amp; Society (c)</td>
<td></td>
</tr>
</tbody>
</table>

### Social Sciences (Group III) - 3 credit hours

<table>
<thead>
<tr>
<th>Required</th>
<th>@Prerequisites</th>
<th>Completed</th>
</tr>
</thead>
<tbody>
<tr>
<td>SSC 200 (3)</td>
<td>The Social Sciences &amp; Contemporary America (c)</td>
<td></td>
</tr>
</tbody>
</table>

### Humanities and Fine Arts (Group IV) - 3 credit hours

<table>
<thead>
<tr>
<th>Required</th>
<th>@Prerequisites</th>
<th>Completed</th>
</tr>
</thead>
<tbody>
<tr>
<td>HUM 200 (3)</td>
<td>Modernity &amp; Culture (c)</td>
<td></td>
</tr>
</tbody>
</table>

### Applied Arts and Sciences (Group V) - 36 credit hours

<table>
<thead>
<tr>
<th>Required</th>
<th>@Prerequisites</th>
<th>Completed</th>
</tr>
</thead>
<tbody>
<tr>
<td>CIS 100 (3)</td>
<td>Intro to Information Processing Systems (d)</td>
<td></td>
</tr>
<tr>
<td>Electives (33)</td>
<td>Group V</td>
<td></td>
</tr>
</tbody>
</table>

### Electives - 5 credit hours

| Electives (5)     | Groups I - VII |           |

---

**@ PREREQUISITES**

a. Student must meet with an advisor to register

b. Grade "C" or better in MAT 101 OR Grade of "C" or better in MAT 102 OR equivalent
c. LEVEL I General Ed: CIS 100, MAT, ENG 111 and SPE 101 - or - SPE 257
d. Touch keyboarding skills recommended
# 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.

---

**FIRST SEMESTER (Fall) - 18 credit hours**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>@Prerequisites</th>
<th>Completed</th>
</tr>
</thead>
<tbody>
<tr>
<td>ART 105</td>
<td>Drawing I - Introductory</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ART 115</td>
<td>Design I</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ART 135</td>
<td>Graphic Design I</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CIS 100</td>
<td>Intro. to Information Processing Systems</td>
<td>(a)</td>
<td></td>
</tr>
<tr>
<td>ENG 111</td>
<td>Freshman English Composition</td>
<td>(b)</td>
<td></td>
</tr>
<tr>
<td>HUM 101</td>
<td>World of Creativity I</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**SECOND SEMESTER (Winter) - 18 credit hours**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>@Prerequisites</th>
<th>Completed</th>
</tr>
</thead>
<tbody>
<tr>
<td>ART 205</td>
<td>Drawing II</td>
<td>(c)</td>
<td></td>
</tr>
<tr>
<td>ART 215</td>
<td>Design II</td>
<td>(d)</td>
<td></td>
</tr>
<tr>
<td>ART 235</td>
<td>Graphic Design II</td>
<td>(e)</td>
<td></td>
</tr>
<tr>
<td>ART 211</td>
<td>Page Layout I</td>
<td></td>
<td></td>
</tr>
<tr>
<td>HUM 102</td>
<td>World of Creativity II</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SPE 101</td>
<td>Fundamentals of Communication OR</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SPE 257</td>
<td>Public Speaking</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**THIRD SEMESTER (Fall) - 18 credit hours**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>@Prerequisites</th>
<th>Completed</th>
</tr>
</thead>
<tbody>
<tr>
<td>ART 110</td>
<td>Basic Photography</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ART 130</td>
<td>Painting I</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ART 210</td>
<td>Illustration</td>
<td>(f)</td>
<td></td>
</tr>
<tr>
<td>ART 236</td>
<td>Graphic Design III</td>
<td>(g)</td>
<td></td>
</tr>
<tr>
<td>ART 239</td>
<td>Page Layout II</td>
<td>(h)</td>
<td></td>
</tr>
<tr>
<td>MAT 101</td>
<td>Basic Mathematics</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**FOURTH SEMESTER (Winter) - 12 credit hours**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>@Prerequisites</th>
<th>Completed</th>
</tr>
</thead>
<tbody>
<tr>
<td>ART 240</td>
<td>Studio Problems in Graphic Design</td>
<td>(i)</td>
<td></td>
</tr>
<tr>
<td>SSC 200</td>
<td>The Social Sciences &amp; Contemporary America</td>
<td>(j)</td>
<td></td>
</tr>
<tr>
<td>SCI 200</td>
<td>Science, Technology &amp; Society</td>
<td>(j)</td>
<td></td>
</tr>
<tr>
<td>Elective</td>
<td>Choose ONE from the following:</td>
<td></td>
<td></td>
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<tr>
<td>ART 237</td>
<td>Photography II</td>
<td>(k)</td>
<td></td>
</tr>
<tr>
<td>ART 281</td>
<td>Internship I</td>
<td>(l)</td>
<td></td>
</tr>
<tr>
<td>ART 282</td>
<td>Internship II</td>
<td>(m)</td>
<td></td>
</tr>
<tr>
<td>ART 220</td>
<td>Figure Drawing I</td>
<td>(n)</td>
<td></td>
</tr>
<tr>
<td>ART 230</td>
<td>Painting II</td>
<td>(o)</td>
<td></td>
</tr>
<tr>
<td>BUS 231</td>
<td>Principles of Advertising</td>
<td></td>
<td></td>
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<tr>
<td>DRF 120</td>
<td>Introduction to AutoCAD</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CIS 135</td>
<td>Introduction to Website Design &amp; Management</td>
<td>(p)</td>
<td></td>
</tr>
</tbody>
</table>

---

**@ PREREQUISITES**

- Touch keyboarding skills recommended
- Student must meet with an advisor to register
- ART 105
- ART 115
- ART 135
- ART 235, ART 205
- ART 235 OR permission of Instructor
- ART 211
- ART 110, 130, 210, 215, 236, ART 239
- LEVEL I General Ed: CIS 100, MAT, ENG 111 and SPE 101-or- SPE 257
- ART 110
- permission of the Internship Coordinator
- ART 281 and permission of the Internship Coordinator
- ART 205 OR permission of Instructor
- ART 130
- CIS 100
**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 69 credits is required to complete this program.

### Communication Skills (Group I) - 6 credit hours

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
<th>Description</th>
<th>Prerequisites</th>
<th>Completed</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENG 111</td>
<td>3</td>
<td>Freshman English Composition</td>
<td>(a)</td>
<td>________________</td>
</tr>
<tr>
<td>SPE 101</td>
<td>3</td>
<td>Fundamentals of Communication OR SPE 257</td>
<td>(a)</td>
<td>________________</td>
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</table>

### Science and Mathematics (Group II) – 10-13 credit hours

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
<th>Description</th>
<th>Prerequisites</th>
<th>Completed</th>
</tr>
</thead>
<tbody>
<tr>
<td>SCI 200</td>
<td>3</td>
<td>Science, Technology &amp; Society</td>
<td>(b)</td>
<td>________________</td>
</tr>
<tr>
<td>MAT 170</td>
<td>3</td>
<td>Technical Mathematics II OR MAT 124</td>
<td>(c)</td>
<td>________________</td>
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<tr>
<td>PHY 103</td>
<td>4</td>
<td>Applied Physics OR PHY 105</td>
<td>(d)</td>
<td>________________</td>
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### Social Sciences (Group III) - 3 credit hours

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
<th>Description</th>
<th>Prerequisites</th>
<th>Completed</th>
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</thead>
<tbody>
<tr>
<td>SSC 200</td>
<td>3</td>
<td>Social Sciences &amp; Contemporary America</td>
<td>(b)</td>
<td>________________</td>
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</table>

### Humanities and Fine Arts (Group IV) - 3 credit hours

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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<th>Prerequisites</th>
<th>Completed</th>
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<tbody>
<tr>
<td>HUM 200</td>
<td>3</td>
<td>Modernity &amp; Culture</td>
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### Applied Arts and Sciences (Group V) - 47 credit hours

<table>
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<th>Prerequisites</th>
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<tbody>
<tr>
<td>CIS 100</td>
<td>3</td>
<td>Intro to Information Systems</td>
<td>(g)</td>
<td>________________</td>
</tr>
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<td>DRF 120</td>
<td>3</td>
<td>Introduction to AutoCAD</td>
<td>(h)</td>
<td>________________</td>
</tr>
<tr>
<td>HRA 102</td>
<td>3</td>
<td>Refrigeration Fundamentals</td>
<td>(i)</td>
<td>________________</td>
</tr>
<tr>
<td>HRA 104</td>
<td>3</td>
<td>Residential Refrigeration</td>
<td>(j)</td>
<td>________________</td>
</tr>
<tr>
<td>HRA 105</td>
<td>3</td>
<td>Hydronics</td>
<td>(k)</td>
<td>________________</td>
</tr>
<tr>
<td>HRA 106</td>
<td>3</td>
<td>Heating Fundamentals</td>
<td>(l)</td>
<td>________________</td>
</tr>
<tr>
<td>HRA 108</td>
<td>3</td>
<td>Heating Systems</td>
<td>(m)</td>
<td>________________</td>
</tr>
<tr>
<td>HRA 116</td>
<td>3</td>
<td>Fundamentals of Electricity</td>
<td>(n)</td>
<td>________________</td>
</tr>
<tr>
<td>HRA 198</td>
<td>1</td>
<td>EPA Refrigerant Handler Certification</td>
<td>(o)</td>
<td>________________</td>
</tr>
<tr>
<td>HRA 204</td>
<td>3</td>
<td>Light Commercial Refrigeration</td>
<td>(p)</td>
<td>________________</td>
</tr>
<tr>
<td>HRA 205</td>
<td>2</td>
<td>Motors &amp; Controls</td>
<td>(q)</td>
<td>________________</td>
</tr>
<tr>
<td>HRA 215</td>
<td>3</td>
<td>HRA Controls</td>
<td>(r)</td>
<td>________________</td>
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<tr>
<td>HRA 220</td>
<td>2</td>
<td>Commercial Refrigeration Design</td>
<td>(s)</td>
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<td>HRA 223</td>
<td>3</td>
<td>Residential HVAC Load Determination</td>
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</tr>
<tr>
<td>HRA 225</td>
<td>3</td>
<td>Residential HVAC Distribution/Design</td>
<td>(u)</td>
<td>________________</td>
</tr>
<tr>
<td>HRA 240</td>
<td>3</td>
<td>Advanced Commercial Refrigeration</td>
<td>(v)</td>
<td>________________</td>
</tr>
<tr>
<td>HRA 285</td>
<td>3</td>
<td>Co-op (Heating, Refrigeration &amp; Air Cond.)</td>
<td>(w)</td>
<td>________________</td>
</tr>
</tbody>
</table>

* Recommended for students transferring to Ferris State University

---

@PREREQUISITES

- Student must meet with an advisor to register
- LEVEL I Gen Ed: CIS 100, MAT, ENG 111 and SPE 101-or-SPE 257
- Grade of “C” or better in MAT 101 OR equivalent
- Grade of “C” or better in MAT 105 OR equivalent
- Co requisite: MAT 104 or MAT 170
- Co requisite: MAT 124 OR equivalent
- Touch keyboarding skills recommended
- HRA 102
- HRA 106
- HRA 106, HRA 116
- HRA 116
- Co requisite: HRA 204
- HRA 108
- Co requisite: HRA 223
- HRA 104, HRA 116, HRA 204
- Minimum of 12 credits in HRA
### HRA Course Sequencing Schedule

#### Fast Track – Fall Start

(Afternoon Classes)

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>HRA 116</td>
<td>3</td>
</tr>
<tr>
<td>HRA 205</td>
<td>2</td>
</tr>
<tr>
<td>HRA 106</td>
<td>3</td>
</tr>
<tr>
<td>HRA 108</td>
<td>3</td>
</tr>
<tr>
<td>HRA 223</td>
<td>3</td>
</tr>
<tr>
<td>HRA 225</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>(17) credits</strong></td>
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</table>

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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<tbody>
<tr>
<td>Winter Semester HRA 105</td>
<td>3</td>
</tr>
<tr>
<td>HRA 102</td>
<td>3</td>
</tr>
<tr>
<td>HRA 104</td>
<td>3</td>
</tr>
<tr>
<td>HRA 285</td>
<td>3</td>
</tr>
<tr>
<td>HRA 204</td>
<td>3</td>
</tr>
<tr>
<td>HRA 220</td>
<td>2</td>
</tr>
<tr>
<td>HRA 198</td>
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<td><strong>Total</strong></td>
<td><strong>(18) credits</strong></td>
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<table>
<thead>
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<tbody>
<tr>
<td>Spring Session HRA 215</td>
<td>3</td>
</tr>
<tr>
<td>HRA 240</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>(6) credits</strong></td>
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<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>Fall Semester HRA 223</td>
<td>3</td>
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<tr>
<td>HRA 225</td>
<td>3</td>
</tr>
<tr>
<td>HRA 215</td>
<td>3</td>
</tr>
<tr>
<td>HRA 240</td>
<td>3</td>
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</table>

#### Fast Track – Winter Start

(Evening Classes)

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<td>HRA 102</td>
<td>3</td>
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<tr>
<td>HRA 285</td>
<td>3</td>
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<td>HRA 104</td>
<td>3</td>
</tr>
<tr>
<td>HRA 204</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>(17) credits</strong></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Winter Semester HRA 105</td>
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<tr>
<td>HRA 102</td>
<td>3</td>
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<tr>
<td>HRA 104</td>
<td>3</td>
</tr>
<tr>
<td>HRA 285</td>
<td>3</td>
</tr>
<tr>
<td>HRA 105</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>(6) credits</strong></td>
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<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Summer Session HRA 199</td>
<td>1</td>
</tr>
<tr>
<td>HRA 220</td>
<td>2</td>
</tr>
<tr>
<td>HRA 108</td>
<td>3</td>
</tr>
<tr>
<td>HRA 105</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>(6) credits</strong></td>
</tr>
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</table>

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fall Semester HRA 223</td>
<td>3</td>
</tr>
<tr>
<td>HRA 225</td>
<td>3</td>
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<tr>
<td>HRA 215</td>
<td>3</td>
</tr>
<tr>
<td>HRA 240</td>
<td>3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total</strong></td>
<td><strong>(12) credits</strong></td>
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</tbody>
</table>
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.

<table>
<thead>
<tr>
<th>Communication Skills (Group I) - 6 credit hours</th>
<th>@Prerequisites</th>
<th>Completed</th>
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<tbody>
<tr>
<td>ENG 111 (3) Freshman English Composition</td>
<td>(a)</td>
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</tr>
<tr>
<td>SPE 101 (3) Fundamentals of Communication OR</td>
<td></td>
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<tr>
<td>SPE 257 (3) Public Speaking</td>
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<table>
<thead>
<tr>
<th>Science and Mathematics (Group II) – 3-5 credit hours</th>
<th>@Prerequisites</th>
<th>Completed</th>
</tr>
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<tbody>
<tr>
<td>MAT 170 (3) Technical Mathematics II OR</td>
<td>(b)</td>
<td></td>
</tr>
<tr>
<td>MAT 124 (5) Precalculus *</td>
<td>(c)</td>
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<table>
<thead>
<tr>
<th>Applied Arts and Sciences (Group V) - 23 credit hours</th>
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<th>Completed</th>
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<tbody>
<tr>
<td>CIS 100 (3) Intro to Information Systems</td>
<td>(d)</td>
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</tr>
<tr>
<td>DRF 120 (3) Introduction to AutoCAD</td>
<td></td>
<td></td>
</tr>
<tr>
<td>HRA 102 (3) Refrigeration Fundamentals</td>
<td></td>
<td></td>
</tr>
<tr>
<td>HRA 104 (3) Residential Refrigeration</td>
<td>(e)</td>
<td></td>
</tr>
<tr>
<td>HRA 106 (3) Heating Fundamentals</td>
<td></td>
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<tr>
<td>HRA 108 (3) Heating Systems</td>
<td>(f)</td>
<td></td>
</tr>
<tr>
<td>HRA 116 (3) Fundamentals of Electricity</td>
<td></td>
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</tr>
<tr>
<td>HRA 205 (2) Motors &amp; Controls</td>
<td>(g)</td>
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</tr>
</tbody>
</table>

* Recommended for students transferring to Ferris State University

@ PREREQUISITES

a. Student must meet with an advisor to register
b. Grade of “C” or better in MAT 101 OR equivalent
c. Grade of “C” or better in MAT 105 OR equivalent
d. Touch keyboarding skills recommended
e. HRA 102
f. HRA 106, HRA 116
g. HRA 116
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 26 credits is required to complete this program.

### Fast Track

**Fall**

*Note: FAST TRACK COURSES ARE DELIVERED IN A COMPRESSED SEQUENTIAL FORMAT*

#### FIRST SEMESTER (Fall) - 17 credit hours

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
<th>Description</th>
<th>@Prerequisites</th>
<th>Completed</th>
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<tbody>
<tr>
<td>HRA 116 (3)</td>
<td></td>
<td>Fundamentals of Electricity</td>
<td></td>
<td></td>
</tr>
<tr>
<td>HRA 205 (2)</td>
<td></td>
<td>Motors &amp; Controls</td>
<td>(a)</td>
<td></td>
</tr>
<tr>
<td>HRA 106 (3)</td>
<td></td>
<td>Heating Fundamentals</td>
<td>(b)</td>
<td></td>
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<tr>
<td>HRA 108 (3)</td>
<td></td>
<td>Heating Systems</td>
<td></td>
<td></td>
</tr>
<tr>
<td>HRA 223 (3)</td>
<td></td>
<td>Residential HVAC Load Determination</td>
<td>(c)</td>
<td></td>
</tr>
<tr>
<td>HRA 225 (3)</td>
<td></td>
<td>Residential HVAC Distribution/Design</td>
<td>(d)</td>
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#### SECOND SEMESTER (Winter) - 6 credit hours

<table>
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<tr>
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<th>Credits</th>
<th>Description</th>
<th>@Prerequisites</th>
<th>Completed</th>
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<tbody>
<tr>
<td>HRA 105 (3)</td>
<td></td>
<td>Hydronics</td>
<td>(e)</td>
<td></td>
</tr>
<tr>
<td>HRA 285 (3)</td>
<td></td>
<td>Co-op (Heating, Refrigeration &amp; Air Conditioning)</td>
<td>(f)</td>
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#### THIRD SEMESTER (SPRING) - 3 credit hours

<table>
<thead>
<tr>
<th>Course</th>
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<tbody>
<tr>
<td>HRA 215 (3)</td>
<td></td>
<td>HRA Controls</td>
<td>(a)</td>
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</table>

@PREREQUISITES

a. HRA 116  
b. HRA 106, HRA 116  
c. HRA 108  
d. HRA 223  
e. HRA 106  
f. Minimum of 12 credit hours completed in HRA
TRAINING CREDENTIALS:

REFRIGERATION/AIR CONDITIONING SPECIALIST

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 26 credits is required to complete this program.

Fast Track
Winter

Note: FAST TRACK COURSES ARE DELIVERED IN A COMPRESSED SEQUENTIAL FORMAT

<table>
<thead>
<tr>
<th>FIRST SEMESTER (Winter) - 17 credit hours</th>
<th>@Prerequisite</th>
<th>Completed</th>
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<tbody>
<tr>
<td>HRA 116 (3) Fundamentals of Electricity</td>
<td></td>
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<tr>
<td>HRA 205 (2) Motors &amp; Controls</td>
<td>(a)</td>
<td></td>
</tr>
<tr>
<td>HRA 102 (3) Refrigeration Fundamentals</td>
<td></td>
<td></td>
</tr>
<tr>
<td>HRA 285 (3) Co-op (Heating, Refrigeration &amp; Air Conditioning)</td>
<td>(b)</td>
<td></td>
</tr>
<tr>
<td>HRA 104 (3) Residential Refrigeration</td>
<td>(c)</td>
<td></td>
</tr>
<tr>
<td>HRA 204 (3) Light Commercial Refrigeration</td>
<td>(c)</td>
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<tr>
<th>SECOND SEMESTER (Spring) - 3 credit hours</th>
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<tbody>
<tr>
<td>HRA 199 (1) EPA Refrigerant Handler Certification</td>
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<tr>
<td>HRA 220 (2) Commercial Refrigeration Design</td>
<td>(d)</td>
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<table>
<thead>
<tr>
<th>THIRD SEMESTER (Fall) - 6 credit hours</th>
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</thead>
<tbody>
<tr>
<td>HRA 215 (3) HRA Controls</td>
<td>(a)</td>
<td></td>
</tr>
<tr>
<td>HRA 240 (3) Advanced Commercial Refrigeration</td>
<td>(e)</td>
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</table>

@PREREQUISITES

a. HRA 116
b. Minimum of 12 Credits in HRA
g. HRA 102
d. HRA 204
e. HRA 104, HRA 116, HRA 204
TRAINING CREDENTIAL:

LEGAL OFFICE SPECIALIST

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 27 credits is required to complete this program.

**Prerequisites to Program:** CIS 100 (3) Introduction to Information Processing Systems and BIS 140 (3) Beginning Word Processing/Keyboarding OR equivalent.

### First Semester - 12 credit hours

<table>
<thead>
<tr>
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<th>Prerequisites</th>
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<tbody>
<tr>
<td>BIS 120</td>
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<td>Office Mathematics</td>
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</tr>
<tr>
<td>BIS 142</td>
<td>3</td>
<td>Intermediate Keyboarding</td>
<td>(a)</td>
</tr>
<tr>
<td>BIS 138</td>
<td>3</td>
<td>Basic Legal Terminology</td>
<td>(b)</td>
</tr>
<tr>
<td>BIS 164</td>
<td>3</td>
<td>Business Communication I</td>
<td>(c)</td>
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### Second Semester - 15 credit hours

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
<th>Title</th>
<th>Prerequisites</th>
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<tbody>
<tr>
<td>BUS 153</td>
<td>3</td>
<td>Business Law</td>
<td>(d)</td>
</tr>
<tr>
<td>BIS 250</td>
<td>3</td>
<td>Records Management</td>
<td></td>
</tr>
<tr>
<td>BIS 254</td>
<td>3</td>
<td>Office Procedures</td>
<td></td>
</tr>
<tr>
<td>BIS 200</td>
<td>3</td>
<td>Advanced Word Processing Applications</td>
<td>(e)</td>
</tr>
<tr>
<td>BIS 264</td>
<td>3</td>
<td>Business Communication II</td>
<td>(f)</td>
</tr>
</tbody>
</table>

@ PREREQUISITES

a. BIS 140 OR equivalent
b. BIS 140 OR equivalent OR concurrent enrollment, BIS 164 recommended OR concurrent enrollment.
c. Recommend concurrent enrollment in BIS 140 OR BIS 100 OR knowledge of correct keyboarding techniques.
d. BIS 130 OR CIS 100, BIS 140 OR equivalent
e. BIS 140 OR equivalent, BIS 130 OR CIS 100 recommended.
f. BIS 164 OR ENG 111
**ASSOCIATE IN BUSINESS DEGREE:**

**LEGAL 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 65 credits is required to complete this program.

**Prerequisite to the Program:** BIS 140 (3) Beginning Word Processing/Keyboarding OR equivalent OR concurrent enrollment

### FIRST SEMESTER (Fall) - 15 credit hours

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
<th>Description</th>
<th>Prerequisites</th>
<th>Completed</th>
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</thead>
<tbody>
<tr>
<td>BIS 120</td>
<td>3</td>
<td>Office Mathematics</td>
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<tr>
<td>BIS 130</td>
<td>3</td>
<td>Intro to Business Information Systems *</td>
<td>(a)</td>
<td></td>
</tr>
<tr>
<td>BIS 164</td>
<td>3</td>
<td>Business Communications I</td>
<td>(b)</td>
<td></td>
</tr>
<tr>
<td>ENG 111</td>
<td>3</td>
<td>Freshman English Composition</td>
<td>(c)</td>
<td></td>
</tr>
<tr>
<td>SPE 101</td>
<td>3</td>
<td>Fundamentals of Communication OR</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SPE 257</td>
<td>3</td>
<td>Public Speaking</td>
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### SECOND SEMESTER (Winter) - 16 credit hours

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
<th>Description</th>
<th>Prerequisites</th>
<th>Completed</th>
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<tbody>
<tr>
<td>BIS 127</td>
<td>4</td>
<td>Applied Office Accounting</td>
<td>(d)</td>
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<tr>
<td>BIS 136</td>
<td>3</td>
<td>Terminology and Proofreading</td>
<td>(e)</td>
<td></td>
</tr>
<tr>
<td>BIS 142</td>
<td>3</td>
<td>Intermediate Word Processing/Keyboarding</td>
<td>(f)</td>
<td></td>
</tr>
<tr>
<td>BIS 200</td>
<td>3</td>
<td>Advanced Word Processing Applications</td>
<td>(g)</td>
<td></td>
</tr>
<tr>
<td>HUM 200</td>
<td>3</td>
<td>Modernity &amp; Culture</td>
<td>(h)</td>
<td></td>
</tr>
</tbody>
</table>

### THIRD SEMESTER (Fall) - 18 credit hours

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
<th>Description</th>
<th>Prerequisites</th>
<th>Completed</th>
</tr>
</thead>
<tbody>
<tr>
<td>BUS 153</td>
<td>3</td>
<td>Business Law</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BIS 138</td>
<td>3</td>
<td>Basic Legal Terminology</td>
<td>(i)</td>
<td></td>
</tr>
<tr>
<td>BIS 230</td>
<td>3</td>
<td>Transcription I</td>
<td>(j)</td>
<td></td>
</tr>
<tr>
<td>BIS 240</td>
<td>3</td>
<td>Advanced Word Processing/Keyboarding</td>
<td>(k)</td>
<td></td>
</tr>
<tr>
<td>BIS 250</td>
<td>3</td>
<td>Records Management</td>
<td>(l)</td>
<td></td>
</tr>
<tr>
<td>SCI 200</td>
<td>3</td>
<td>Science, Technology &amp; Society</td>
<td>(h)</td>
<td></td>
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</table>

### FOURTH SEMESTER (Winter) - 16 credit hours

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
<th>Description</th>
<th>Prerequisites</th>
<th>Completed</th>
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</thead>
<tbody>
<tr>
<td>BIS 238</td>
<td>3</td>
<td>Legal Transcription</td>
<td>(m)</td>
<td></td>
</tr>
<tr>
<td>BIS 254</td>
<td>3</td>
<td>Office Procedures</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BIS 260</td>
<td>4</td>
<td>Co-op (Legal)</td>
<td>(n)</td>
<td></td>
</tr>
<tr>
<td>BIS 264</td>
<td>3</td>
<td>Business Communications II</td>
<td>(o)</td>
<td></td>
</tr>
<tr>
<td>SSC 200</td>
<td>3</td>
<td>The Social Sciences &amp; Contemporary America</td>
<td>(h)</td>
<td></td>
</tr>
</tbody>
</table>

* BIS 130 is highly recommended for the Business Information Systems, Legal Secretary, Medical Secretary, and Medical Assistant programs. However, it is an acceptable substitute if students have already taken CIS 100.

**PREREQUISITES**

- **a.** BIS 100 OR knowledge of keyboarding. Corequisite: BIS 140
- **b.** Recommend concurrent enrollment in BIS 140 OR BIS 160 OR knowledge of correct keyboarding techniques.
- **c.** Student must meet with an advisor to register
- **d.** BIS 120
- **e.** BIS 164, ENG 111 (may be concurrent)
- **f.** BIS 140 OR equivalent
- **g.** BIS 140 OR equivalent, BIS 130 recommended
- **h.** LEVEL I General Ed: CIS 100, MAT, ENG 111 and SPE 101 or SPE 257
- **i.** BIS 140 OR equivalent OR concurrent, BIS 164 recommended or concurrent
- **j.** ENG 111, BIS 130, BIS 136, BIS 142, BIS 164
- **k.** ENG 111, BIS 136, BIS 142, BIS 200
- **l.** BIS 130 or CIS 100, BIS 140 OR equivalent
- **m.** BIS 138, BIS 200, BIS 230, BIS 240
- **n.** Completed the first three semesters AND approval of the BIS Co-op Instructor and the MMCC Co-op Coordinator.
- **o.** BIS 164 or ENG 111
**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.

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**FIRST SEMESTER (Fall) - 15 credit hours**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
<th>Description</th>
<th>Prerequisites</th>
<th>Completed</th>
</tr>
</thead>
<tbody>
<tr>
<td>IND 101</td>
<td>4</td>
<td>Basic Machine Shop Practices</td>
<td>@Prerequisites</td>
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</tr>
<tr>
<td>IND 113</td>
<td>2</td>
<td>CNC Machining</td>
<td></td>
<td></td>
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<tr>
<td>DRF 120</td>
<td>3</td>
<td>Introduction to AutoCAD</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MAT 170</td>
<td>3</td>
<td>Technical Mathematics II</td>
<td>(a)</td>
<td></td>
</tr>
<tr>
<td>WLD 126</td>
<td>3</td>
<td>Basic Welding I</td>
<td></td>
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</table>

**SECOND SEMESTER (Winter) - 16 credit hours**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
<th>Description</th>
<th>Prerequisites</th>
<th>Completed</th>
</tr>
</thead>
<tbody>
<tr>
<td>IND 102</td>
<td>4</td>
<td>Machine Tool Practices II</td>
<td>(b)</td>
<td></td>
</tr>
<tr>
<td>IND 116</td>
<td>4</td>
<td>CNC Programming</td>
<td>(c)</td>
<td></td>
</tr>
<tr>
<td>IND 140</td>
<td>3</td>
<td>Metallurgy and Industrial Materials</td>
<td></td>
<td></td>
</tr>
<tr>
<td>DRF 105</td>
<td>2</td>
<td>Intro to Geometric Dimensioning &amp; Tolerancing</td>
<td>(d)</td>
<td></td>
</tr>
<tr>
<td>ENG 111</td>
<td>3</td>
<td>Freshman English Composition</td>
<td>(e)</td>
<td></td>
</tr>
</tbody>
</table>

@ **PREREQUISITES**

- a. MAT 101 OR equivalent
- b. IND 101 and a grade of “C” or better in MAT 104 or equivalent
- c. IND 101, IND 113, “C” or better in MAT 105 or MAT 170 or equivalent
- d. DRF 101, IND 101 and 113
- e. Student must meet with an advisor to register
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.

### FIRST SEMESTER (Fall) - 15 credit hours

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
<th>Description</th>
<th>Prerequisites</th>
<th>Completed</th>
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</thead>
<tbody>
<tr>
<td>BUS 122</td>
<td>3</td>
<td>Management Theory &amp; Practice</td>
<td></td>
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<tr>
<td>BUS 151</td>
<td>3</td>
<td>Introduction to Business Issues</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CIS 100</td>
<td>3</td>
<td>Intro to Information Processing Systems</td>
<td>(a)</td>
<td></td>
</tr>
<tr>
<td>MAT 116</td>
<td>3</td>
<td>Business Mathematics I</td>
<td>(b)</td>
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<tr>
<td>BIS 140</td>
<td>3</td>
<td>Beginning Word Processing/Keyboarding</td>
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</table>

### SECOND SEMESTER (Winter) - 16 credit hours

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
<th>Description</th>
<th>Prerequisites</th>
<th>Completed</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACC 201</td>
<td>4</td>
<td>Financial Accounting</td>
<td></td>
<td></td>
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<tr>
<td>BUS 162</td>
<td>3</td>
<td>Principles of Marketing</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CIS 130</td>
<td>3</td>
<td>Applications With Microcomputers</td>
<td>(c)</td>
<td></td>
</tr>
<tr>
<td>ENG 111</td>
<td>3</td>
<td>Freshman English Composition</td>
<td>(d)</td>
<td></td>
</tr>
<tr>
<td>SPE 101</td>
<td>3</td>
<td>Fundamentals of Communication OR</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SPE 257</td>
<td>3</td>
<td>Public Speaking</td>
<td></td>
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### THIRD SEMESTER (Fall) - 16 credit hours

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
<th>Description</th>
<th>Prerequisites</th>
<th>Completed</th>
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</thead>
<tbody>
<tr>
<td>ACC 211</td>
<td>4</td>
<td>Managerial Accounting</td>
<td>(e)</td>
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<tr>
<td>BUS 231</td>
<td>3</td>
<td>Principles of Advertising</td>
<td></td>
<td></td>
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<tr>
<td>ECO 201</td>
<td>3</td>
<td>Principles of Economics (Macroeconomics) OR</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ECO 202</td>
<td>3</td>
<td>Principles of Economics (Microeconomics) *</td>
<td></td>
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</tr>
<tr>
<td>HUM 200</td>
<td>3</td>
<td>Modernity &amp; Culture</td>
<td>(f)</td>
<td></td>
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<tr>
<td>BUS 225</td>
<td>3</td>
<td>International Business</td>
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### FOURTH SEMESTER (Winter) - 18 credit hours

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
<th>Description</th>
<th>Prerequisites</th>
<th>Completed</th>
</tr>
</thead>
<tbody>
<tr>
<td>BUS 153</td>
<td>3</td>
<td>Business Law</td>
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<tr>
<td>BUS 255</td>
<td>3</td>
<td>Entrepreneurial Finance</td>
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<tr>
<td>BUS 291</td>
<td>3</td>
<td>Business Internship</td>
<td>(g)</td>
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<tr>
<td>BIS 264</td>
<td>3</td>
<td>Business Communications II</td>
<td>(h)</td>
<td></td>
</tr>
<tr>
<td>SCI 200</td>
<td>3</td>
<td>Science, Technology &amp; Society</td>
<td>(f)</td>
<td></td>
</tr>
<tr>
<td>SSC 200</td>
<td>3</td>
<td>The Social Sciences &amp; Contemporary America</td>
<td>(f)</td>
<td></td>
</tr>
</tbody>
</table>

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**@ PREREQUISITES**

- a. Touch keyboarding skills recommended
- b. Grade of "C" or better in MAT 105 OR equivalent
- c. CIS 100 with a grade of "C" or better
- d. Student must meet with an advisor to register
- e. Grade of "C" or better in ACC 201
- f. LEVEL I General Ed: CIS 100, MAT, ENG 111 and SPE 101-or-SPE 257
- g. Permission of the Internship Coordinator.
- h. BIS 164 or ENG 111
ASSOCIATE IN SCIENCE DEGREE:

MATHMATICS

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) - 15 credit hours

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
<th>Description</th>
<th>Prerequisite</th>
<th>Completed</th>
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</thead>
<tbody>
<tr>
<td>ENG 111 (3)</td>
<td></td>
<td>Freshman English Composition</td>
<td>a</td>
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<tr>
<td>MAT 126 (5)</td>
<td></td>
<td>Calculus I</td>
<td>b</td>
<td></td>
</tr>
<tr>
<td>Elective (4)</td>
<td></td>
<td>Natural Science with Lab</td>
<td></td>
<td></td>
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<tr>
<td>SPE 101 (3)</td>
<td></td>
<td>Fundamentals of Communication OR SPE 257 (3)</td>
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<td></td>
<td></td>
<td>Public Speaking</td>
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SECOND SEMESTER (Winter) - 17 credit hours

<table>
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<tr>
<th>Course</th>
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<th>Description</th>
<th>Prerequisite</th>
<th>Completed</th>
</tr>
</thead>
<tbody>
<tr>
<td>CIS 100 (3)</td>
<td></td>
<td>Intro to Information Processing Systems</td>
<td>c</td>
<td></td>
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<tr>
<td>MAT 225 (4)</td>
<td></td>
<td>Calculus II</td>
<td>d</td>
<td></td>
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<tr>
<td>PSY 101 (3)</td>
<td></td>
<td>Introduction to General Psychology</td>
<td></td>
<td></td>
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<tr>
<td>Elective (4)</td>
<td></td>
<td>Physical Science</td>
<td></td>
<td></td>
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<tr>
<td>Elective (3)</td>
<td></td>
<td>Group IV</td>
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THIRD SEMESTER (Fall) - 15 credit hours

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
<th>Description</th>
<th>Prerequisite</th>
<th>Completed</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENG 222 (3)</td>
<td></td>
<td>Expository Writing &amp; Research</td>
<td>e</td>
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<tr>
<td>MAT 230 (3)</td>
<td></td>
<td>Introduction to Linear Algebra</td>
<td>d</td>
<td></td>
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<tr>
<td>Elective * (3)</td>
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<td>Group II</td>
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<td></td>
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<tr>
<td>Elective (3)</td>
<td></td>
<td>Group I, II, III, IV, or V</td>
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<tr>
<td>HUM 200 (3)</td>
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<td>Modernity &amp; Culture</td>
<td>f</td>
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FOURTH SEMESTER (Winter) - 16 credit hours

<table>
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<th>Description</th>
<th>Prerequisite</th>
<th>Completed</th>
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<tbody>
<tr>
<td>MAT 226 (4)</td>
<td></td>
<td>Calculus III</td>
<td>g</td>
<td></td>
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<tr>
<td>Elective * (3)</td>
<td></td>
<td>Group II</td>
<td></td>
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<tr>
<td>Elective (3)</td>
<td></td>
<td>Group III</td>
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<tr>
<td>Elective (3)</td>
<td></td>
<td>Group IV - other than HUM</td>
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<td></td>
</tr>
<tr>
<td>SSC 200 (3)</td>
<td></td>
<td>The Social Sciences &amp; Contemporary America</td>
<td>f</td>
<td></td>
</tr>
</tbody>
</table>

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 course 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.

@ PREREQUISITES

<table>
<thead>
<tr>
<th>Prerequisite</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Student must meet with an advisor to register</td>
</tr>
<tr>
<td>b. Grade of “C” or better in MAT 124 OR equivalent</td>
</tr>
<tr>
<td>c. Touch keyboarding skills recommended</td>
</tr>
<tr>
<td>d. Grade of “C” or better in MAT 126 OR equivalent</td>
</tr>
<tr>
<td>e. Grade of “C” or better in ENG 111</td>
</tr>
<tr>
<td>f. LEVEL I General Ed: CIS 100, MAT, ENG 111 and SPE 101-or SPE 257</td>
</tr>
<tr>
<td>g. Grade of “C” or better in MAT 225 OR equivalent</td>
</tr>
</tbody>
</table>
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.

**Prerequisites to the MA Program:**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
<th>Description</th>
<th>@Prerequisite</th>
<th>Completed</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENG 111</td>
<td>3</td>
<td>Freshman English Composition</td>
<td>(a)</td>
<td></td>
</tr>
<tr>
<td>SPE 101</td>
<td>3</td>
<td>Fundamentals of Communication OR Public Speaking</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BIO 131</td>
<td>3</td>
<td>Basic Anatomy &amp; Physiology</td>
<td>(b)</td>
<td></td>
</tr>
<tr>
<td>MAT 104</td>
<td>3</td>
<td>Basic Algebra</td>
<td>(c)</td>
<td></td>
</tr>
<tr>
<td>PSY 101</td>
<td>3</td>
<td>Intro to General Psychology</td>
<td>(d)</td>
<td></td>
</tr>
<tr>
<td>CIS 100</td>
<td>3</td>
<td>Intro to Information Processing Systems OR</td>
<td>(e)</td>
<td></td>
</tr>
<tr>
<td>BIS 130</td>
<td>3</td>
<td>Intro to Business Information Systems</td>
<td></td>
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<tr>
<td>ALH 100</td>
<td>2</td>
<td>Medical Terminology</td>
<td></td>
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<tr>
<td>BIS 127</td>
<td>4</td>
<td>Applied Office Accounting</td>
<td>(f)</td>
<td></td>
</tr>
<tr>
<td>BIS 164</td>
<td>3</td>
<td>Business Communications</td>
<td>(g)</td>
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</tr>
</tbody>
</table>

**Other Degree Requirement for the MA Program:**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
<th>Description</th>
<th>@Prerequisite</th>
<th>Completed</th>
</tr>
</thead>
<tbody>
<tr>
<td>SCI 200</td>
<td>3</td>
<td>Science, Technology &amp; Society</td>
<td>(h)</td>
<td></td>
</tr>
<tr>
<td>PSY 212</td>
<td>3</td>
<td>Developmental Psychology</td>
<td>(i)</td>
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<tr>
<td>Elective</td>
<td>3</td>
<td>Group III (not PSY)華語</td>
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<tr>
<td></td>
<td></td>
<td>SOC 101 recommended</td>
<td></td>
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<tr>
<td>Required:</td>
<td></td>
<td>HUM 200 (3) Modernity &amp; Culture</td>
<td>(h)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>ALH 112 (3) Insurance Billing</td>
<td>(i)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>ALH 220 (3) Medical Law and Ethics</td>
<td>(j)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>BIS 255 (3) Procedures for the Medical Office</td>
<td>(k)</td>
<td></td>
</tr>
</tbody>
</table>

**Restricted Enrollment Classes** – Student must get a signature from the Program Director or Dean of Nursing & Health Technologies to be granted permission to take the following courses.

**FALL SEMESTER - 6 Credits**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
<th>Description</th>
<th>@Prerequisite</th>
<th>Completed</th>
</tr>
</thead>
<tbody>
<tr>
<td>ALH 212</td>
<td>3</td>
<td>Clinical Procedures I</td>
<td>(l)</td>
<td></td>
</tr>
<tr>
<td>ALH 213</td>
<td>3</td>
<td>Pharmacology for the Medical Assistant</td>
<td>(m)</td>
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</table>

**WINTER SEMESTER - 6 Credits**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
<th>Description</th>
<th>@Prerequisite</th>
<th>Completed</th>
</tr>
</thead>
<tbody>
<tr>
<td>ALH 230</td>
<td>4</td>
<td>Laboratory Procedures for the Medical Office</td>
<td>(n)</td>
<td></td>
</tr>
<tr>
<td>ALH 214</td>
<td>3</td>
<td>Clinical Procedures II</td>
<td>(o)</td>
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</tr>
</tbody>
</table>

**SPRING SEMESTER - 4 Credits**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
<th>Description</th>
<th>@Prerequisite</th>
<th>Completed</th>
</tr>
</thead>
<tbody>
<tr>
<td>ALH 250</td>
<td>4</td>
<td>Medical Assistant Office Externship</td>
<td>(p)</td>
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</tr>
</tbody>
</table>

**NOTE:** All courses in a semester must be passed with a grade of "C" or better to progress to the next semester.

**@ PREREQUISITES**

a. Student must meet with an advisor to register  

b. BIO 101 or equivalent  

c. Grade of "C" or better in MAT 101 or in MAT 102 or equivalent  

d. Touch keyboarding skills recommended  

e. BIS 100 or keyboarding knowledge, Corequisite: BIS 140  

f. MAT 104 for this degree.  

g. Recommended concurrent enrollment in BIS 140 OR knowledge of correct keyboarding techniques  

h. LEVEL I General Ed: CIS 100, MAT, ENG 111& SPE 101-or- SPE 257  

i. PSY 101  

j. Prerequisite: ALH 100  

k. BIS 130 OR CIS 100, BIS 140  

l. Admission to MA Program. Corequisite: ALH213  

m. Admission to MA Program. Corequisite: ALH212  

n. ALH 212, 213. Corequisite: ALH 214  

o. ALH 212 & ALH 213. Corequisite: ALH 230  

p. ALH 212, 213, 214, & 230
TRAINING CREDENTIAL:

MEDICAL CODING/BILLING SPECIALIST

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 26 credits is required to complete this program.

The Training Credential: Medical Coding and Billing Specialist is a nine-month program designed to provide students with specialized knowledge in coding and billing in the health care industry. Students completing this program will be prepared to sit for the AHIMA (American Health Information Management Association) national certification exam for Medical Coding/Billing. This will allow students to pursue careers in hospitals, clinics, extended-care facilities, health maintenance organizations, veterinary clinics and other agencies that require Medical coding.

PREREQUISITE TO PROGRAM – 2 credit hours

ALH 100 (2) Medical Terminology
BIS 140 Competency Test Completion* or credit

FIRST SEMESTER - 10 credit hours

ALH 112 (3) Introduction to Insurance Billing (a) _______________
ALH 150 (4) Introduction to Health Care Info. Systems (b) _______________
BIO 120 (3) Introduction to Human Disease (c) _______________

SECOND SEMESTER - 10 credit hours

ALH 115 (3) Pharmacology for Health Info. Management (d) _______________
ALH 200 (4) ICD-9-CM (e) _______________
ALH 215 (3) CPT (Current Procedural Terminology) (f) _______________

THIRD SEMESTER - 4 credit hours

ALH 235 (4) Internship (150 hours) (g) _______________

NOTES:

● *Typing speed of 30 words per minute required, with no more than 3 errors per test on 4 timings.
● All courses listed on curriculum guide must be passed with a grade of “C” or better.
● ALH classes must be taken in the sequence they are listed.
● Limited enrollment program. Student must be admitted to MCB program prior to registering for ALH courses, except ALH 100 & ALH 112.

@ PREREQUISITES

a. ALH 100
b. ALH 100, BIS 140 OR equivalency & admission to RHIT or Medical Coding/Billing programs. Corequisite: ALH 112
c. ALH 100 recommended
d. ALH 112, ALH 150, BIO 120. Corequisites: ALH 200 & ALH 215
e. ALH 112, ALH 150, BIO 120. Corequisites: ALH 115 & ALH 215
f. ALH 112, ALH 150, BIO 120. Corequisites: ALH 115 & ALH 200
g. ALH 115, ALH 200, ALH 215
**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:** BIS 140 (3) Beginning Word Processing/Keyboarding OR equivalent OR concurrent enrollment

<table>
<thead>
<tr>
<th>FIRST SEMESTER (Fall) - 15 credit hours</th>
<th>@Prerequisites</th>
<th>Completed</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIS 120 (3) Office Mathematics</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BIS 130 (3) Intro to Business Information Systems*</td>
<td>(a)</td>
<td></td>
</tr>
<tr>
<td>BIS 164 (3) Business Communications I</td>
<td>(b)</td>
<td></td>
</tr>
<tr>
<td>ENG 111 (3) Freshman English Composition</td>
<td>(c)</td>
<td></td>
</tr>
<tr>
<td>SPE 101 (3) Fundamentals of Communication OR SPE 257 (3) Public Speaking</td>
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<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>SECOND SEMESTER (Winter) - 18 credit hours</th>
<th>@Prerequisites</th>
<th>Completed</th>
</tr>
</thead>
<tbody>
<tr>
<td>ALH 100 (2) Medical Terminology</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BIS 127 (4) Applied Office Accounting</td>
<td>(d)</td>
<td></td>
</tr>
<tr>
<td>BIS 136 (3) Terminology and Proofreading</td>
<td>(e)</td>
<td></td>
</tr>
<tr>
<td>BIS 142 (3) Intermediate Word Processing/Keyboarding</td>
<td>(f)</td>
<td></td>
</tr>
<tr>
<td>BIS 200 (3) Advanced Word Processing Applications</td>
<td>(g)</td>
<td></td>
</tr>
<tr>
<td>HUM 200 (3) Modernity &amp; Culture</td>
<td>(h)</td>
<td></td>
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<table>
<thead>
<tr>
<th>THIRD SEMESTER (Fall) - 15 credit hours</th>
<th>@Prerequisites</th>
<th>Completed</th>
</tr>
</thead>
<tbody>
<tr>
<td>ALH 112 (3) Insurance Billing</td>
<td>(i)</td>
<td></td>
</tr>
<tr>
<td>BIS 230 (3) Transcription I</td>
<td>(j)</td>
<td></td>
</tr>
<tr>
<td>BIS 240 (3) Advanced Word Processing/Keyboarding</td>
<td>(k)</td>
<td></td>
</tr>
<tr>
<td>BIS 250 (3) Records Management</td>
<td>(l)</td>
<td></td>
</tr>
<tr>
<td>SCI 200 (3) Science, Technology &amp; Society</td>
<td>(h)</td>
<td></td>
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</table>

<table>
<thead>
<tr>
<th>FOURTH SEMESTER (Winter) - 16 credit hours</th>
<th>@Prerequisites</th>
<th>Completed</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIS 236 (3) Medical Transcription I</td>
<td>(m)</td>
<td></td>
</tr>
<tr>
<td>BIS 254 (3) Office Procedures</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BIS 260 (4) Co-op (Medical)</td>
<td>(n)</td>
<td></td>
</tr>
<tr>
<td>BIS 264 (3) Business Communications II</td>
<td>(o)</td>
<td></td>
</tr>
<tr>
<td>SSC 200 (3) The Social Sciences &amp; Contemporary America</td>
<td>(h)</td>
<td></td>
</tr>
</tbody>
</table>

* BIS 130 is highly recommended for the Business Information Systems, Legal Secretary, Medical Secretary, and Medical Assistant programs. However, it is an acceptable substitute if students have already taken CIS 100.

---

**@ PREREQUISITES**

a. BIS 100 OR knowledge of keyboarding. Corequisite: BIS 140
b. Recommend concurrent enrollment in BIS 140 OR BIS 100 OR Knowledge of correct keyboarding techniques.

c. Student must meet with an advisor to register
d. BIS 120
e. BIS 164, ENG 111 (may be concurrent)
f. BIS 140 OR equivalent

g. BIS 140 OR equivalent, BIS 130 recommended
h. LEVEL I General Ed: CIS 100, MAT, ENG 111 and SPE 101-or-SPE 257
i. Prerequisite: ALH 100
j. ENG 111, BIS 130, BIS 136, BIS 142, BIS 164
k. ENG 111, BIS 136, BIS 142, BIS 200
l. BIS 130 or CIS 100, BIS 140 OR equivalent
m. ALH 100, BIS 142, BIS 230

n. Completed the first three semesters AND approval of the BIS Co-op Instructor and the MMCC Co-op Coordinator

o. BIS 164 or ENG 111
Training Credential:

Medical Office Specialist

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 26 credits is required to complete this program.

Prerequisites to Program: CIS 100 (3) Introduction to Information Processing Systems and BIS 140 (3) Beginning Word Processing/Keyboarding OR equivalent.

First Semester - 11 credit hours @Prerequisites Completed

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
<th>Title</th>
<th>@Prerequisites</th>
<th>Completed</th>
</tr>
</thead>
<tbody>
<tr>
<td>ALH 100</td>
<td>2</td>
<td>Medical Terminology</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BIS 120</td>
<td>3</td>
<td>Office Mathematics</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BIS 142</td>
<td>3</td>
<td>Intermediate Keyboarding</td>
<td>(a)</td>
<td></td>
</tr>
<tr>
<td>BIS 164</td>
<td>3</td>
<td>Business Communication I</td>
<td>(b)</td>
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</table>

Second Semester - 15 credit hours

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
<th>Title</th>
<th>@Prerequisites</th>
<th>Completed</th>
</tr>
</thead>
<tbody>
<tr>
<td>ALH 112</td>
<td>3</td>
<td>Insurance Billing</td>
<td>(c)</td>
<td></td>
</tr>
<tr>
<td>BIS 250</td>
<td>3</td>
<td>Records Management</td>
<td>(d)</td>
<td></td>
</tr>
<tr>
<td>BIS 255</td>
<td>3</td>
<td>Medical Office Procedures</td>
<td>(e)</td>
<td></td>
</tr>
<tr>
<td>BIS 264</td>
<td>3</td>
<td>Business Communication II</td>
<td>(f)</td>
<td></td>
</tr>
<tr>
<td>CIS 130</td>
<td>3</td>
<td>Applications with Microcomputers</td>
<td>(g)</td>
<td></td>
</tr>
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</table>

@ PREREQUISITES

a. BIS 140 OR equivalent
b. Recommend concurrent enrollment in BIS 140 OR BIS 100 OR knowledge of correct keyboarding techniques.
c. Prerequisite: ALH 100
d. BIS 130 OR CIS 100, BIS 140 OR equivalent
e. BIS 130 OR CIS 100, BIS 140
f. BIS 164 OR ENG 111
g. CIS 100 with “C” or better
ASSOCIATE IN BUSINESS DEGREE:

MEDICAL TRANSCRIPTIONIST

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.

Prerequisite to Program: BIS 140 (3) Beginning Word Processing/Keyboarding OR equivalent OR concurrent enrollment

FIRST SEMESTER (Fall) - 18 credit hours

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
<th>Description</th>
<th>Prerequisite</th>
<th>Completed</th>
</tr>
</thead>
<tbody>
<tr>
<td>ALH 100</td>
<td>2</td>
<td>Medical Terminology</td>
<td>(a)</td>
<td></td>
</tr>
<tr>
<td>BIO 101</td>
<td>4</td>
<td>College Biology</td>
<td>(a)</td>
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<tr>
<td>CIS 100</td>
<td>3</td>
<td>Intro to Information Processing Systems</td>
<td>(a)</td>
<td></td>
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<tr>
<td>BIS 120</td>
<td>3</td>
<td>Office Mathematics</td>
<td>(b)</td>
<td></td>
</tr>
<tr>
<td>BIS 126</td>
<td>3</td>
<td>Introduction to Medical Transcription</td>
<td>(b)</td>
<td></td>
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<tr>
<td>BIS 164</td>
<td>3</td>
<td>Business Communications I</td>
<td>(c)</td>
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SECOND SEMESTER (Winter) - 18 credit hours

<table>
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<th>Course</th>
<th>Credits</th>
<th>Description</th>
<th>Prerequisite</th>
<th>Completed</th>
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<tbody>
<tr>
<td>BIO 131</td>
<td>3</td>
<td>Basic Anatomy and Physiology</td>
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<td>ENG 111</td>
<td>3</td>
<td>Freshman English Composition</td>
<td>(e)</td>
<td></td>
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<tr>
<td>BIS 136</td>
<td>3</td>
<td>Terminology and Proofreading</td>
<td>(f)</td>
<td></td>
</tr>
<tr>
<td>BIS 142</td>
<td>3</td>
<td>Intermediate Word Processing/Keyboarding</td>
<td>(g)</td>
<td></td>
</tr>
<tr>
<td>BIS 236</td>
<td>3</td>
<td>Medical Transcription I</td>
<td>(h)</td>
<td></td>
</tr>
<tr>
<td>SPE 101</td>
<td>3</td>
<td>Fundamentals of Communication OR Public Speaking</td>
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THIRD SEMESTER (Fall) - 12 credit hours

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<th>Prerequisite</th>
<th>Completed</th>
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<tbody>
<tr>
<td>BIS 240</td>
<td>3</td>
<td>Advanced Word Processing/Keyboarding</td>
<td>(j)</td>
<td></td>
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<tr>
<td>BIS 246</td>
<td>3</td>
<td>Medical Transcription II</td>
<td>(j)</td>
<td></td>
</tr>
<tr>
<td>HUM 200</td>
<td>3</td>
<td>Modernity &amp; Culture</td>
<td>(k)</td>
<td></td>
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<td>SCI 200</td>
<td>3</td>
<td>Science, Technology &amp; Society</td>
<td>(k)</td>
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FOURTH SEMESTER (Winter) - 15 credit hours

<table>
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<tr>
<th>Course</th>
<th>Credits</th>
<th>Description</th>
<th>Prerequisite</th>
<th>Completed</th>
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<tbody>
<tr>
<td>ALH 220</td>
<td>3</td>
<td>Medical Law and Ethics</td>
<td>(l)</td>
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<tr>
<td>BIS 254</td>
<td>3</td>
<td>Office Procedures</td>
<td></td>
<td></td>
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<tr>
<td>BIS 256</td>
<td>3</td>
<td>Medical Transcription III</td>
<td>(l)</td>
<td></td>
</tr>
<tr>
<td>BIS 260</td>
<td>4</td>
<td>Co-op (Medical Transcription)</td>
<td>(m)</td>
<td></td>
</tr>
<tr>
<td>SSC 200</td>
<td>3</td>
<td>The Social Sciences &amp; Contemporary America</td>
<td>(k)</td>
<td></td>
</tr>
</tbody>
</table>

@ PREREQUISITES

a. Touch keyboarding skills recommended
b. BIS 140 or competency. Corequisite ALH 100 recommended
c. Recommend concurrent enrollment in BIS 140 OR BIS 100 OR knowledge of correct keyboarding techniques.
d. BIO 101
e. Student must meet with and advisor to register
f. BIS 164, ENG 111 (may be concurrent)
g. BIS 140 OR equivalent
h. ALH 100, BIS 142, BIS 230
i. ENG 111, BIS 136, BIS 142, BIS 200
j. BIS 236
k. LEVEL I General Ed: CIS 100, MAT, ENG 111 and SPE 101-or-SPE 257
l. BIS 246
m. The student should have completed the first three semesters of the program and the approval of the MMCC Co-op Coordinator and BIS Instructor in order to be placed in a training site.
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 LEVEL I LPN Program: 22 credit hours

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
<th>Description</th>
<th>Prerequisite</th>
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<tbody>
<tr>
<td>ALH 100</td>
<td>2</td>
<td>Medical Terminology</td>
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</tr>
<tr>
<td>CIS 100</td>
<td>3</td>
<td>Intro to Info Processing Systems OR Competency</td>
<td>(a)</td>
</tr>
<tr>
<td>ENG 111</td>
<td>3</td>
<td>Freshman English Composition</td>
<td>(b)</td>
</tr>
<tr>
<td>MAT 104</td>
<td>3</td>
<td>Basic Algebra</td>
<td>(c)</td>
</tr>
<tr>
<td>BIO 141</td>
<td>4</td>
<td>Anatomy &amp; Physiology I</td>
<td>(d)</td>
</tr>
<tr>
<td>BIO 142</td>
<td>4</td>
<td>Anatomy &amp; Physiology II</td>
<td>(e)</td>
</tr>
<tr>
<td>SPE 101</td>
<td>3</td>
<td>Fundamentals of Communication OR</td>
<td></td>
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<tr>
<td>SPE 257</td>
<td>3</td>
<td>Public Speaking</td>
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### Prerequisites to the LEVEL II ADN Program: 8 credit hours

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<th>Description</th>
<th>Prerequisite</th>
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<tbody>
<tr>
<td>BIO 210</td>
<td>4</td>
<td>Microbiology</td>
<td>(f)</td>
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<tr>
<td>CHM 106</td>
<td>4</td>
<td>Organic &amp; Biochemistry for Allied Health</td>
<td>(g)</td>
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### LEVEL I - 31 credit hours

<table>
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<th>Credits</th>
<th>Description</th>
<th>Prerequisite</th>
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<tr>
<td>NUR 121</td>
<td>6</td>
<td>Fundamentals of Nursing</td>
<td>(h)</td>
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<tr>
<td>NUR 124</td>
<td>5</td>
<td>Nursing Clinical I</td>
<td>(i)</td>
</tr>
<tr>
<td>NUR 150</td>
<td>3</td>
<td>Pharmacology</td>
<td>(j)</td>
</tr>
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<td>NUR 125</td>
<td>5</td>
<td>Care of Adult I</td>
<td>(k)</td>
</tr>
<tr>
<td>NUR 127</td>
<td>4</td>
<td>Maternal/Child</td>
<td>(l)</td>
</tr>
<tr>
<td>NUR 128</td>
<td>4</td>
<td>Nursing Clinical II</td>
<td>(m)</td>
</tr>
<tr>
<td>NUR 130</td>
<td>3</td>
<td>Nursing Clinical III</td>
<td>(n)</td>
</tr>
<tr>
<td>NUR 134</td>
<td>1</td>
<td>Trends In Leadership</td>
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</tbody>
</table>

### LEVEL II - 31 credit hours

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
<th>Description</th>
<th>Prerequisite</th>
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<tbody>
<tr>
<td>NUR 221</td>
<td>2.5</td>
<td>Family-Centered</td>
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<tr>
<td>NUR 222</td>
<td>2.5</td>
<td>Family-Centered: Clinical IV</td>
<td>(q)</td>
</tr>
<tr>
<td>NUR 223</td>
<td>2.5</td>
<td>Mental Health</td>
<td>(r)</td>
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<tr>
<td>NUR 224</td>
<td>2.5</td>
<td>Mental Health: Clinical IV</td>
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</tr>
<tr>
<td>NUR 225</td>
<td>5</td>
<td>Care of Adult II</td>
<td>(t)</td>
</tr>
<tr>
<td>NUR 226</td>
<td>5</td>
<td>Nursing Clinical V</td>
<td>(u)</td>
</tr>
<tr>
<td>NUR 227</td>
<td>2</td>
<td>Leadership</td>
<td>(v)</td>
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<tr>
<td>NUR 228</td>
<td>3</td>
<td>Preceptorship: Clinical VI</td>
<td>(w)</td>
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<tr>
<td>HUM 200</td>
<td>3</td>
<td>Modernity &amp; Culture</td>
<td>(x)</td>
</tr>
<tr>
<td>SSC 200</td>
<td>3</td>
<td>The Social Sciences &amp; Contemporary America</td>
<td>(y)</td>
</tr>
</tbody>
</table>

**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, which includes withdrawals.
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 Nursing and Health Technology Department.

NOTE: All NUR courses require a signature on the registration form from the Dean/Director of Nursing. Entry level students will receive this form at the orientation scheduled for incoming nursing students.

@ PREREQUISITES

a. Touch keyboarding skills recommended
b. Student must meet with an advisor to register
c. Grade of “C” or better in MAT 101 or grade of “C” or better in MAT 102 or equivalent
d. BIO 101 or equivalent
e. BIO 141
f. BIO 101 or a college course equivalent to BIO 101 or a grade of “B” or better, within the past 3 years, in a High School Advanced Placement Biology course.
g. 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
h. Admission to Level I of the Program, Corequisite: NUR 124, NUR 150
i. Admission to Level I of the Program, Corequisite: NUR 121, NUR 150
j. Admission to Level I of the Program, Corequisite: First Semester Level I Nursing courses unless previously passed.
k. NUR 121, NUR 124, NUR 150, Corequisite: NUR 128
l. NUR 121, NUR 124, NUR 150, Corequisite: NUR 125, NUR 128
m. NUR 121, NUR 124, NUR 150, Corequisite: NUR 125
n. NUR 125, NUR 127, NUR 128
o. NUR 125, NUR 128, Corequisite: NUR 127, NUR 130
p. Admission to Level II of the Program, Corequisite: NUR 222
q. Admission to Level II of the Program, Corequisite: NUR 221
r. Admission to Level II of the Program, Corequisite: NUR 224
s. Admission to Level II of the Program, Corequisite: NUR 223
t. Admission to Level II of the Program, Corequisite: NUR 226
u. Admission to Level II of the Program, Corequisite: NUR 225
v. Completion of Semester 1 of Level II of the Program.
w. NUR 221, NUR 222, NUR 223, NUR 224, NUR 225, NUR 226, NUR 227, HUM 200, SSC 200
x. Level I General Ed: CIS 100, MAT, ENG 111 and SPE 101 or SPE 257
y. Level I General Ed: CIS 100, MAT, ENG 111 and SPE 101 or SPE 257
Laddered Nursing Course Sequencing Schedule

<table>
<thead>
<tr>
<th>Fall Cohort</th>
<th>Online Cohort</th>
<th>Winter Cohort</th>
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<tbody>
<tr>
<td><strong>Level I –</strong></td>
<td><strong>Level I –</strong></td>
<td><strong>Level I –</strong></td>
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<td><strong>Total (14) credits</strong></td>
</tr>
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<td><strong>Winter Semester:</strong></td>
<td><strong>Winter Semester:</strong></td>
<td><strong>Spring/Summer Session:</strong></td>
</tr>
<tr>
<td>NUR 125 (5) credits</td>
<td>NUR 125 (5) credits</td>
<td>NUR 125 (5) credits</td>
</tr>
<tr>
<td>NUR 127 (4) credits</td>
<td>NUR 127 (4) credits</td>
<td>NUR 128 (4) credits</td>
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<td>NUR 128 (4) credits</td>
<td>NUR 128 (4) credits</td>
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<td><strong>Total (13) credits</strong></td>
<td><strong>Total (15) credits</strong></td>
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<td><strong>Spring Session:</strong></td>
<td><strong>Spring Session:</strong></td>
<td><strong>Fall Semester:</strong></td>
</tr>
<tr>
<td>NUR 130 (3) credits</td>
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<td>NUR 127 (4) credits</td>
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<td>NUR 134 (1) credits</td>
<td>NUR 134 (1) credits</td>
<td>NUR 130 (3) credits</td>
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<td><strong>Total (4) credits</strong></td>
<td><strong>Total (8) credits</strong></td>
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<td><strong>Level II –</strong></td>
<td><strong>Level II –</strong></td>
</tr>
<tr>
<td><strong>Fall Semester:</strong></td>
<td><strong>Fall Semester:</strong></td>
<td><strong>Winter/Spring Sessions:</strong></td>
</tr>
<tr>
<td>NUR 221 (2.5) credits</td>
<td>NUR 225 (5) credits</td>
<td>NUR 221 (2.5) credits</td>
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<td>NUR 226 (5) credits</td>
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<td>NUR 227 (2) credits</td>
<td>NUR 223 (2.5) credits</td>
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<td>NUR 224 (2.5) credits</td>
<td>HUM 200 (3) credits</td>
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<td><strong>Total (13) credits</strong></td>
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<td><strong>Winter Semester:</strong></td>
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<td>NUR 225 (5) credits</td>
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<td>NUR 225 (5) credits</td>
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<td>NUR 226 (5) credits</td>
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<td>NUR 227 (2) credits</td>
<td>NUR 223 (2.5) credits</td>
<td>NUR 227 (2) credits</td>
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<tr>
<td>NUR 224 (2.5) credits</td>
<td>HUM 200 (3) credits</td>
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</tr>
<tr>
<td>SSC 200 (3) credits</td>
<td><strong>Total (13) credits</strong></td>
<td>SSC 200 (3) credits</td>
</tr>
<tr>
<td><strong>Total (13) credits</strong></td>
<td><strong>Total (13) credits</strong></td>
<td><strong>Total (15) credits</strong></td>
</tr>
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<td><strong>Spring Session:</strong></td>
<td><strong>Spring Session:</strong></td>
<td><strong>Winter Semester:</strong></td>
</tr>
<tr>
<td>NUR 228 (3) credits</td>
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<td>NUR 228 (3) credits</td>
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<td><strong>Total (3) credits</strong></td>
<td><strong>Total (3) credits</strong></td>
<td><strong>Total (3) credits</strong></td>
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</tbody>
</table>
ASSOCIATE IN NURSING DEGREE  
(PART-TIME)

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

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
<th>Description</th>
<th>Grade Required</th>
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<tbody>
<tr>
<td>CIS 100</td>
<td>(3)</td>
<td>Intro to Information Processing Systems</td>
<td>(a)</td>
<td></td>
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<tr>
<td>ENG 111</td>
<td>(3)</td>
<td>Freshman English Composition</td>
<td>(b)</td>
<td></td>
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<tr>
<td>MAT 104</td>
<td>(3)</td>
<td>Basic Algebra</td>
<td>(c)</td>
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<td>BIO 141</td>
<td>(4)</td>
<td>Anatomy &amp; Physiology I</td>
<td>(d)</td>
<td></td>
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<tr>
<td>BIO 142</td>
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<td>Anatomy &amp; Physiology II</td>
<td>(e)</td>
<td></td>
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<td>SPE 101</td>
<td>(3)</td>
<td>Fundamentals of Communication OR</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SPE 257</td>
<td>(3)</td>
<td>Public Speaking</td>
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</tr>
<tr>
<td>BIO 210</td>
<td>(4)</td>
<td>Microbiology</td>
<td>(f)</td>
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<tr>
<td>CHM 106</td>
<td>(4)</td>
<td>Organic &amp; Biochemistry for Allied Health</td>
<td>(g)</td>
<td></td>
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</tbody>
</table>

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.

### Transition: First Semester (Spring) - 1 credit hours
- NUR 133 (1) Transition to Level II of the Program (h)  

### Level II: Second Semester (Summer) - 3 credit hours
- SSC 200 (3) The Social Sciences & Contemporary America (i)  

### Level II: Third Semester (Fall) - 5 credit hours
- NUR 223 (2.5) Mental Health (j)  
- NUR 224 (2.5) Mental Health: Clinical IV (k)  

### Level II: Fourth Semester (Winter) - 10 credit hours
- NUR 225 (5) Care of Adult II (l)  
- NUR 226 (5) Nursing Clinical V (m)  

### Level II: Fifth Semester (Spring or Summer) - 3 credit hours
- HUM 200 (3) Modernity & Culture (i)  
- NUR 226 Continued from Winter Semester  

### Level II: Sixth Semester (Fall) - 7 credit hours
- NUR 221 (2.5) Family-Centered (n)  
- NUR 222 (2.5) Family-Centered: Clinical IV (o)  
- NUR 227 (2) Leadership (p)  

### Level II: Seventh Semester (Winter) - 3 credit hours
- NUR 228 (3) Preceptorship: Clinical VI (q)  

**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, which includes withdrawals.
@ PREREQUISITES

a. Touch keyboarding skills recommended
b. Student must meet with an advisor to register
c. Grade of "C" or better in MAT 101 OR grade of “C” or better in MAT 102 OR equivalent
d. BIO 101 or equivalent
e. BIO 141
f. BIO 101 OR a college course equivalent to BIO 101 OR a grade of “B” or better, within the past 3 years, in a
   High School Advanced Placement Biology course.
g. 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.
h. Admission to Level II Nursing Program.
i. LEVEL I General Ed: CIS 100, MAT, ENG 111 and SPE 101-or-SPE 257
j. Admission to Level II of the Program, Corequisite: NUR 224
k. Admission to Level II of the Program, Corequisite: NUR 223
l. Admission to Level II of the Program, Corequisite: NUR 226
m. Admission to Level II of the Program, Corequisite: NUR 225
n. Admission to Level II of the Program, Corequisite: NUR 222
go. Admission to Level II of the Program, Corequisite: NUR 221
p. Completion of Semester 1 of Level II of the Program
q. NUR 221, NUR 222, NUR 223, NUR 224, NUR 225, NUR 226, NUR 227
ASSOCIATE IN NURSING DEGREE
(Step-Up)

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

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>@Prerequisites</th>
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<tbody>
<tr>
<td>CIS 100</td>
<td>Intro to Info Processing Sys OR competency</td>
<td>(a)</td>
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<tr>
<td>ENG 111</td>
<td>Freshman English Composition</td>
<td>(b)</td>
<td></td>
</tr>
<tr>
<td>MAT 104</td>
<td>Basic Algebra</td>
<td>(c)</td>
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</tr>
<tr>
<td>BIO 141</td>
<td>Anatomy &amp; Physiology I</td>
<td>(d)</td>
<td></td>
</tr>
<tr>
<td>BIO 142</td>
<td>Anatomy &amp; Physiology II</td>
<td>(e)</td>
<td></td>
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<tr>
<td>BIO 210</td>
<td>Microbiology</td>
<td>(f)</td>
<td></td>
</tr>
<tr>
<td>CHM 106</td>
<td>Organic &amp; Biochemistry for Allied Health</td>
<td>(g)</td>
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</tr>
<tr>
<td>SPE 101</td>
<td>Fundamentals of Communication OR</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SPE 257</td>
<td>Public Speaking</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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.

TRANSITION: THIRD SEMESTER (Summer) - 1 credit hour

NUR 133 (1) Transition to Level II of the Program (h) _____________

LEVEL II: FOURTH SEMESTER (Fall) - 13 credit hours

NUR 221 (2.5) Family-Centered (i) _____________
NUR 222 (2.5) Family-Centered: Clinical IV (j) _____________
NUR 223 (2.5) Mental Health (k) _____________
NUR 224 (2.5) Mental Health: Clinical IV (l) _____________
SSC 200 (3) The Social Sciences & Contemporary America (m) _____________

LEVEL II: FIFTH SEMESTER (Winter) - 15 credit hours

NUR 225 (5) Care of Adult II (n) _____________
NUR 226 (5) Nursing Clinical V (o) _____________
NUR 227 (2) Leadership (p) _____________
HUM 200 (3) Modernity & Culture (m) _____________

LEVEL II: SIXTH SEMESTER (Spring) - 3 credit hours

NUR 228 (3) Preceptorship: Clinical VI (q) _____________

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, which includes withdrawals.
@ PREREQUISITES

a. Touch keyboarding skills recommended

b. Student must meet with an advisor to register

c. Grade of "C" or better in MAT 101 OR grade of “C” or better in MAT 102 OR equivalent

d. BIO 101 or equivalent

e. BIO 141

f. BIO 101 OR a college course equivalent to BIO 101 OR a grade of “B” or better, within the past 3 years, in a
   High School Advanced Placement Biology course.

g. 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 for
   the instructor.

h. Admission to Level II Nursing Program.
i. Admission to Level II of the Program, Corequisite: NUR 222

j. Admission to Level II of the Program, Corequisite: NUR 221

k. Admission to Level II of the Program, Corequisite: NUR 224

l. Admission to Level II of the Program, Corequisite: NUR 223

m. LEVEL I General Ed: CIS 100, MAT, ENG 111 and SPE 101-or-SPE 257

n. Admission to Level II of the Program, Corequisite: NUR 226

o. Admission to Level II of the Program, Corequisite: NUR 225

p. Completion of Semester 1 of Level II of the Program

q. NUR 221, NUR 222, NUR 223, NUR 224, NUR 225, NUR 226, NUR 227
The Pharmacy Technician Program is a one-year training credential 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 320 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.

PHT courses must be taken in sequence

<table>
<thead>
<tr>
<th>SEMESTER I</th>
<th>12 credit hours</th>
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<th>Completed</th>
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<tbody>
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<td>PHT 105 (3) Pharmacy Law</td>
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<tr>
<td>PHT 106 (3) Pharmaceutical Calculations</td>
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<td>ALH 100 (2) Medical Terminology</td>
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<table>
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<th>@Prerequisites</th>
<th>Completed</th>
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<tr>
<td>PHT 114 (4) Therapeutic Agents and Body Systems</td>
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<tr>
<td>SPE 101 (3) Fundamentals of Communication OR SPE 257 (3) Public Speaking</td>
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</table>

<table>
<thead>
<tr>
<th>SEMESTER III</th>
<th>7.5 credit hours</th>
<th>@Prerequisites</th>
<th>Completed</th>
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<tr>
<td>PHT 115 (7.5) Clinical Practicum</td>
<td>(f)</td>
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</table>

NOTES:
- 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.
- PHT courses may be repeated only once.
- Limited Enrollment Program. Student must be admitted to PHT program prior to registering for PHT classes.

@PREREQUISITES

a. Corequisites: ALH 100, PHT 105, PHT 106
b. Corequisites: ALH 100, PHT 104, PHT 106
c. Corequisites: ALH 100, PHT 104, PHT 105
d. PHT 104, PHT 105, PHT 106. Corequisites: PHT 114, SPE 101 OR SPE 257
e. PHT 104, PHT 105, PHT 106. Corequisites: PHT 113, SPE 101 OR SPE 257
f. PHT 113, PHT 114, SPE 101 OR SPE 257
ASSOCIATE IN APPLIED SCIENCE DEGREE:

PHYSICAL THERAPIST ASSISTANT

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 71.5 credits is required to complete this program.

<table>
<thead>
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<th>Prerequisites to the Program – 7.5-10.5 credit hours.</th>
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<td>BIO 135 (5.5) Applied Anatomy &amp; Physiology OR</td>
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<td>BIO 141 (4) Anatomy &amp; Physiology I AND</td>
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<tr>
<td>BIO 142 (4) Anatomy &amp; Physiology II</td>
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</table>

Prerequisites Completed

Other Program Requirements – 24 credit hours

(These courses may be taken before or while PTA courses are in progress but must be completed to finish the associate degree and to obtain a Physical Therapist Assistant Certificate. Each of these courses must be passed with a “C” (2.0) or higher.)

<table>
<thead>
<tr>
<th>Courses</th>
<th>Credits</th>
<th>Requirement</th>
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<td>CIS 100 Intro to Info Processing Systems</td>
<td>3</td>
<td>(d)</td>
</tr>
<tr>
<td>ENG 111 Freshman English Composition</td>
<td>3</td>
<td>(e)</td>
</tr>
<tr>
<td>MAT 104 Basic Algebra</td>
<td>3</td>
<td>(f)</td>
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<tr>
<td>PHY 101 Introductory Physics</td>
<td>3</td>
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<tr>
<td>PSY 101 Intro to General Psychology</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>SPE 101 Fundamentals of Communication OR</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>SPE 257 Public Speaking</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>HUM 200 Modernity &amp; Culture</td>
<td>3</td>
<td>(g)</td>
</tr>
<tr>
<td>SSC 200 The Social Sciences &amp; Contemp. America</td>
<td>3</td>
<td>(h)</td>
</tr>
</tbody>
</table>

First Semester – 9 credits

(Admission to the program required before taking PTA courses)

<table>
<thead>
<tr>
<th>Courses</th>
<th>Credits</th>
<th>Requirement</th>
</tr>
</thead>
<tbody>
<tr>
<td>PTA 101 Orientation to Physical Therapy</td>
<td>1</td>
<td>(i)</td>
</tr>
<tr>
<td>PTA 115 Clinical Kinesiology</td>
<td>1</td>
<td>(j)</td>
</tr>
<tr>
<td>PTA 116 Clinical Kinesiology Lab</td>
<td>1</td>
<td>(k)</td>
</tr>
<tr>
<td>PTA 105 Modalities I</td>
<td>1</td>
<td>(l)</td>
</tr>
<tr>
<td>PTA 106 Modalities I Lab</td>
<td>2</td>
<td>(m)</td>
</tr>
<tr>
<td>PTA 110 Therapeutic Exercise</td>
<td>1</td>
<td>(n)</td>
</tr>
<tr>
<td>PTA 111 Therapeutic Exercise Lab</td>
<td>2</td>
<td>(o)</td>
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</table>

Second Semester – 11 credits

<table>
<thead>
<tr>
<th>Courses</th>
<th>Credits</th>
<th>Requirement</th>
</tr>
</thead>
<tbody>
<tr>
<td>PTA 125 Measurement Techniques</td>
<td>1</td>
<td>(p)</td>
</tr>
<tr>
<td>PTA 126 Measurement Techniques Lab</td>
<td>2</td>
<td>(q)</td>
</tr>
<tr>
<td>PTA 130 Advanced Therapeutic Exercise</td>
<td>2</td>
<td>(r)</td>
</tr>
<tr>
<td>PTA 131 Advanced Therapeutic Exercise Lab</td>
<td>2</td>
<td>(s)</td>
</tr>
<tr>
<td>PTA 140 Clinic I</td>
<td>4</td>
<td>(t)</td>
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</table>

Third Semester – 8 credits

<table>
<thead>
<tr>
<th>Courses</th>
<th>Credits</th>
<th>Requirement</th>
</tr>
</thead>
<tbody>
<tr>
<td>PTA 205 Modalities II</td>
<td>2</td>
<td>(u)</td>
</tr>
<tr>
<td>PTA 206 Modalities II Lab</td>
<td>2</td>
<td>(v)</td>
</tr>
<tr>
<td>PTA 207 Rehabilitation of Path &amp; Neuro Conditions</td>
<td>2</td>
<td>(w)</td>
</tr>
<tr>
<td>PTA 208 Rehabilitation Techniques Lab</td>
<td>2</td>
<td>(x)</td>
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</table>

Fourth Semester – 12 credits

<table>
<thead>
<tr>
<th>Courses</th>
<th>Credits</th>
<th>Requirement</th>
</tr>
</thead>
<tbody>
<tr>
<td>PTA 210 Clinical Forum</td>
<td>3</td>
<td>(y)</td>
</tr>
<tr>
<td>PTA 240 Clinic II</td>
<td>9</td>
<td>(z)</td>
</tr>
</tbody>
</table>
Notes:
- The prerequisite of BIO 135 (or BIO 141 and BIO 142) must be passed with a “B-” (2.7) or higher and be taken within 5 years of beginning the Physical Therapist Assistant (P.T.A.) courses and may be repeated only once.
- ALH is another prerequisite and must be passed with a “C” (2.0) or higher.
- The other program requirements must be passed with a “C” or higher and may be taken before or while PTA courses are in progress.
- Students must pass each PTA course with a “B-” (2.7) or higher and may be repeated only once.
- Students must finish their associate degree requirements before receiving their Physical Therapist Assistant Certificate.
- The Physical Therapist Assistant Program at Mid Michigan Community College has been granted Candidate for Accreditation status by the Commission on Accreditation in Physical Therapy Education of the American Physical Therapy Association (1111 North Fairfax Street, Alexandria, VA 22314; phone (703) 706-3245; accreditation@apta.org). Candidate for Accreditation is a pre-accreditation status of affiliation with the Commission on Accreditation in Physical Therapy Education that indicates the program is progressing toward accreditation.

@ PREREQUISITES

a. BIO 101 or successful completion of BIO 135 entrance exam.
b. BIO 101 or equivalent
c. BIO 141
d. Touch keyboarding skills recommended
e. Competency or a grade of “C” or better in ENG 101 or equivalent
f. Grade of “C” or better in MAT 101 or equivalent
g. Level I General Education courses (CIS 100, MAT, ENG 111, SPE 101 or SPE 257)
h. Level I General Education courses (CIS 100, MAT, ENG 111, SPE 101 or SPE 257)
i. Admission to Program; Corequisites: PTA 105, 106, 110, 111, 115, 116
j. Admission to Program; Corequisites: PTA 101, 105, 106, 110, 111, 116
k. Admission to Program; Corequisites: PTA 101, 105, 106, 110, 111, 115
l. Admission to Program; Corequisites: PTA 101, 106, 110, 111, 115, 116
m. Admission to Program; Corequisites: PTA 101, 105, 110, 111, 115, 116
n. Admission to Program; Corequisites: PTA 101, 105, 106, 111, 115, 116
o. Admission to Program; Corequisites: PTA 101, 105, 106, 110, 115, 116
p. PTA 101, 105, 106, 110, 111, 115, 116; Corequisites: PTA 126, 130, 131, 140
q. PTA 101, 105, 106, 110, 111, 115, 116; Corequisites: PTA 125, 130, 131, 140
r. PTA 101, 105, 106, 110, 111, 115, 116; Corequisites: PTA 125, 126, 131, 140
s. PTA 101, 105, 106, 110, 111, 115, 116; Corequisites: PTA 125, 126, 130, 140
t. PTA 101, 105, 106, 110, 111, 115, 116; Corequisites: PTA 125, 126, 130, 131
u. PTA 125, 126, 130, 131, 140; Corequisites: PTA 206, 207, 208
v. PTA 125, 126, 130, 131, 140; Corequisites: PTA 205, 207, 208
w. PTA 125, 126, 130, 131, 140; Corequisites: PTA 205, 206, 208
x. PTA 125, 126, 130, 131, 140; Corequisites: PTA 205, 206, 207
y. PTA 205, 206, 207, 208; Corequisite: PTA 240
z. PTA 205, 206, 207, 208; Corequisite: PTA 210
ASSOCIATE IN SCIENCE DEGREE:
PRE-ENGINEERING

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.

**FIRST SEMESTER (Fall) - 15 credit hours**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
<th>Description</th>
<th>Prerequisites</th>
<th>Completed</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHM 111</td>
<td>4</td>
<td>General College Chemistry I</td>
<td>(a)</td>
<td></td>
</tr>
<tr>
<td>ENG 111</td>
<td>3</td>
<td>Freshman English Composition</td>
<td>(b)</td>
<td></td>
</tr>
<tr>
<td>MAT 126</td>
<td>5</td>
<td>Calculus I</td>
<td>(c)</td>
<td></td>
</tr>
<tr>
<td>SPE 101</td>
<td>3</td>
<td>Fundamentals of Communication OR</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SPE 257</td>
<td>3</td>
<td>Public Speaking</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**SECOND SEMESTER (Winter) - 17 credit hours**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
<th>Description</th>
<th>Prerequisites</th>
<th>Completed</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHM 112</td>
<td>4</td>
<td>General College Chemistry II</td>
<td>(d)</td>
<td></td>
</tr>
<tr>
<td>ENG 222</td>
<td>3</td>
<td>Expository Writing &amp; Research</td>
<td>(e)</td>
<td></td>
</tr>
<tr>
<td>MAT 225</td>
<td>4</td>
<td>Calculus II</td>
<td>(f)</td>
<td></td>
</tr>
<tr>
<td>Elective</td>
<td>3</td>
<td><strong>BIO</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>POL 201</td>
<td>3</td>
<td>Intro to American Government * OR</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Elective</td>
<td>3</td>
<td>Group III</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**THIRD SEMESTER (Fall) - 17 credit hours**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
<th>Description</th>
<th>Prerequisites</th>
<th>Completed</th>
</tr>
</thead>
<tbody>
<tr>
<td>ECO 201</td>
<td>3</td>
<td>Principles of Economics (Macroeconomics)</td>
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<tr>
<td>MAT 230</td>
<td>3</td>
<td>Introduction to Linear Algebra</td>
<td>(f)</td>
<td></td>
</tr>
<tr>
<td>PHY 211</td>
<td>5</td>
<td>General Physics I</td>
<td>(g)</td>
<td></td>
</tr>
<tr>
<td>CPS 175</td>
<td>3</td>
<td>Computer Programming I *** OR</td>
<td>(h)</td>
<td></td>
</tr>
<tr>
<td>CPS 180</td>
<td>3</td>
<td>FORTRAN Programming ***</td>
<td>(h)</td>
<td></td>
</tr>
<tr>
<td>HUM 200</td>
<td>3</td>
<td>Modernity &amp; Culture</td>
<td>(i)</td>
<td></td>
</tr>
</tbody>
</table>

**FOURTH SEMESTER (Winter) - 18 credit hours**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
<th>Description</th>
<th>Prerequisites</th>
<th>Completed</th>
</tr>
</thead>
<tbody>
<tr>
<td>MAT 226</td>
<td>4</td>
<td>Calculus III</td>
<td>(j)</td>
<td></td>
</tr>
<tr>
<td>PHY 212</td>
<td>5</td>
<td>General Physics II</td>
<td>(k)</td>
<td></td>
</tr>
<tr>
<td>Elective</td>
<td>3</td>
<td>Group IV</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Elective</td>
<td>3</td>
<td>Group IV - other than HUM</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SSC 200</td>
<td>3</td>
<td>The Social Sciences &amp; Contemporary America</td>
<td>(i)</td>
<td></td>
</tr>
</tbody>
</table>

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 course 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.

**@ PREREQUISITES**

- a. CHM 105 OR one year high school chemistry OR equivalent, and MAT 105 (concurrent) OR two years of high school algebra OR equivalent
- b. Student must meet with an advisor to register
- c. Grade of “C” or better in MAT 124 OR equivalent
- d. CHM 111
- e. Grade of “C” or better in ENG 111
- f. Grade of “C” or better in MAT 126 OR equivalent
- g. Corequisite: MAT 126
- h. MAT 104 OR equivalent
- i. LEVEL I General Ed: CIS 100, MAT, ENG 111, and SPE 101- or-SPE 257
- j. Grade of “C” or better in MAT 225 OR equivalent
- k. PHY 211
**ASSOCIATE IN ARTS DEGREE:**

**PSYCHOLOGY**

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.

### Communication Skills (Group I) - 9 credit hours

<table>
<thead>
<tr>
<th>Required</th>
<th>@Prerequisites</th>
<th>Completed</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENG 111* (3) Freshman English Composition</td>
<td>(a)</td>
<td></td>
</tr>
<tr>
<td>ENG 222* (3) Expository Writing &amp; Research</td>
<td>(b)</td>
<td></td>
</tr>
<tr>
<td>SPE 101* (3) Fundamentals of Communication OR</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SPE 257 (3) Public Speaking</td>
<td></td>
<td></td>
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</tbody>
</table>

### Science and Mathematics (Group II) – 10-11 credit hours

<table>
<thead>
<tr>
<th>Required</th>
<th>@Prerequisites</th>
<th>Completed</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIO 101 (4) College Biology</td>
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<td></td>
</tr>
<tr>
<td>MAT 212* (3) Intro to Probability &amp; Statistics</td>
<td>(c)</td>
<td></td>
</tr>
<tr>
<td>SCI 200 (3) Science, Technology &amp; Society OR</td>
<td>(d)</td>
<td></td>
</tr>
<tr>
<td>OR</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SPE 257 (3) Public Speaking</td>
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<td></td>
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</tbody>
</table>

### Social Sciences (Group III) - 24 credit hours

<table>
<thead>
<tr>
<th>Required</th>
<th>@Prerequisites</th>
<th>Completed</th>
</tr>
</thead>
<tbody>
<tr>
<td>POL 201 (3) Intro to American Government</td>
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<td></td>
</tr>
<tr>
<td>PSY 101 (3) Intro to General Psychology</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Electives (12) PSY only</td>
<td>(e)</td>
<td></td>
</tr>
<tr>
<td>OR</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Electives (6) Group III - other than PSY</td>
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<td></td>
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</tbody>
</table>

### Humanities and Fine Arts (Group IV) - 9 credit hours (minimum of two disciplines)

<table>
<thead>
<tr>
<th>Required</th>
<th>@Prerequisites</th>
<th>Completed</th>
</tr>
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<tbody>
<tr>
<td>Electives (9) Group IV</td>
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<td></td>
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<tr>
<td>(9 Hours of Humanities with at least 3 credits at the 200 level OR)</td>
<td>(9)</td>
<td></td>
</tr>
<tr>
<td>6 Hours of Humanities &amp; 3 Hours Fine Arts, with at least 3 credits at the 200 level).</td>
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</table>

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

<table>
<thead>
<tr>
<th>Required</th>
<th>@Prerequisites</th>
<th>Completed</th>
</tr>
</thead>
<tbody>
<tr>
<td>CIS 100 (3) Intro to Information Processing Systems</td>
<td>(f)</td>
<td></td>
</tr>
</tbody>
</table>

### 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.*

### @ PREREQUISITES

a. Student must meet with an advisor to register  
b. Grade of “C” or better in ENG 111  
c. Grade of “C” or better in MAT 104 OR equivalent  
d. LEVEL I General Ed: CIS 100, MAT, ENG 111 and SPE 101-or-SPE 257  
e. PSY 101  
f. Touch keyboarding skills recommended.
ASSOCIATE IN APPLIED SCIENCE DEGREE:

RADIOGRAPHY

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.

<table>
<thead>
<tr>
<th>Prerequisites to the Program - 19 credit hours</th>
<th>@Prerequisites</th>
<th>Completed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Required: BIO 141 (4) Anatomy &amp; Physiology I</td>
<td>(a)</td>
<td></td>
</tr>
<tr>
<td>ALH 100 (2) Medical Terminology</td>
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</tr>
<tr>
<td>CHM 105 (4) Introductory Chemistry</td>
<td>(b)</td>
<td></td>
</tr>
<tr>
<td>CIS 100 (3) Intro to Info Processing Systems OR</td>
<td>(c)</td>
<td></td>
</tr>
<tr>
<td>Competency</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ENG 111 (3) Freshman English Composition</td>
<td>(d)</td>
<td></td>
</tr>
<tr>
<td>MAT 104 (3) Basic Algebra</td>
<td>(e)</td>
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<tr>
<td>FIRST SEMESTER (Fall) - 13 credit hours</td>
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<td></td>
</tr>
<tr>
<td>BIO 142 (4) Anatomy &amp; Physiology II</td>
<td>(f)</td>
<td></td>
</tr>
<tr>
<td>RAD 100 (3) Introduction to Radiologic Technology</td>
<td>(g)</td>
<td></td>
</tr>
<tr>
<td>RAD 110 (3) Radiation Physics</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SPE 101 (3) Fundamentals of Communication OR</td>
<td>(h)</td>
<td></td>
</tr>
<tr>
<td>SPE 257 (3) Public Speaking</td>
<td></td>
<td></td>
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<tr>
<td>SECOND SEMESTER (Winter) - 16 credit hours</td>
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<tr>
<td>PSY 101 (3) Introduction to General Psychology</td>
<td>(i)</td>
<td></td>
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<tr>
<td>RAD 115 (3) Principles of Radiographic Exposure</td>
<td>(j)</td>
<td></td>
</tr>
<tr>
<td>RAD 130 (4) Radiographic Positioning I</td>
<td></td>
<td></td>
</tr>
<tr>
<td>HUM 200 (3) Modernity &amp; Culture</td>
<td>(k)</td>
<td></td>
</tr>
<tr>
<td>SSC 200 (3) The Social Sciences &amp; Contemporary America</td>
<td>(l)</td>
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<tr>
<td>SPRING/SUMMER SESSION - 3 credit hours</td>
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<tr>
<td>RAD 175 (3) Radiographic Positioning II</td>
<td>(m)</td>
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<tr>
<td>THIRD SEMESTER (Fall) - 13 credit hours</td>
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</tr>
<tr>
<td>BIO 110 (1) Concepts in Microbiology</td>
<td>(a)</td>
<td></td>
</tr>
<tr>
<td>RAD 200 (8) Clinical Education I</td>
<td>(b)</td>
<td></td>
</tr>
<tr>
<td>RAD 201 (2) Clinical Issues in Radiography I</td>
<td>(c)</td>
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</tr>
<tr>
<td>RAD 215 (2) Radiologic Techniques I</td>
<td></td>
<td></td>
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<tr>
<td>FOURTH SEMESTER (Winter) - 12 credit hours</td>
<td></td>
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<tr>
<td>RAD 217 (2) Radiologic Techniques II</td>
<td>(d)</td>
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<tr>
<td>RAD 220 (9) Clinical Education II</td>
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<tr>
<td>RAD 221 (1) Clinical Issues in Radiography II</td>
<td>(e)</td>
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<tr>
<td>SPRING/SUMMER SESSION - 7 credit hours</td>
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<tr>
<td>RAD 225 (5) Clinical Education III</td>
<td>(f)</td>
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</tr>
<tr>
<td>RAD 226 (1) Clinical Issues in Radiography III</td>
<td>(g)</td>
<td></td>
</tr>
<tr>
<td>RAD 230 (1) Radiographic Quality Assurance</td>
<td>(h)</td>
<td></td>
</tr>
</tbody>
</table>

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. Prerequisites for this program may be repeated only once.
PREREQUISITES

a. BIO 101 or equivalent
b. Corequisite: MAT 104 or equivalent
c. Touch keyboarding skills recommended
d. Student must meet with an advisor to register
e. Grade of "C" or better in MAT 101 or grade of "C" or better in MAT 102 OR equivalent
f. BIO 141
g. Admission to the Program
h. Successful completion of all first semester RAD courses
i. Corequisite: RAD 115
j. LEVEL I General Ed: CIS 100, MAT, ENG 111 and SPE 101-or- SPE 257
k. Successful completion of all second semester RAD and science courses.
l. Successful completion of all first year requirements. Corequisite: RAD 201, RAD 215
m. RAD 175, Corequisite: RAD 200
n. RAD 200, RAD 201, RAD 215 Corequisite: RAD 220, RAD 221
o. RAD 215
p. RAD 200, RAD 201 Corequisite: RAD 220, RAD 217
q. RAD 217, RAD 220
r. RAD 220, RAD 221 Corequisite: RAD 225
s. RAD 220 Corequisite: RAD 225
TRAINING CREDENTIAL:

RECORDS INFORMATION MANAGEMENT SPECIALIST

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 27 credits is required to complete this program.

Prerequisites to Program: CIS 100 (3) Introduction to Information Processing Systems and BIS 140 (3) Beginning Word Processing/Keyboarding OR equivalent.

First Semester - 12 credit hours

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
<th>Title</th>
<th>@Prerequisites</th>
<th>Completed</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIS 120</td>
<td>3</td>
<td>Office Mathematics</td>
<td>(a)</td>
<td></td>
</tr>
<tr>
<td>BIS 142</td>
<td>3</td>
<td>Intermediate Keyboarding</td>
<td>(b)</td>
<td></td>
</tr>
<tr>
<td>CIS 203</td>
<td>3</td>
<td>Web Security and Maintenance</td>
<td>(c)</td>
<td></td>
</tr>
<tr>
<td>BIS 164</td>
<td>3</td>
<td>Business Communication I</td>
<td></td>
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</tbody>
</table>

Second Semester - 15 credit hours

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
<th>Title</th>
<th>@Prerequisites</th>
<th>Completed</th>
</tr>
</thead>
<tbody>
<tr>
<td>CIS 205</td>
<td>3</td>
<td>e-Commerce: Concepts &amp; Technology</td>
<td>(b)</td>
<td></td>
</tr>
<tr>
<td>BIS 250</td>
<td>3</td>
<td>Records Management</td>
<td>(d)</td>
<td></td>
</tr>
<tr>
<td>BIS 254</td>
<td>3</td>
<td>Office Procedures</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BIS 200</td>
<td>3</td>
<td>Advanced Word Processing Applications</td>
<td>(e)</td>
<td></td>
</tr>
<tr>
<td>BIS 264</td>
<td>3</td>
<td>Business Communication II</td>
<td>(f)</td>
<td></td>
</tr>
</tbody>
</table>

@ PREREQUISITES

a. BIS 140 OR equivalent
b. CIS 100
c. Recommend concurrent enrollment in BIS 140 OR BIS 100 OR knowledge of correct keyboarding techniques.d. BIS 130 OR CIS 100, BIS 140 OR equivalent
e. BIS 140 OR equivalent, BIS 130 OR CIS 100 recommended.
f. BIS 164 OR ENG 111
ASSOCIATE IN APPLIED SCIENCE DEGREE:

REGISTERED HEALTH INFORMATION TECHNOLOGIST

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.

The Registered Health Information Technologist (RHIT) Program is a two-year associate degree program dedicated to the effective management of patient information and healthcare data needed to deliver high quality treatment and care to the public. Health Information Management professionals who perfect their technical skills become experts in health data collection, data abstraction, enhanced coding, and monitoring, maintenance, and reporting activities while maintaining the highest standards of data integrity, confidentiality, and security. The coursework prepares the individual for the national certification exam.

PREREQUISITES TO PROGRAM – 5 credit hours

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>ALH 100</td>
<td>2</td>
<td>Medical Terminology</td>
</tr>
<tr>
<td>BIS 140</td>
<td>3</td>
<td>Beginning Word Processing or competency</td>
</tr>
</tbody>
</table>

FIRST SEMESTER - 13 credit hours

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>ALH 112</td>
<td>3</td>
<td>Intro to Insurance Billings</td>
</tr>
<tr>
<td>ALH 150</td>
<td>4</td>
<td>Intro to Healthcare Info Systems</td>
</tr>
<tr>
<td>BIO 120</td>
<td>3</td>
<td>Intro to Human Disease</td>
</tr>
<tr>
<td>CIS 100</td>
<td>3</td>
<td>Intro to Processing Systems or competency</td>
</tr>
</tbody>
</table>

SECONOD SEMESTER - 13 credit hours

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPE 101</td>
<td>3</td>
<td>Fundamentals of Communication OR SPE 257(3) Public Speaking</td>
</tr>
<tr>
<td>ALH 115</td>
<td>3</td>
<td>Pharmacology for H.I.M.</td>
</tr>
<tr>
<td>ALH 200</td>
<td>4</td>
<td>ICD-9-CM</td>
</tr>
<tr>
<td>ALH 215</td>
<td>3</td>
<td>CPT (Current Procedural Terminology)</td>
</tr>
</tbody>
</table>

THIRD SEMESTER - 12 credit hours

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIS 120</td>
<td>3</td>
<td>Office Mathematics</td>
</tr>
<tr>
<td>ENG 111</td>
<td>3</td>
<td>Freshman English Composition</td>
</tr>
<tr>
<td>BUS 241</td>
<td>3</td>
<td>Supervision &amp; Personnel Administration</td>
</tr>
<tr>
<td>ALH 220</td>
<td>3</td>
<td>Medical Law &amp; Ethics</td>
</tr>
</tbody>
</table>

FOURTH SEMESTER – 12 credit hours

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>HUM 200</td>
<td>3</td>
<td>Modernity &amp; Culture</td>
</tr>
<tr>
<td>SSC 200</td>
<td>3</td>
<td>Social Sciences &amp; Contemp. America</td>
</tr>
<tr>
<td>ALH 225</td>
<td>3</td>
<td>Healthcare Statistics &amp; Quality Management</td>
</tr>
<tr>
<td>ALH 205</td>
<td>3</td>
<td>Health Data Content &amp; Required Standards</td>
</tr>
</tbody>
</table>

FIFTH SEMESTER - 9 credit hours

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>SCI 200</td>
<td>3</td>
<td>Science, Technology &amp; Society</td>
</tr>
<tr>
<td>ALH 260</td>
<td>6</td>
<td>Internship (6 weeks) 240 hours</td>
</tr>
</tbody>
</table>

NOTES:
- ALH courses must be taken in the sequence they are listed.
- All courses on the curriculum guide must be passed with a grade of “C” or better.
- Limited enrollment program. Student must be admitted to MCB program prior to registering for ALH courses, except ALH 100 & 112.
- Criminal Background check with fingerprinting required before admission to the program. Random drug screening may be done during internship at student’s expense.

@ PREREQUISITES

- ALH 100
- ALH 100, BIS 140 OR equivalency & admission to RHIT or Medical Coding/Billing programs. Corequisite: ALH 112
- ALH 100 recommended
- Touch keyboarding skills recommended.
- ALH 112, ALH 150, BIO 120. Corequisites: ALH 200 & ALH 215
- ALH 112, ALH 150, BIO 120. Corequisites: ALH 115 & ALH 215
- ALH 112, ALH 150, BIO 120. Corequisites: ALH 115 & ALH 200
- Must see an advisor to register.
- LEVEL I General Education Requirements: CIS 100, MAT, ENG 111 and SPE 101-or-SPE 257
- ALH 115, ALH 200, ALH 215, ALH 220, BUS 241. Corequisite: ALH 205
- ALH 115, ALH 200, ALH 215, ALH 220, BUS 241. Corequisite: ALH 225
- Completion of all courses in RHIT program. HUM 200, SCI 200, OR SSC 200 may be taken before or concurrently
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.

**Communication Skills (Group I) - 9 credit hours**

- Required: 1ENG 111 (3) Freshman English Composition (a)
- Required: 1ENG 222 (3) Expository Writing & Research (b)
- Required: 2SPE 101 (3) Fundamentals of Communication OR 2SPE 257 (3) Public Speaking

**Science and Mathematics (Group II) – 8 credit hours**

- Required: 2MAT 105 (3) Intermediate Algebra (c)
- Required: Science with lab elective (3-4)
- Group II Electives: (1-2) (If SCI 200 is not included, student required to take a total of 8 credit hours of natural and physical science with at least one lab for associate degree.)

**Social Sciences (Group III) - 8 credit hours - (minimum of two disciplines)**

- Required: Electives (8) credit hours from Group III in 2 social science disciplines (If SSC 200 is not included, student required to take 9 credit hours in at least 2 social science disciplines for associate degree.)

**Humanities and Fine Arts (Group IV) - 8 credit hours**

- Required: Electives (8) credit hours from Group IV from at least two disciplines (If HUM 200 is not included, student required to take total in Group IV of 9 credit hours with one at the 200-level and at least 6 of those credits from humanities for associate degree.)

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

- Required: 2CIS 100 (3) Intro to Information Processing Systems (d)

**Education (Group VII) - 6 credit hours**

- Required: 2EDU 107 (3) Introduction to Teaching (e)
- Required: EDU 290 (3) Technology in Education

**Electives - 20 credit hours**

- Required: Electives
- Students may earn no more than 2 credit hours in Group VI

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**@ PREREQUISITES**

| a | Student must meet with an advisor to register |
| b | Grade of "C" or better in ENG 111 |
| c | Grade of "C" or better in ENG 222 |
| d | Touch keyboarding skills recommended |
| e | Grade of "C" or better in MAT 104 OR equivalent |
| g | EDU 107. Students should have basic computer and keyboarding skills. |

**CMU Course Grade Requirements (Do not apply to MMCC associate degree completion):**

- 1 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.
- 2 Grade of "C" or better in MAT 105 and SPE 101 or SPE 257.
- 3 CIS 100 is required for MMCC associate degree; not required for CMU’s bachelor degree.
- 4 Grade of "B" or better in EDU 107 is required.

**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.
# ASSOCIATE IN SCIENCE 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 63 credits is required to complete this program.

## FIRST SEMESTER (Fall) - 16 credit hours

<table>
<thead>
<tr>
<th>Course</th>
<th>Credit Hours</th>
<th>@Prerequisites</th>
<th>Completed</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIO 101</td>
<td>4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CHM 111</td>
<td>4</td>
<td>(a)</td>
<td></td>
</tr>
<tr>
<td>ENG 111</td>
<td>3</td>
<td>(b)</td>
<td></td>
</tr>
<tr>
<td>MAT 124</td>
<td>5</td>
<td>(c)</td>
<td></td>
</tr>
<tr>
<td>MAT 126</td>
<td>5</td>
<td>(d)</td>
<td></td>
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</table>

## SECOND SEMESTER (Winter) - 16 credit hours

<table>
<thead>
<tr>
<th>Course</th>
<th>Credit Hours</th>
<th>@Prerequisites</th>
<th>Completed</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHM 112</td>
<td>4</td>
<td>(e)</td>
<td></td>
</tr>
<tr>
<td>CIS 100</td>
<td>3</td>
<td>(f)</td>
<td></td>
</tr>
<tr>
<td>SPE 101</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SPE 257</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Elective</td>
<td>3</td>
<td>(Group III)</td>
<td></td>
</tr>
<tr>
<td>Elective</td>
<td>3</td>
<td>(Group IV)</td>
<td></td>
</tr>
</tbody>
</table>

## THIRD SEMESTER (Fall) - 17 credit hours

<table>
<thead>
<tr>
<th>Course</th>
<th>Credit Hours</th>
<th>@Prerequisites</th>
<th>Completed</th>
</tr>
</thead>
<tbody>
<tr>
<td>CPS 175</td>
<td>3</td>
<td>(g)</td>
<td></td>
</tr>
<tr>
<td>CPS 180</td>
<td>3</td>
<td>(g)</td>
<td></td>
</tr>
<tr>
<td>ECO 201</td>
<td>3</td>
<td>(h)</td>
<td></td>
</tr>
<tr>
<td>ENG 222</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PHY 105</td>
<td>5</td>
<td>(i)</td>
<td></td>
</tr>
<tr>
<td>PHY 211</td>
<td>5</td>
<td>(j)</td>
<td></td>
</tr>
<tr>
<td>Elective</td>
<td>3</td>
<td>(Group IV Other than HUM)</td>
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## FOURTH SEMESTER (Winter) - 14 credit hours

<table>
<thead>
<tr>
<th>Course</th>
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<th>@Prerequisites</th>
<th>Completed</th>
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</thead>
<tbody>
<tr>
<td>PHY 106</td>
<td>5</td>
<td>(k)</td>
<td></td>
</tr>
<tr>
<td>PHY 212</td>
<td>5</td>
<td>(l)</td>
<td></td>
</tr>
<tr>
<td>HUM 200</td>
<td>3</td>
<td>(m)</td>
<td></td>
</tr>
<tr>
<td>SSC 200</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Elective</td>
<td>3</td>
<td>(Group I, II, III, IV, or V)</td>
<td></td>
</tr>
</tbody>
</table>

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 course load, a student may wish to consider an extra semester or summer session.

## @ PREREQUISITES

- a. CHM 105 OR one year high school chemistry OR equivalent, and MAT 105 (concurrent) OR two years of high school algebra OR equivalent
- b. Student must meet with an advisor to register
- c. Grade of “C” or better in MAT 105 OR equivalent
- d. Grade of “C” or better in MAT 124 OR equivalent
- e. CHM 111
- f. Touch keyboarding skills recommended
- g. MAT 104 OR equivalent
- h. Grade of “C” or better in ENG 111
- i. Corequisite: MAT 124 OR equivalent
- j. Corequisite: MAT 126 OR equivalent
- k. PHY 105
- l. PHY 211
- m. LEVEL I General Ed: CIS 100, MAT, ENG 111 and SPE 101-or-SPE 257
### Associate in Business Degree: Small Business Management

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.

<table>
<thead>
<tr>
<th>FIRST SEMESTER (Fall) - 15 credit hours</th>
<th>@Prerequisites</th>
<th>Completed</th>
</tr>
</thead>
<tbody>
<tr>
<td>BUS 250 (3) Entrepreneurial Management</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CIS 100 (3) Intro to Information Processing Systems</td>
<td>(a)</td>
<td></td>
</tr>
<tr>
<td>ENG 111 (3) Freshman English Composition</td>
<td>(b)</td>
<td></td>
</tr>
<tr>
<td>MAT 116 (3) Business Mathematics I</td>
<td>(c)</td>
<td></td>
</tr>
<tr>
<td>ECO 201 (3) Principles of Economics (Macro)</td>
<td>OR</td>
<td></td>
</tr>
<tr>
<td>ECO 202 (3) Principles of Economics (Micro) *</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SECOND SEMESTER (Winter) - 16 credit hours</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>ACC 201 (4) Financial Accounting</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BUS 153 (3) Business Law</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BUS 162 (3) Principles of Marketing</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PSY 101 (3) Introduction to General Psychology</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SPE 101 (3) Fundamentals of Communication OR</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SPE 257 (3) Public Speaking</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>THIRD SEMESTER (Fall) - 16 credit hours</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>ACC 211 (4) Managerial Accounting</td>
<td>(d)</td>
<td></td>
</tr>
<tr>
<td>ACC 251 (3) Tax Accounting I</td>
<td>(e)</td>
<td></td>
</tr>
<tr>
<td>BUS 231 (3) Principles of Advertising</td>
<td></td>
<td></td>
</tr>
<tr>
<td>HUM 200 (3) Modernity &amp; Culture</td>
<td>(f)</td>
<td></td>
</tr>
<tr>
<td>SCI 200 (3) Science, Technology &amp; Society</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>FOURTH SEMESTER (Winter) - 18 credit hours</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>ACC 252 (3) Tax Accounting II</td>
<td>(g)</td>
<td></td>
</tr>
<tr>
<td>BUS 255 (3) Entrepreneurial Finance</td>
<td>(h)</td>
<td></td>
</tr>
<tr>
<td>CIS 130 (3) Applications With Microcomputers</td>
<td>(i)</td>
<td></td>
</tr>
<tr>
<td>BIS 264 (3) Business Communications II</td>
<td>(j)</td>
<td></td>
</tr>
<tr>
<td>SSC 200 (3) The Social Sciences &amp; Contemporary America</td>
<td>(f)</td>
<td></td>
</tr>
</tbody>
</table>

* Note that ECO 202 is a Winter course offering.

**@ PREREQUISITES**

- a. Touch keyboarding skills recommended
- b. Student must meet with an advisor to register
- c. Grade of “C” or better in MAT 105 OR equivalent
- d. Grade of “C” or better in ACC 201
- e. ACC 201 recommended
- f. LEVEL I General Ed: CIS 100, MAT, ENG 111 and SPE 101-or-SPE 257
- g. ACC 251
- h. Permission of the Internship Coordinator
- i. CIS 100 with a “C” or better
- j. BIS 164 or ENG 111
# ASSOCIATE IN ARTS DEGREE:

## SOCIOLOGY

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.

## Communication Skills (Group I) - 9 credit hours

<table>
<thead>
<tr>
<th>Required</th>
<th>@Prerequisites</th>
<th>Completed</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENG 111* Freshman English Composition</td>
<td>(a)</td>
<td></td>
</tr>
<tr>
<td>ENG 222* Expository Writing &amp; Research</td>
<td>(b)</td>
<td></td>
</tr>
<tr>
<td>SPE 101* Fundamentals of Communication OR</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SPE 257 Public Speaking</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Required</th>
<th>@Prerequisites</th>
<th>Completed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Required: Natural or Physical Science</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mathematics (105 or higher)* Recommend: MAT 212</td>
<td>(e)</td>
<td></td>
</tr>
<tr>
<td>SCI 200 Science, Technology &amp; Society</td>
<td>(d)</td>
<td></td>
</tr>
</tbody>
</table>

## Social Sciences (Group III) - 27 credit hours

<table>
<thead>
<tr>
<th>Required</th>
<th>@Prerequisites</th>
<th>Completed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Required: POL 201 Intro to American Government</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SOC 101 Principles of Sociology</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SOC XXX</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Electives (9) Group III

## Humanities and Fine Arts (Group IV) - 9 credit hours - (minimum of two disciplines)

<table>
<thead>
<tr>
<th>Required</th>
<th>@Prerequisites</th>
<th>Completed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Required: Electives (9) Group IV</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(9 Hours of Humanities with at least 3 Credits at the 200 Level OR</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6 Hours of Humanities &amp; 3 Hours Fine Arts, with at least 3 Credits at the 200 Level).</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Required</th>
<th>@Prerequisites</th>
<th>Completed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Required: CIS 100 Intro to Information Processing Systems</td>
<td>(c)</td>
<td></td>
</tr>
</tbody>
</table>

## Electives - 5 credit hours

Electives (5) Recommend: Group III

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

---

## @ PREREQUISITES

- **a.** Student must meet with an advisor to register
- **b.** Grade of “C” or better in ENG 111
- **c.** Touch keyboarding skills recommended
- **d.** LEVEL I General Ed: CIS 100, MAT, ENG 111 and SPE 101-or-SPE 257
- **e.** Grade of “C” or better in MAT 104 or equivalent.
# 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.

## Communication Skills (Group I) - 9 credit hours
<table>
<thead>
<tr>
<th>Required:</th>
<th>@Prerequisites</th>
<th>Completed</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENG 111*</td>
<td>(3) Freshman English Composition</td>
<td>(a)</td>
</tr>
<tr>
<td>ENG 222*</td>
<td>(3) Expository Writing &amp; Research</td>
<td>(b)</td>
</tr>
<tr>
<td>SPE 101*</td>
<td>(3) Fundamentals of Communication OR</td>
<td></td>
</tr>
<tr>
<td>SPE 257</td>
<td>(3) Public Speaking</td>
<td></td>
</tr>
</tbody>
</table>

## Science and Mathematics (Group II) - 9 credit hours
<table>
<thead>
<tr>
<th>Required:</th>
<th>@Prerequisites</th>
<th>Completed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Elective</td>
<td>(3) Group II</td>
<td></td>
</tr>
<tr>
<td>Mathematics (105 or higher)*</td>
<td>(3)</td>
<td>(c)</td>
</tr>
<tr>
<td>SCI 200</td>
<td>(3) Science, Technology &amp; Society</td>
<td>(d)</td>
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</table>

## Social Sciences (Group III) - 9 credit hours - (minimum of two disciplines)
<table>
<thead>
<tr>
<th>Required:</th>
<th>@Prerequisites</th>
<th>Completed</th>
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</thead>
<tbody>
<tr>
<td>Electives</td>
<td>(6)</td>
<td></td>
</tr>
<tr>
<td>POL 201</td>
<td>(3) Intro to American Government</td>
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</table>

## Humanities and Fine Arts (Group IV) - 24 credit hours
<table>
<thead>
<tr>
<th>Required:</th>
<th>@Prerequisites</th>
<th>Completed</th>
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</thead>
<tbody>
<tr>
<td>HUM 101</td>
<td>(3) World of Creativity I</td>
<td></td>
</tr>
<tr>
<td>HUM 102</td>
<td>(3) World of Creativity II</td>
<td></td>
</tr>
<tr>
<td>MUS XXX</td>
<td>(5) MUS Elective</td>
<td></td>
</tr>
<tr>
<td>TAI 277</td>
<td>(4) Stagecraft and Stagelighting</td>
<td></td>
</tr>
<tr>
<td>TAI 287</td>
<td>(3) Costuming</td>
<td></td>
</tr>
<tr>
<td>Electives</td>
<td>(6) TAI 204, 205, 206, 207, 208 only</td>
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</table>

## Applied Arts and Sciences (Group V) - 3 credit hours
<table>
<thead>
<tr>
<th>Required:</th>
<th>@Prerequisites</th>
<th>Completed</th>
</tr>
</thead>
<tbody>
<tr>
<td>CIS 100</td>
<td>(3) Intro to Information Processing Systems</td>
<td>(e)</td>
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</table>

## Electives - 8 credit hours
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<tr>
<th>Required:</th>
<th>@Prerequisites</th>
<th>Completed</th>
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</thead>
<tbody>
<tr>
<td>Electives</td>
<td>(8) Groups I, II, III, IV and VI.</td>
<td></td>
</tr>
<tr>
<td>ART is highly recommended, especially for those interested in costuming or scene design.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Students may earn no more than 2 credit hours in Group VI.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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

### @ PREREQUISITES

a. Student must meet with an advisor to register
b. Grade of “C” or better in ENG 111
c. Grade of “C” or better in MAT 104 OR equivalent
d. LEVEL I General Ed: CIS 100, MAT, ENG 111 and SPE 101-or-SPE 257
e. Touch keyboarding skills recommended.
# ASSOCIATE IN ARTS DEGREE:

## VISUAL ARTS

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.

<table>
<thead>
<tr>
<th>Communication Skills (Group I) - 9 credit hours</th>
<th>@Prerequisites</th>
<th>Completed</th>
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<tbody>
<tr>
<td>Required: ENG 111* (3) Freshman English Composition</td>
<td>(a)</td>
<td></td>
</tr>
<tr>
<td>ENG 222* (3) Expository Writing &amp; Research</td>
<td>(b)</td>
<td></td>
</tr>
<tr>
<td>SPE 101* (3) Fundamentals of Communication OR</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SPE 257 (3) Public Speaking</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Science and Mathematics (Group II) - 9 credit hours</th>
<th>@Prerequisites</th>
<th>Completed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Required: Elective (3) Group II</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mathematics (105 or higher) * (3)</td>
<td>(e)</td>
<td></td>
</tr>
<tr>
<td>SCI 200 (3) Science, Technology &amp; Society</td>
<td>(c)</td>
<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Social Sciences (Group III) - 9 credit hours - (minimum of two disciplines)</th>
<th>@Prerequisites</th>
<th>Completed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Required: Electives (9) Group III</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(9 Hours in 2 Social Science disciplines)</td>
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<table>
<thead>
<tr>
<th>Humanities and Fine Arts (Group IV) - 27 credit hours</th>
<th>@Prerequisites</th>
<th>Completed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Required: ART 105 (3) Drawing I - Introductory</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ART 115 (3) Design I</td>
<td></td>
<td></td>
</tr>
<tr>
<td>HUM 101 (3) World of Creativity I</td>
<td></td>
<td></td>
</tr>
<tr>
<td>HUM 102 (3) World of Creativity II</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ART XXX (15) Select from: ART 110, 130, 135, 205, 210, 215, 220, 230, 235, 280</td>
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<td></td>
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</table>

<table>
<thead>
<tr>
<th>Applied Arts and Sciences (Group V) - 3 credit hours</th>
<th>@Prerequisites</th>
<th>Completed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Required: CIS 100 (3) Intro to Information Processing Systems</td>
<td>(d)</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Electives - 5 credit hours</th>
<th>@Prerequisites</th>
<th>Completed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Required: Electives from Groups I, II, III, IV and VI. Students may earn no more than 2 credits in Group VI.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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

@ PREREQUISITES

- a. Student must meet with an advisor to register
- b. Grade of “C” or better in ENG 111
- c. LEVEL I General Ed: CIS 100, MAT, ENG 111 and SPE 101-or-SPE 257
- d. Touch keyboarding skills recommended.
- e. Grade of "C" or better in MAT 104 or equivalent.
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>Prerequisites</th>
<th>Completed</th>
</tr>
</thead>
<tbody>
<tr>
<td>WLD 126</td>
<td>3</td>
<td>Basic Welding I</td>
<td></td>
</tr>
<tr>
<td>WLD 127</td>
<td>3</td>
<td>Basic Welding II</td>
<td>(a)</td>
</tr>
<tr>
<td>DRF 101</td>
<td>3</td>
<td>Technical Drawing</td>
<td></td>
</tr>
<tr>
<td>IND 140</td>
<td>3</td>
<td>Metallurgy &amp; Industrial Materials</td>
<td></td>
</tr>
<tr>
<td>MAT 170</td>
<td>3</td>
<td>Technical Mathematics II</td>
<td>(b)</td>
</tr>
<tr>
<td>DRF 120</td>
<td>3</td>
<td>Introduction to AutoCAD</td>
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</table>

SECOND SEMESTER (Winter) - 17 credit hours

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
<th>Prerequisites</th>
<th>Completed</th>
</tr>
</thead>
<tbody>
<tr>
<td>WLD 130</td>
<td>3</td>
<td>Metal Fabrication</td>
<td>(c)</td>
</tr>
<tr>
<td>WLD 150</td>
<td>3</td>
<td>Non-Destructive Testing OR</td>
<td></td>
</tr>
<tr>
<td>IND 101</td>
<td>4</td>
<td>Basic Machine Shop Practices</td>
<td></td>
</tr>
<tr>
<td>WLD 225</td>
<td>8</td>
<td>Advanced Welding</td>
<td>(d)</td>
</tr>
<tr>
<td>ENG 111</td>
<td>3</td>
<td>Freshman English Composition</td>
<td>(e)</td>
</tr>
</tbody>
</table>

@ PREREQUISITES

a. WLD 126 (3) Basic Welding I OR permission of the instructor
b. MAT 101 OR equivalent
c. WLD 127 (3) Basic Welding II, DRF 101
d. WLD 127 (3) Basic Welding II
e. Student must meet with an advisor to register
Credential:

**MACRAO**

A minimum of 30 credits is required to complete MACRAO. At least 12 credit hours must be taken at Mid Michigan Community College.

**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, Central Michigan University 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.**

The MACRAO requirements may be part of an Associate Degree or can be satisfied by completing these requirements.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACC</td>
<td>ACCOUNTING</td>
<td>95</td>
</tr>
<tr>
<td>ALH</td>
<td>ALLIED HEALTH</td>
<td>96</td>
</tr>
<tr>
<td>AMS</td>
<td>AUTOMOTIVE SERVICE</td>
<td>98</td>
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<tr>
<td>ANT</td>
<td>ANTHROPOLOGY</td>
<td>99</td>
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<td>ART</td>
<td>ART</td>
<td>99</td>
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<tr>
<td>BIO</td>
<td>BIOLOGICAL SCIENCES</td>
<td>101</td>
</tr>
<tr>
<td>BIS</td>
<td>BUSINESS INFORMATION SYSTEMS</td>
<td>102</td>
</tr>
<tr>
<td>BUS</td>
<td>BUSINESS</td>
<td>107</td>
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<td>CHM</td>
<td>CHEMISTRY</td>
<td>108</td>
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<tr>
<td>CIS</td>
<td>COMPUTER INFORMATION SYSTEMS</td>
<td>109</td>
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<td>CPS</td>
<td>COMPUTER SCIENCE</td>
<td>112</td>
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<tr>
<td>CRJ</td>
<td>CRIMINAL JUSTICE - Corrections</td>
<td>112</td>
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<tr>
<td>CST</td>
<td>CONSTRUCTION</td>
<td>113</td>
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<tr>
<td>DRF</td>
<td>DRAFTING</td>
<td>115</td>
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<tr>
<td>ECE</td>
<td>EARLY CHILDHOOD EDUCATION</td>
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<td>ECO</td>
<td>ECONOMICS</td>
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<td>EDU</td>
<td>EDUCATION</td>
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<td>EMS</td>
<td>EMERGENCY MEDICAL SERVICES</td>
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<td>EMT</td>
<td>EMERGENCY MEDICAL TECHNICIAN</td>
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<td>ENG</td>
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<td>ENT</td>
<td>ENTREPRENEURSHIP</td>
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<td>ENV</td>
<td>ENVIRONMENTAL SCIENCE</td>
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<td>FFT</td>
<td>FIRE FIGHTER TRAINING</td>
<td>121</td>
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<td>FRN</td>
<td>FRENCH</td>
<td>121</td>
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<td>GEL</td>
<td>GEOLOGY</td>
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<td>GER</td>
<td>GERMAN</td>
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<td>HED</td>
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<td>HIS</td>
<td>HISTORY</td>
<td>122</td>
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<tr>
<td>HRA</td>
<td>HEATING / REFRIGERATION / AIR CONDITIONING</td>
<td>123</td>
</tr>
<tr>
<td>HUM</td>
<td>HUMANITIES</td>
<td>125</td>
</tr>
<tr>
<td>IND</td>
<td>INDUSTRIAL TECHNOLOGY - Machine Tool</td>
<td>126</td>
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<tr>
<td>JOR</td>
<td>JOURNALISM</td>
<td>127</td>
</tr>
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<td>JPN</td>
<td>JAPANESE</td>
<td>127</td>
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<td>LEN</td>
<td>LAW ENFORCEMENT</td>
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<td>MAT</td>
<td>MATHEMATICS</td>
<td>128</td>
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<td>MID</td>
<td>MID - PROFESSIONAL DEVELOPMENT</td>
<td>130</td>
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<td>MNF</td>
<td>MANUFACTURING</td>
<td>131</td>
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<td>MUS</td>
<td>MUSIC</td>
<td>133</td>
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<tr>
<td>NAL</td>
<td>NATIVE AMERICAN LANGUAGE</td>
<td>133</td>
</tr>
<tr>
<td>NUR</td>
<td>NURSING EDUCATION</td>
<td>133</td>
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<td>PED</td>
<td>PHYSICAL EDUCATION</td>
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<td>PHL</td>
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<td>PHARMACY</td>
<td>138</td>
</tr>
<tr>
<td>PHY</td>
<td>PHYSICS</td>
<td>139</td>
</tr>
</tbody>
</table>
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.

**(ACC) 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: BIS 120 for Business 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(4-0)**

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.

Prerequisites: 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 recommended
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.
Prerequisites:  CIS 130, ACC 211

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 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 115 Pharmacology for Registered Health Information Technologist  3(3-0)
This course is intended to familiarize the student with a variety of pharmacological agents and new drugs. This course will allow the student to identify the medicinal interaction and effects of certain drugs in relation to treatment of specific diseases and/or disorders.
Prerequisites:  ALH 112, ALH 150, BIO 120
Corequisites:  ALH 200, ALH 215

ALH 125 Introduction to the Health Care Environment  3(2-2)
This course is designed to introduce the allied health student to health care today, health care systems, functions and trends, ethical and legal responsibilities in health care, workplace safety, handling hazardous materials, reporting hazardous activities, emergency preparedness, ergonomics, infection control, controlling health care costs, historical background, interpersonal-relationships, future roles, and successful employment strategies. The course will be laboratory based and cover a common core of clinical skills used by health care providers. The student will be introduced to health care professional organizations. The course provides the student with the foundation upon which other courses build and expand.
Prerequisites:  ALH 100
ALH 150 Introduction to Healthcare Information Systems   4(4-0)
The intent of this course is to familiarize the student with the policies and procedures in the health care field. To teach students how particular policies and procedures are ensured; especially in regards to time lines, completeness, accuracy and appropriateness of patient care; management, billing, reports, registries and/or data bases. The student will also learn the current laws, accreditations, licensure and certification standards.
Prerequisite: ALH 100, BIS 140 and Admission to the RHIT or Medical Coding/Billing programs
Corequisite: ALH 112

ALH 200 ICD-9-CM 4   (2-4)
The goal of this course is to develop an understanding of coding and classification systems in order to assign valid diagnostic or procedure codes.
Prerequisites: ALH 112, ALH 150, BIO 120
Corequisites: ALH 115, ALH 200

ALH 205 Health Data Content, Requirements & Standards   3(3-0)
This course is to familiarize the student collecting and maintaining health data. It is designed to teach students how to manage, analyze, and utilize data that is vital for enhancing patient care. The student will also learn how the content and relevancy of the health record assists in patient care.
Prerequisites: ALH 115, ALH 200, ALH 215, ALH 220, BUS 241
Corequisites: ALH 225

ALH 212 Clinical Procedures I   3(2-2)
This class is an introduction to common procedures performed in the medical office setting for the Medical Assistant. A course designed with emphasis on 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.
Prerequisite: Admission to the Medical Assistant Program
Corequisite: ALH 213

ALH 213 Pharmacology for Medical Assistants   3(3-0)
Competency-based objectives to guide Medical Assistant students in their study of each unit in the Pharmacology text. This class stresses the six rights of drug administration, including drug administration procedures that include standard precautions, purpose, equipment/supplies, and procedure steps to administering medications. Emphasis is placed on the legal implications of drug therapy, safety, and accuracy in calculating and administering medications.
Prerequisite: Admission to the Medical Assistant Program
Corequisite: ALH 212

ALH 214 Clinical Procedures II   3(2-2)
Introduction to clinical duties of the Medical Assistant student related to medical specialties. Review of anatomy and physiology of the human body. Disorders of the human body, diagnostic and therapeutic procedures are emphasized and critical thinking is utilized in caring for patients in the medical office.
Prerequisites: ALH 212, ALH 213
Corequisite: ALH 230

ALH 215 CPT (Current Procedural Terminology)   3(1-3)
The intent of this course is to develop an understanding of coding and classification systems in order to assign valid diagnostic or procedure codes.
Prerequisites: ALH 112, ALH 150, BIO 120
Corequisites: ALH 115, ALH 200

ALH 220 Medical Law and Ethics   3(3-0)
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 225 Healthcare Statistics and Quality Management 3(3-0)
This course is designed to teach the student how to abstract and maintain data for clinical databases and registries. The student will learn how to collect, organize and abstract pertinent information. They will learn how to analyze needed data, as well as compute and interpret healthcare statistics. The student will learn who develops healthcare standards, who initiates the standards in regards to Quality Management, Risk Management, and Utilization Management.
Prerequisites: ALH 115, ALH 200, ALH 215, ALH 220, BUS 241
Corequisites: ALH 205

ALH 230 Laboratory Procedures for the Medical Office 4(3-2)
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 212, ALH 213
Corequisite: ALH 214

ALH 235 Medical Coder/Biller Internship 4(0-0)
This is a 150 hour full-time internship, where the student will be assigned to the Health Information Service Department of health care facilities. This will provide the student with an opportunity to practice related functions necessary to effectively manage the medical coding and billing operational of a healthcare facility. It will also allow the student to experience the day-to-day operations of the department and apply all the theory to real-life work situations.
Prerequisites: ALH 115, ALH 200, ALH 215

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: ALH 212, ALH 213, ALH 214, ALH 230.

ALH 260 Registered Health Information Technologist Internship 6(0-6)
This is a 250 hour full-time internship; where students will be assigned to the Health Information Service Department of health care facilities. This will provide the student with an opportunity to experience the many related functions necessary to effectively manage an operational area. It will also give the student an opportunity to work extensively with a primary group of practitioners, and experience the day-to-day operations of the department and apply all the theory to real-life work situations.
Prerequisite: Completion of all courses in RHIT program.
**HUM 200, SSC 200 or SCI 200 may be taken concurrently

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.

(AMS) 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.

(ANT) 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

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 flash, and other basics. Students will be introduced to the black and white darkroom where they will develop film and produce prints.

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)
This course is 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 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, and 239

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.

(BIO) 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 120 Introduction to Human Disease  3(3-0)
This course is designed to introduce the student to the structure of common diseases, signs, symptoms, causes and effects, as well as treatment. Students will learn how the different diseases relate to the different body systems, and other conditions.
*ALH 100 Recommended

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 135 Human Anatomy and Physiology  5.5(4-3)
This course provides students with an intensive, in-depth introduction to the structure and function of all human body organ systems. The emphasis is on homeostasis of body systems under normal structure and function, with the inclusion of some pathologies. The laboratory portion includes dissections, study of anatomical models and slides, and physiological experiments.
Prerequisites:  BIO 101 or successful completion of BIO 135 entrance exam

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
**COURSE DESCRIPTIONS**

**BIO 142 Anatomy and Physiology II  4(3-2)**
This course is a 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 micro-organisms 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 a college course equivalent to BIO 101 or a grade of “B” or better, within the past 3 years in a High School Advanced Placement Biology course.

**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

**BIS 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 symbols; 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.

**BIS 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.

**BIS 200-299 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.

**BIS BUSINESS INFORMATION SYSTEMS**

**BIS 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 symbols; 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.

**BIS 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. Microsoft Office Specialist (MOS) approved software is used to provide students with skills needed to complete the MOS Core Certification Exam.
Prerequisite: BIS 100 recommended or keyboarding skills.
BIS 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:  BIS 100 recommended or keyboarding skills

BIS 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:  BIS 100 recommended or keyboarding skills.

BIS 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:  BIS 100 recommended or keyboarding skills.

BIS 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:  BIS 100 recommended or keyboarding skills.

BIS 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:  BIS 100 recommended or keyboarding skills.

BIS 120 Office Mathematics  3(3-1.5)
This course covers basic mathematical operations & concepts as applied to a variety of business and personal 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.

BIS 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:  BIS 140 or competency
Corequisite: ALH 100 recommended
**BIS 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 student's 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:  BIS 120
Prerequisite for Medical Assistant only:  MAT 104

**BIS 130 Intro to Business Information Systems  3(3-0)**
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:  BIS 100 or equivalent
Corequisite:  BIS 140

**BIS 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:  BIS 164, ENG 111 may be taken concurrently

**BIS 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 CDs. Topics covered include courts and legal systems; litigation—pretrial, trial, proceedings, verdicts, judgements, 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:  BIS 140 or equivalent or concurrent enrollment, BIS 164 recommended or concurrent enrollment

**BIS 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.

**BIS 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 the classroom work, each student is required to complete a minimum of 1 1/2 hours of individual computer laboratory work per week.

**BIS 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 BIS 140 or BIS 100 or knowledge of correct keyboarding techniques.
BIS 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 lab work per week.  
Prerequisites: BIS 140 or equivalent, BIS 130 recommended

BIS 211 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

BIS 220 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 CDs 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, BIS 130, BIS 136, BIS 142, BIS 164

BIS 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

BIS 230 Transcription II  
3(3-1.5)  
This course is an intense application of skills learned in business communications, English, keyboarding/word processing, and legal terminology. The student will transcribe dictated material into high-quality (mailable) typewritten documents using computers, current word processing software, transcription machines, and a variety of reference materials. To provide a realistic experience, a medical simulation is used along with dictated documents on CDs. 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: BIS 200, BIS 230, BIS 240

BIS 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, transcription machines, & a variety of reference materials. To provide a realistic experience, a medical simulation is used along with dictated documents on CD recordings. 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, BIS 142, BIS 230

BIS 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) typewritten 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 CD 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: BIS 138, BIS 200, BIS 230, BIS 240

BIS 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, BIS 136, BIS 142, BIS 200
BIS 246 Medical Transcription II  3(3-1.5)
This course is a continuation of BIS 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, CDs, 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:  BIS 236

BIS 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.
Prerequisites:  BIS 130 or CIS 100, BIS 140 or equivalent

BIS 254 Office Procedures  3(3-1.5)
This is a capstone course planned for the last semester of the student's program and is an intensive application of skills learned in previous courses. Topics include dress and grooming for business, human relations, telephone etiquette, dictation techniques, job search strategies, effective research and oral presentation techniques, interview preparation, self-analysis and self-improvement, professionalism, and problem solving. Students participate in mock employment interviews and program assessment exit interviews with BIS advisory committee members. Other forms of BIS program assessment may be required. The student continues with preparation of high-quality (mailable) documents from both dictated and rough draft materials. 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:  BIS 246

BIS 255 Medical Office Procedures  3(3-0)
This is a course that introduces and teaches medical assisting administrative tasks; teaches records management, medical communications, and scheduling skills; and describes procedures for preparing patients’ charts and bills. Medical practice management and finances are also addressed. Multi-day simulations provide real-world experience with physician dictation. Topics include dress and grooming for business, human relations, telephone etiquette, dictation techniques, job search strategies, effective research and oral presentation techniques, interview preparation, self-analysis and self-improvement interviews. In addition to classroom work, each student is required to complete a minimum of three hours of computer laboratory work per week.
Prerequisites:  BIS 130 or CIS 100, BIS 140

BIS 256 Medical Transcription III  3(3-1.5)
This course is a continuation of BIS 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, CDs, 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:  BIS 246

BIS 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 BIS 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 BIS 260, the student should have completed the first three semesters of the program and must have approval of the BIS Co-op instructor and the MMCC Co-op Coordinator.
BIS 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: BIS 164 or ENG 111

BIS 295-299 Special Topics in Business Information Systems 1-3(1 to 3-0)
These courses are designed to investigate various topics in Business Information Systems that are not included in current courses. Topics will be announced. These courses are offered based on demand.

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 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 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)
This course is an 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 225 International Business 3(3-0)
This course analyzes environmental changes as the firm expands globally. Emphasis is placed on the understanding and utilization of diversity and ethics in the development, operation and international expansion of the firm. Multi-cultural work environments, employment and labor issues, domestic and international law, global marketing, trade and finance will be examined.
Prerequisites: None

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 260 will substitute for BUS 250.

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 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.

(CHM) 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 equilibrium, 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.

(CIS) 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 I (Visual Basic)  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 112 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

CIS 121 Introduction to Java Programming  3(3-1.5)
A continuation of CIS 110 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

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 131 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: CIS 100

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 151 – C# Programming I  3(1.5-1.5)
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-class work will consist of 1 ½ hours of lecture followed by 1 ½ hours of practical application. In addition to the classroom work, each student is required to do a minimum of 1 ½ hours of individual laboratory (outside of class) work per week. Required software is available on computers at the college; if students wish to complete assignments at home; they will need to procure the correct software.
Prerequisite: MAT 104 or equivalent

CIS 152 – C# Programming II  3(1.5-1.5)
A continuation of the C# Programming 1 course, this course provides a review of topics from C# Programming 1 but focuses on the inheritance, exception handling, using GUI objects and the Visual Studio IDE, controls, event handling, and file and stream processing. In-class work will consist of 1 ½ hours of lecture followed by 1 ½ hours of practical application. In addition to the classroom work, each student is required to do a minimum of 1 ½ hours of assigned programming work outside the classroom per week (homework). Required software is available on computers at the college; if students wish to complete assignments at home; they will need to procure the correct software.
Prerequisite: CIS 151

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  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 225 Database (Oracle) 3(1.5-1.5)
This course covers relational database concepts and tools focused in an Oracle environment. Specifically, relational database concepts (rows, tables, and keys), table creation/modification (DDL and SQL), PL/SQL, forms, reports, and database administration tasks are presented. In-class work will consist of 1 ½ hours of lecture followed by 1 ½ hours of practical application. In addition to the classroom work, each student is required to do a minimum of 1 ½ hours of individual additional laboratory work per week (homework). Required software is available on computers at the college; if students wish to complete assignments at home; they will need to procure the correct software.
Prerequisite: CIS 100, CIS 130

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 3(3-1.5)
A detailed study of the Windows 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, and troubleshoot Microsoft 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 are 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) COMPUTER SCIENCE

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 Computer Systems 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) CRIMINAL JUSTICE - CORRECTIONS

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.

(CST) CONSTRUCTION - M-TEC

CST 12LB 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 (This course can also be taken as an individual 1.09 credit class

CST 220 Intro to Carpentry Framing 3(61-21)
This program provides a combination of internet-based, textbook, and hands-on training that addresses light commercial drawings, roofing applications, thermal moisture protection, and exterior finishing and expands on the applications presented in Carpentry Fundamentals. You CANNOT complete the NCCER Carpentry Level Two program unless you complete all three sections, CST 220, CST 221, and CST 222 completely. Students must receive a grade of “B” or better to advance to the next level and/or receive an NCCER certificate upon completion of the NCCER Carpentry Level Two program.
Note: These are non-structured, independent study programs; however, all credit bearing students must complete all assignments by the end of the semester. Before registering for any M-TEC courses, you must meet with an M-TEC advisor.
Prerequisite: CST 1100 or CSTR 2000 – NCCER Carpentry Fundamentals with a grade of “B” or better
Corequisite: MAT 170 recommended (taken either with CST 220 or CST 221)
COURSE DESCRIPTIONS

**CST 221 Intro to Carpentry Finishing  3(52-30)**
This program provides a combination of internet-based, textbook, and hands-on training that addresses cold-formed steel framing, drywall installation, drywall finishing, and doors and door hardware and expands on the applications presented in Carpentry Fundamentals. You CANNOT complete the NCCER Carpentry Level Two program unless you complete all three sections, CST 220, CST 221, and CST 222 completely. Students must receive a grade of “B” or better to advance to the next level and/or receive an NCCER certificate upon completion of the NCCER Carpentry Level Two program.

Note: These are non-structured, independent study programs; however, all credit bearing students must complete all assignments by the end of the semester. Before registering for any M-TEC courses, you must meet with an M-TEC advisor.

Prerequisite: CST 220 Intro to Carpentry Framing with a grade of “B” or better
Corequisite: MAT 170 (taken either with CST 220 or CST 221)

**CST 222 Intermediate Carpentry Framing  3(58-24)**
This program provides a combination of internet-based, textbook, and hands-on laboratory training that addresses suspended ceilings, window, door, floor, and ceiling trim, cabinet installation, and cabinet fabrication and expands on the applications presented in Carpentry Fundamentals. You CANNOT complete the NCCER Carpentry Level Two program unless you complete all three portions, CST 220, CST 221, and CST 222 completely. Students must receive a grade of “B” or better to advance to the next level and receive an NCCER certificate upon completion of the NCCER Carpentry Level Two program.

Note: These are non-structured, independent study programs; however, all credit bearing students must complete all assignments by the end of the semester. Before registering for any M-TEC courses, you must meet with an M-TEC advisor.

Prerequisites: CST 220 & CST 221 with a grade of “B” or better and MAT 170 with a grade of “C” or better

**CST 230 Intro to Electrical  4(67-44)**
This is the first of a two-part program that provides a combination of internet-based, textbook, and hands-on laboratory training that addresses electrical safety, conduit hand bending, different types of electrical fasteners and anchors, different types of circuits and Ohm’s Law applications, knowledge and use of electrical test equipment, National Electrical Codes (NEC), applications and construction of raceways, boxes, fittings and conductors, and reading and understanding electrical blueprints.

Note: These are non-structured, independent study programs; however, all credit bearing students must complete all assignments by the end of the semester. Before registering for any M-TEC courses, you must meet with an M-TEC advisor.

Prerequisite: CST 1000 or CSTR 1100 with a grade of “B” or better
Corequisite: MAT 170 recommended (taken with CST 230 or CST 231, or before)

**CST 231 Intro to Electrical II**
This is the second of a two-part program that provides a combination of internet-based, textbook, and hands-on laboratory training that addresses residential and light commercial electrical wiring. Upon completion of these two course modules, student will begin his/her 50-hour hands-on capstone project. Students will create electrical language and written electrical schematics to complete a model home electrical wiring project according to the 2005 National Electric Code Laws. This project must be completed to the instructor’s requirements before they can receive credit.

Note: These are non-structured, independent study programs; however, all credit bearing students must complete all assignments by the end of the semester. Before registering for any M-TEC courses, you must meet with an M-TEC advisor.

Prerequisite: CST 230 with a grade of “B” or better
Corequisite: MAT 170 (taken with CST 230 or CST 231, or before)

**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.
COURSE DESCRIPTIONS

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: CSTR 1000 with a grade of "B" or better or permission of the instructor

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: CSTR 1000 with a grade of "B" or better or permission of the instructor

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: CSTR 1000 with a grade of "B" or better or permission of the instructor

Electrical Level One Package

(DRF) 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
DRF 220 Introduction to SoftPlan   3(3-1.5)
Students will have a thorough introduction to 2D and 3D architectural design using Soft Plan. 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 250 Drafting Co-Op   3(0-3)
This course is designed to give previous Drafting/CAD students the opportunity to spend time as a CAD-Lab Assistant. Students enrolled in DRF 250 will provide student assistance in DRF 120-Introduction To AutoCAD.
Prerequisite: Permission of instructor

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.

(ECE) 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 (CPR) Current Cardiopulmonary Resuscitation and First Aid certification are highly recommended throughout the student tenure in ECE program.

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.
Corequisite: 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. Lab hours will include observation of children and adults in interaction.
Corequisite: 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.
Corequisite: ECE 112 and ECE 114 OR ECE 113 and ECE 114; ENG 111 or permission of ECE instructor or ECE Coordinator.

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.
Corequisite: ECE 112 and ECE 114 OR ECE 113 and ECE 114; ENG 111 or permission of ECE instructor or ECE Coordinator.

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.
Corequisite: ECE 112 and ECE 114 OR ECE 113 and ECE 114; ENG 111 or permission of ECE instructor or ECE Coordinator.

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
Corequisite: ECE 201, 202, 206 and ENG 111

ECE 208 Early Childhood Administration  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.
Corequisite: ECE 112 and ECE 114 OR ECE 113 and ECE 114; ENG 111 or permission of ECE instructor or ECE Coordinator.

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 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) EMERGENCY MEDICAL SERVICES

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: EMT 100 OR equivalent; recommended ALH 100, BIO 141, BIO 142. Age 18 or older; valid driver’s license; no felony convictions; high school diploma or GED. TB test & HBV vaccination.
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 OR equivalent; recommended ALH 100, BIO 141, BIO 142. Age 18 or older; valid driver’s license; no felony convictions; high school diploma or GED. TB test & HBV vaccination.
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, EMS 205
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, 225
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 225
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

(EMT) 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.
Corequisite: EMS 205

(ENG) ENGLISH

ENG 097 College Reading I    2(2-0)
Eng. 097, College Reading I (2 credits), is designed to develop the strategies, skills, and attitudes necessary for reading college-level texts. Based on reading placement score, completion of the English self-placement quiz, and discussion with an academic advisor, students may enroll in Eng. 097 in conjunction with English 110, Introduction to Academic Writing, or another course with college-level reading. Students will learn and practice a variety of reading strategies they can use to better understand what they read. In addition to strategic reading, emphasis will be on integrating critical thinking with reading, reading comprehension, reading flexibility, and expanding vocabulary. With an instructor facilitating, students will develop existing reading skills in an interactive, collaborative setting.
Prerequisites: None
Corequisites: Eng. 110 or a class with college level reading.
ENG 098 College Reading II  1(1-0)
Eng. 098, College Reading II (1 credit), is designed to develop the strategies, skills, and attitudes necessary for reading college-level texts. Based on reading placement score, completion of the English self-placement quiz, and discussion with an academic advisor, students may enroll in Eng. 098 in conjunction with English 110, Introduction to Academic Writing, English 111, Freshman Composition, or another course with college-level reading. Students will learn and practice a variety of reading strategies they can use to better understand what they read. In addition to strategic reading, emphasis will be on integrating critical thinking with reading, reading comprehension, reading flexibility, and expanding vocabulary. With an instructor facilitating, students will develop existing reading skills in an interactive, collaborative setting.
Prerequisites: None
Corequisites: Eng. 110, 111, or a class with college level reading.

ENG 104 Reading and Writing for College  4(4-0)
Eng. 104, Reading and Writing for College, is a four credit course that combines instruction in reading and writing and is designed for students who have had little to no preparation for reading and writing at the college level. The kinds of strategies and skills students will practice in Eng. 104 should prepare them for the kinds of reading and writing they will do at the college level. Note: Students who assess at a low reading level must begin the composition sequence with Eng. 104.
Prerequisite: None

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.
Prerequisite: Student must meet with an advisor to register.

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: Student must meet with an advisor to register.

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.

(ENT) ENTREPRENEURSHIP

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.

(ENV) ENVIRONMENTAL 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 curricula. 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/work 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.
**COURSE DESCRIPTIONS**

**(FFT) 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.

**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 science, 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.

**(FRN) 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.

**FRN 102 Elementary French II   4(4-0)**
French 102 is a continuation of French 101 and will begin with a brief review of the material covered in FRN 101. Students in French 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 French at the intermediate level.

Prerequisite: FRN 101 or equivalent.

**(GEL) 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.

**(GER) 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, and 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.

**(HED) 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.

**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)**
This is the second semester continuation of HIS 101. The course emphasizes the development of Western peoples from 1650 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 from exploration 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.
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 198 EPA Refrigerant Handler Certification   1(1-0)
This is a 4 day course specifically designed to teach students the required knowledge necessary to pass the Environmental Protection Agency’s Refrigeration Handler Certification Exam. The specific content areas are;

Core – The basic law regarding CFC, HCFC, HFC and other chlorinated refrigerants, containments, disposal, and other certification requirements.
Type 1 – This level of certification deals with factory charged refrigeration systems containing less than 5 pounds of refrigerant.
Type 2 – This level of certification deals with all other high pressure refrigerant systems with 5 pound of refrigerant of more or are custom manufactured.
Type 3 – This level of certification deals with low pressure chiller applications.
“Universal Certification” is granted to those who pass all certification levels; the student must pass the Core section to be awarded any certification.
The Refrigerant Handler Certification textbook and exam are included.
The instructor for this course 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

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: Minimum of 12 credits in HRA

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.
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

HUM 225 Study Abroad 2(2-0)
An interdisciplinary study abroad course, offering students a unique insight into what is offered via traditional classroom experience. This class will study different aspects of a specific society. Students will interact directly with the idiosyncrasies of a specific culture and understand aspects such as: language, history, food, currency, religion, architecture, and ideas. The course will consist of combinations of lectures, tours, field research, cultural events, interviews, meetings with local experts, and a journal.
Prerequisites: Instructor’s Approval Needed

HUM 251 American Studies I: The Cultural Foundations of the 20th Century 3(3-0)
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 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.

IND 101 Basic Machine Shop Practices 4(2-4)
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(2-4)
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(1-2)
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(2-4)
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(3-0)
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.

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

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.

JPN 101 Introductory Japanese  4(4-0)
This is an introductory course in Japanese language, designed for students with little or no 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.

JPN 102 Elementary Japanese II  4(4-0)
Students in Japanese 102 will continue to learn the basic language skills covered in 101 with increased emphasis on vocabulary, informal language and quick, natural-sounding speech.
Prerequisites:  JPN 101 or previous study of Japanese with instructor approval

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

LEN 201 Fundamentals of Supervision & Management in Criminal Justice  3(3-0)
An introductory course designed to acquaint the student with the basics of management and supervision. Criminal Justice roles and responsibilities are examined. Management styles are discussed. Issues of management, operations, employment, training, community relations, and leadership styles all receive attention within this course.

LEN 202 Juvenile Law & Procedures  3(3-0)
This course will examine a broad spectrum of trends and causation of juvenile delinquency, specific treatment techniques, ways of controlling and preventing delinquency, and the role of the law enforcement officer in dealing with all aspects of the legal basis of the police officer’s work with juveniles.
LEN 203 Criminal Law for Police Officers  3(3-0)
This course is designed to familiarize persons or refresh law enforcement personnel with the purposes and functions of criminal law in the operation of a law enforcement agency. Topics of discussion include philosophy and source of criminal law, criminal procedure, search and seizure, arrest, specific crimes, judicial procedure, and other topics such as defendant rights.
Prerequisite: LEN 205

LEN 204 Criminal Investigation  3(3-0)
This course covers the fundamentals of criminal investigation including techniques of surveillance; search at the scene of the crime; collection, recording and preservation of evidence; interviewing witnesses; interrogation of suspects; methods used in the police science laboratory; and cooperation with other agencies in investigation procedures.
Prerequisite: LEN 205

LEN 205 Introduction to Law Enforcement & Criminal Justice  3(3-0)
An introductory course designed to acquaint the student with the components of the criminal justice system. Corrections, courts, police systems are examined. The criminal justice process is explored in detail. The history, relationships, administration, and philosophy of the criminal justice system are also examined.

LEN 289 Police Academy  21(0-42)
Mid Michigan Community College has signed articulation agreements with Delta College and Kirtland Community College whereby the student completes Police Academy coursework on the Delta or Kirtland campus. Students who successfully complete the Police Academy Training at Delta College or Kirtland Community College, will receive Mid Michigan Community College credit. In order to receive credit, a student must submit an official transcript, showing satisfactory completion of the Basic Police Academy, as specified by MCOLES (Michigan Commission on Law Enforcement Standards).

(MAT) MATHEMATICS

MAT 060 Math Study Skills  1.5(1.5-0)
This course will emphasize study skills important for success in mathematics courses. Topics to be covered include note taking, homework issues, how to study math, test taking, how to use the textbook, and anxiety. It is strongly recommended that students take another MAT course concurrently with MAT 060. Credit/no credit only. Prerequisites: None

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
Please note: MAT 101 is also offered as a two-semester sequence and a three-semester sequence, see next.

MAT 101A Basic Mathematics  1(0-2)
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 include 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: None for MAT 101A. Must have a “C” or better in MAT 101A to take MAT 101B. Must have a “C” or better in MAT 101B to take MAT 101C.

MAT 101X Basic Mathematics  1.5(1-2)
MAT 101Y Basic Mathematics  1.5(1-2)
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 102 Algebraic Concepts  3(3-0)
Algebraic Concepts is a three credit class designed for the student with little or no previous algebraic background. It will acquaint the student with basic algebraic concepts as well as prepare them to take MAT 104. Also it gives the student the foundation to be successful in the mathematics required in other Mid Michigan Community College programs.
Prerequisites: None
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 MAT 102 OR equivalent.
Please Note: MAT 104 is also offered as a two-semester sequence and a three-semester sequence, 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. Completions of all three modules are equivalent to MAT 104.
Prerequisite: Grade of “C” or better in MAT 101 OR MAT 102 OR equivalent to take MAT 104A. Must have a “C” or better in MAT 104A to take MAT 104B. Must have a “C” or better in MAT 104B to take MAT 104C.

MAT 104X Basic Algebra  1.5(1-2)
MAT 104Y Basic Algebra  1.5(1-2)
MAT 104X and MAT 104Y are a two semester sequence covering the same material as the traditional classroom version of MAT 104. MAT 104X includes algebraic expressions, signed numbers, linear equations, linear inequalities, applications, and linear graphing. MAT 104Y includes integer exponents, polynomials, factoring, solving polynomial equations, rational expressions, and solving rational equations. Note: Students choosing to take MAT 104 as a sequence must complete either the ABC sequence or the XY sequence to complete MAT 104. Courses from the two sequences cannot be mixed.
Prerequisite: Grade of “C” or better in MAT 101 OR MAT 102 OR equivalent to take MAT 104X. Must have a “C” or better in MAT 104X to take MAT 104Y.

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 as a two-semester sequence, see next.

MAT 105X Intermediate Algebra  1.5(1-2)
MAT 105Y Intermediate Algebra  1.5(1-2)
MAT 105X and MAT 105Y are a two semester sequence covering the same material as the traditional classroom version of MAT 105. MAT 105X includes a brief review of basic algebra before covering functions, function operations, functions of variation, and systems of linear equations in two and three variables. MAT 105Y includes inequalities, absolute value equations and inequalities, radicals and rational exponents, rational equations, and quadratic equations, functions, and graphs. Note: Students choosing to take MAT 105 as a sequence must complete either the ABC sequence or the XY sequence to complete MAT 105. Courses from the two sequences cannot be mixed.
Prerequisite: Grade of “C” or better in MAT 104 or equivalent to take MAT 105X. Must have a “C” or better in MAT 105X to take MAT 105Y.

MAT 116 Business Mathematics I  3(3-0)
A course designed to show students how algebra can be applied to solve a variety of problems encountered in business management. Topics covered include: mathematical models, mathematics of finance; functions; linear functions; systems of linear equations and inequalities; linear programming; simplex logarithms; quadratic functions; and exponential functions.
Prerequisite: Grade of “C” or better in MAT 105 or equivalent

MAT 118 Mathematics for Elementary Teachers I  3(3-0)
This course provides part of the mathematical background necessary for elementary teachers. Topics include sets, numerations systems, elementary number theory, natural numbers, integers, and rational numbers.
Prerequisite: Grade of “C” or better in MAT 105 or equivalent

MAT 124 Precalculus  5(5-0)
Preparation for students who desire to study calculus. Topics include properties of real numbers, inequalities, data analysis, modeling, functions and relations, logarithms and exponential functions, circular and trigonometric functions.
Prerequisite: Grade of “C” or better in MAT 105 or equivalent

MAT 126 Calculus I  5(5-0)
The first of a series of four courses for mathematics, engineering, and science students. Topics include limits, continuity, differentiation of algebraic and trigonometric functions, applications of derivatives, fundamental integration, exponential and logarithmic functions.
Prerequisite: Grade of “C” or better in MAT 124 or equivalent
MAT 170 Technical Mathematics II 3(3-0)
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: MAT 116 with a grade of “C” or better

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: Grade of “C” or better in 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.

(MID) PERSONAL DEVELOPMENT

MID 101 Strategies for Success in College 2(2-0)
This course is designed for first time and returning college students. To develop the attitudes and behaviors of successful college students, the course covers topics such as learning styles, critical thinking, reading and comprehension strategies, as well as note taking, test taking, and time management strategies. Students will discuss and practice various techniques. By becoming familiar with the various styles of learning, studying, reading, and test taking, students will identify the ways that work best for them.
Prerequisites: None

MID 102 Career Exploration and Development 1(1-0)
Career Exploration and Development is an 8 week, one credit course for new and returning students. This course will focus on assisting students in identifying their career goals through self assessment of interests, aptitudes, and world of work preferences. Students will also learn resume and cover letter development, interview techniques, and job search strategies.
Prerequisites: None
Corequisite: This course must be taken in conjunction with at least one other course, not PED.

MID 103 Human Relations 3(3-0)
This is an applied social science course. Focus will be on theory and research from the social sciences (primarily psychology) that apply to an individual’s personal and professional development. This course is not intended solely for psychology or other social science majors, but for any student who is interested in improving psychological well-being.
Prerequisites: None
MID 104 First Year Experience  2(2-0)
This course encourages academic and social interaction with peers, faculty and staff, and other members of the MMCC community. The students will learn to have an active role in their education. Participation in the course facilitates improvement of creative and critical reasoning, study habits and preparation skills, information literacy, and presentation skills. This course provides the groundwork for independent and self-motivated learning and introduces or reintroduces students to skills and abilities which will allow them to thrive in a changing college environment.
Prerequisites: None

(MNF) MANUFACTURING -- M-TEC

MNF 1000 Fundamentals of Pneumatics  3
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  3
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  3
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  3
The course covers basic rules for AC/DC circuits including how Kirchoff’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.

MNF 1400 Industrial Drives & Mechanisms  3
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  2
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  2
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  3
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  3
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 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. 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. **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 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 steps 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 threads 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  2
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.

(MUS) MUSIC

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 275 Music Appreciation  3(3-0)
This course will promote general musical understanding through active listening.

(NAL) 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.

(NUR) 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
Corequisites: 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  5(5-0)
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. Clinical practice in health agencies is included.
Prerequisites: NUR 121, NUR 124, NUR 150
Corequisite: NUR 128

NUR 127 Maternal/Child Nursing  4(3-2)
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. The lab portion of this course consists of observational experiences, self study and in-lab clinical simulations. 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 Nursing 124 to include growth and development, nutrition, drug therapy and variations from normal. Selected adaptive problems are utilized to emphasize the role of the nurse in direct care provision, communication and management of care through the use of the nursing process.
Prerequisites: NUR 121, NUR 124, NUR 150
Corequisites: NUR 125, NUR 128

NUR 128 Nursing Clinical II  4(0-12)
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 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 134 – Trends In Leadership 1(1-0)
This course is designed to prepare the Level I graduate to meet the needs of a group of patients by organizing, selecting priorities and delegating nursing responsibilities to unlicensed personnel. The historical perspective to present-day challenges of the nursing role will be discussed. Seeking and maintaining employment as a health care professional will be highlighted, including licensure requirements.
Prerequisites: NUR 125, NUR 128
Corequisites: NUR127, NUR 130

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-psychosocial, 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 221

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.

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 108 Beginning Kardio-Kickboxing  1.5(0-1.5)
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 109 Beginning Dance Exercise  1.5(0-1.5)
This course utilizes aspects of the following: modern dance, jazz dance, Duncan Dance, martial arts, yoga, and the Alexander Technique. Students will become familiar with their own inner rhythm and dance of fitness. The classes will stimulate, condition and prepare the body through the use of movement forms. This course will utilize the Nia Technique to combine the components listed above, primarily through dance/exercise routines, with very brief periods of verbal instruction.

PED 110 Beginning Body Dynamics  1(0-1)
This course combines elements of cardiovascular and strength training, martial arts movement, pilates, yoga, and dance into an integrated exercise routine. Through verbal instruction, students will perform movements designed to increase basic physical fitness. Knowledge of life-long fitness practices will also be gained.

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 150 Mind/Body Fitness .5(0-.5)
This course will utilize the Nia Technique. Neuromuscular Integrative Action – mind body approach to whole body fitness. The Nia Integrative Action – a mind body approach to whole body fitness. The Nia Technique combines Eastern and Western concepts and theories blending martial arts, dance and yoga. Classes are designed to take you through a journey of your own body, introducing you to a new way of moving with the body, mind, spirit and emotions. You will become familiar with your own inner rhythm and dance of fitness. The classes will stimulate condition and prepare your mind and body through the use of movement forms and focused awareness. The course is designed to be taken in conjunction with PED 109, 209, or 253, which are hour long dance exercise sessions. In the half hour following, PED 150 will explore the Nia technique, as described above, through activity and discussion.
Prerequisite: None
Corequisite: PED 109

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 or PED 108

PED 208 Intermediate Kardio-Kickboxing  1.5(0-1.5)
This course is a continuation of PED 108.
Prerequisites: PED 107 or PED 108

PED 209 Intermediate Dance Exercise  1.5(0-1.5)
This is the second in a series of courses that utilize aspects of the following: modern dance, jazz dance, Duncan Dance, martial arts, yoga, and the Alexander Technique. Students will become familiar with their own inner rhythm and dance of fitness. The classes will stimulate condition and prepare the body through the use of movement forms. This course will utilize the Nia Technique to combine the components listed above, primarily through dance/exercise routines, with very brief periods of verbal instruction.
Prerequisites: PED 109
PED 210 Intermediate Body Dynamics 1(0-1)
This is the second in a series of courses combine elements of cardiovascular and strength training, martial arts movement, pilates, yoga, and dance into an integrated exercise routine. Through verbal instruction, students will perform movements designed to increase basic physical fitness. Knowledge of life-long fitness practices will also be gained.
Prerequisite: PED 110

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 or PED 208

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 250 Advanced Kardio-Kickboxing 1.5(0-1.5)
This course is a continuation of PED 208.
Prerequisite: PED 207 or PED 208

PED 251 Advanced Body Dynamics 1(0-1)
This is the third in a series of courses that combine elements of cardiovascular and strength training, martial arts movement, pilates, yoga, and dance into an integrated exercise routine. Through verbal instruction, students will perform movements designed to increase basic physical fitness. Knowledge of life-long fitness practices will also be gained.
Prerequisites: PED 110, PED 210

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 253 Advanced Dance Exercise 1.5(0-1.5)
This is the third in a series of courses that utilize aspects of the following: modern dance, jazz dance, Duncan Dance, martial arts, yoga, and the Alexander Technique. Students will become familiar with their own inner rhythm and dance of fitness. The classes will stimulate condition and prepare the body through the use of movement forms. This course will utilize the Nia Technique to combine the components listed above, primarily thorough dance/exercise routines, with very brief periods of verbal instruction.
Prerequisites: PED 209
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.

(PHL) 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.

(PHT) PHARMACY

PHT 104 Orientation to Pharmacy Technician & Drug Preparations  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. Corequisites: ALH 100, PHT 105, PHT 106

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. Corequisites: ALH 100, PHT 104, PHT 106

PHT 106 Pharmacy Technician Calculations  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. Corequisites: ALH 100, 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 Corequisite: PHT 114, SPE 101 or SPE 257

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 Corequisite: PHT 113, SPE 101 or SPE 257
**COURSE DESCRIPTIONS**

**PHT 115 Clinical Practicum   7.5(0-15)**
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 113, PHT 114, SPE101 or SPE 257

**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

**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.

**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.

**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.

**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.
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 is an introduction into a survey of developments in behavior alteration. Specifically, emphasis is on behavior modification techniques in the areas of motivation, elimination of undesirable behaviors, an increase of desirable behaviors, and the promotion of academic and social participation in education and other environments.
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.

PTA 101 Orientation to Physical Therapy  1(1-0)
This introductory course provides an overview of the profession of physical therapy and focuses upon the role of the physical therapist assistant. Standards of Practice and core values of professionalism are emphasized. Communication skills are enhanced to better serve a multicultural health care environment.
Prerequisite: Admission to the Program
Corequisite: PTA 105, PTA 106, PTA 110, PTA 111, PTA 115, PTA 116

PTA 105 Modalities I  1(1-0)
This course includes instruction in the principles, indications, contraindications and precautions of physical agents including heat and cold treatments, hydrotherapy and ultrasound.
Prerequisite: Admission into the Program
Corequisite: PTA 101, PTA 106, PTA 110, PTA 111, PTA 115, PTA 116
PTA 106 Modalities I Lab   2(0-6)
This lab is coordinated with the lectures and demonstrations presented in Modalities I. Guided practice with physical agents is provided. Students gain hands-on experience with heat and cold treatments, hydrotherapy and ultrasound. Basic documentation skills are introduced.
Prerequisites: Admission into the Program
Corequisites: PTA 101, 105, 110, 111, 115 & 116

PTA 110 Therapeutic Exercise   1(1-0)
Basic exercise theory is presented. Concepts of flexibility, strength and coordination are emphasized. Other topics include transfers, documentation, gait training with ambulation equipment and monitoring a patient/client during an exercise or gait training program.
Prerequisites: Admission into the Program
Corequisites: PTA 101, 105, 106, 110, 111, 115 & 116

PTA 111 Therapeutic Exercise Lab   2(0-6)
In a lab setting, students practice basic therapeutic exercise techniques. They implement flexibility, strength and coordination programs. Progress note writing is also required.
Prerequisites: Admission into the Program
Corequisites: PTA 101, 105, 106, 110, 111, 115 & 116

PTA 115 Clinical Kinesiology   1(1-0)
This course provides a review of surface and functional anatomy with an emphasis on the muscles, bones and joints. Students develop an understanding of normal posture, movement patterns and gait.
Prerequisites: Admission into the Program
Corequisites: PTA 101, 105, 106, 110, 111 & 115

PTA 116 Clinical Kinesiology Lab   1(0-3)
This lab course accompanies Clinical Kinesiology and provides practical observation, palpation and identification skills of basic anatomical landmarks, especially bones, joints and muscles. Normal posture, movement patterns and gait characteristics are included.
Prerequisites: Admission into the Program
Corequisites: PTA 101, 105, 106, 110, 111 & 115

PTA 125 Measurement Techniques   1(1-0)
Students are presented with the assessment techniques most commonly used in physical therapy. Treatment plans are based upon the objective findings of this data collection. Techniques of goniometry, muscle testing, sensory assessments, gait/posture analysis and coordination testing are presented.
Prerequisites: PTA 101, 105, 106, 110, 111, 115, & 116
Corequisites: PTA 126, 130, 131, & 140

PTA 126 Measurement Techniques Lab   2(0-6)
Lab practice is the follow-up to Measurement Techniques. Students received guided practice with the assessment techniques of goniometry, muscle testing, sensory evaluations, gait/posture analysis and coordination testing.
Prerequisites: PTA 101, 105, 106, 110, 111, 115 & 116
Corequisites: PTA 125, 130, 131, & 140

PTA 130 Advanced Therapeutic Exercise   2(2-0)
This course presents the principles and guidelines for treating musculoskeletal conditions (surgical and non-surgical) of the upper and lower extremities, neck and back. Other therapeutic exercises will be provided for vascular disorders and faulty posture.
Prerequisites: PTA 101, 105, 106, 110, 111, 115 & 116
Corequisites: PTA 125, 126, 131, & 140

PTA 131 Advanced Therapeutic Exercise Lab   2(0-6)
This lab course reinforces the principles and guidelines for treating musculoskeletal conditions (surgical and non-surgical) of the upper and lower extremities, neck and back. Students are guided in implementing therapeutic exercises for those conditions as well as additional exercises for vascular disorders and faulty posture. Previous course information about basic therapeutic exercise and modalities is integrated into lab sessions.
Prerequisites: PTA 101, 105, 106, 110, 111, 115 & 116
Corequisites: PTA 125, 126, 130, & 140

PTA 140 Clinic I   4(0-16)
Part-time (two full days/week) clinical practice offers students opportunities to observe, assist with and implement treatment techniques which have been introduced in prior lecture courses and practiced in lab. Clinical instructors facilitate learning and supervise. Clinical placements occur in hospitals, out patient clinics, rehabilitation centers, nursing homes, home care or schools.
Prerequisites: PTA 101, 105, 106, 110, 111, 115, & 116
Obtain/keep a current CPR Certificate for the Health Care Provider or an AED/CPR Certificate for the Professional Rescuer.
Corequisites: PTA 125, 126, 130, & 131

PTA 205 Modalities II   2(2-0)
The basic concepts, terminology and physiology of electrical stimulation are introduced. The course guides the student in understanding treatment parameters/protocols and the safe management of equipment for pain control, edema/swelling reduction, muscle spasm relief and strengthening.
Prerequisites: PTA 125, 126, 130, 131 & 140
Corequisites: PTA 206, 207, & 208
PTA 206 Modalities II Lab  2(0-6)
This lab provides practice in the safe and effective delivery of electrical stimulation. The students use a variety of modalities for decreasing pain, increasing strength, reducing edema/swelling, and improving tissue repair. Documentation skills are reinforced.
Prerequisites: PTA 125, 126, 130, 131 & 140
Corequisites: PTA 205, 207 & 208

PTA 207 Rehabilitation of Pathological and Neurological Conditions  2(2-0)
The signs, symptoms, etiology, prognosis and medical treatment of diseases and conditions are presented. The focus is upon diagnoses commonly seen in physical therapy.
Prerequisites: PTA 125, 126, 130, 131 & 140
Corequisites: PTA 205, 206 & 208

PTA 208 Rehabilitation Techniques Lab  2(0-6)
Rehabilitation treatments are practiced for common pathological and neurological conditions. Students also gain hands-on experience with orthotics, prosthetics, adaptive equipment and custom fitted wheelchairs.
Prerequisites: PTA 125, 126, 130, 131 & 140
Corequisites: PTA 205, 206 & 207

PTA 210 Clinical Forum  3(3-0)
This seminar course offers networking with classmates and instructors to solve clinical problems, improve communication skills, and reinforce professional behavior. Emphasis is on evidence-based clinical decision making, ethical practice, planning for future employment, and professional growth.
Prerequisites: PTA 205, 206, 207 & 208
Corequisites: PTA 240

PTA 240 Clinic II  9(0-30)
Full-time clinical assignments provide a broad range of practice opportunities with patient/clients. Students will be assigned to hospitals, out-patient centers, nursing homes, schools or rehabilitation centers for 40 hours/week for 12 weeks. The students are under the direct supervision of a clinical instructor (physical therapist or physical therapist assistant.)
Prerequisites: PTA 205, 206, 207, 208, and a current CPR Certificate for the Health Care Provider or an AED/CPR Certificate for the Professional Rescuer.
Corequisites: PTA 210

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 advance 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. Fifteen to twenty competencies will be performed depending on skill level demonstrated.  
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 of 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.

(REL) 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.
(SCI) 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.

(SOC) 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 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.

(SPE) SPEECH

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 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 Forensic  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.

SPN 101 Elementary Spanish I  4(3-1)
This course is designed to introduce students to basic conversational Spanish. It emphasizes essential grammar and touches on Hispanic culture since culture is an essential part in learning a new language. Student should, upon course completion, have the ability to speak, write, and understand basic Spanish conversation.

SPN 102 Elementary Spanish II  4(3-1)
Spanish 102 continuation of SPN 101; therefore, it will begin with a review of the material covered in Spanish 101. Students in Spanish 102 will continue the study of grammar and vocabulary and will use these to communicate utilizing speaking, writing, listening, and reading skills. The course is designed to provide the basis for further study of Spanish at an intermediate level. Students are expected to study the material outside of class and come to class prepared to participate.
Prerequisite: SPN 101 or equivalent or 1 year of high school Spanish.

SPN 201 Intermediate Spanish I  4(4-0)
Spanish 201 is a course designed to help students in the acquisition of language skills necessary for verbal communication, grammar, reading, and writing at the intermediate level in Spanish. Cultural themes of the Hispanic world will be discussed in order to have a better cultural understanding.
Prerequisite: SPN 102 or equivalent course, or 2 years of High School Spanish.

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.
NOTE: This course does not satisfy Group III requirements.

SSC 101 Personal Development  2(2-0)
Introduction to the development of home management, parenting skills, and consumer-skill knowledge.
NOTE: This course does not satisfy Group III requirements.
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 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.

SSC 200 The Social Sciences & Contemporary America 3(3-0)
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)

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.

(WLD) 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 249 Beginning Robotics  3(0-3)
This course will enable students to set-up and teach the robot to weld parts or assemblies in an efficient manner. Students will learn appropriate safety techniques required to operate and maintain the robot. Students will learn to write and copy various programs utilizing the World Coordinate System, and they will edit and test these programs.
Prerequisites:  WLD 126 and WLD 127 with a grade of “C” or better

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 to create class projects. 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.
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 Programming
• Maintenance Technology
• Principles of Quality Control
• Fluid & Air Power Technology
• Robotics
• Electronics Technician
• Industrial Electrical Technician (Electromechanical and Instrumentation)
• NEC Code Update Class
• Plastics Technology
• And Much More

Construction Technology
• Carpentry
• Electrical
• Plumbing
• Masonry
• Green Building
• Builders License Class

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 providing a complete, comprehensive training program.

The Open Entry training system also allows students to enter 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!

Many of our courses can now be taken 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 National Center for Construction Education and Research (NCCER) Construction Trades Training Program is a combination of both on-line and hands-on lab exercises to provide a complete and comprehensive training program that begins with the Core Curriculum that covers the basic fundamentals of construction. This basic knowledge can then be followed up with specific training in any of our other construction concentrations.

NCCER Core Curriculum

This program for the 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. Competency labs on each module must be completed to receive certificate of completion. Also available for college credit.

Prerequisite: MAT 104 or higher

CSTR 1100 Core Curriculum Package: This hybrid course is a prerequisite for all NCCER Construction courses and provides a combination of internet-based, textbook, and hands-on training addressing the basic construction skills of: Math; Safety; Blueprint Reading; Hand and Power Tools; Rigging and Crane Safety; Communication Skills; and Employability Skills that is used in general construction applications. It also introduces the student to the applied mathematical applications used in today’s construction industry.  **CST 1000 Core Curriculum Package for 3 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.

CSTR 1007 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 on the job instructions. Also discusses effective telephone and email communication skills.

CSTR 1008 Basic Employability Skills: Identifies the roles of individuals and companies in the construction industry. Introduces the trainee to critical thinking, problem-solving skills, 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.
Construction Technology

NCCER Carpentry Fundamentals
Level I

Prerequisite: NCCER Core Curriculum

CSTR 2000 Carpentry Level I Package: This program provides a combination of internet-based, textbook, and hands-on training that will prepare the trainee for a carpentry first-year apprenticeship. This program addresses the history of the trade; materials; tools; reading plans & elevations; floor systems; wall, ceiling, and roof framing; introduction to concrete and reinforcing materials; windows and exterior doors; and basic stair layout.

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.

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.

CSTR 2009 Introduction to Concrete and Reinforcing Materials: Describes the ingredients of concrete, discusses the various types of concrete, and describes how to mix concrete. Basic job-built footing, edge, wall forms, form ties, and the types and uses of concrete reinforcing materials are also included.

CSTR 2010 Basic Stair Layout: Describes the various types of stairs and the common building code requirements related to stairs. Focus on the techniques for measuring and calculating rise, run, and stairwell openings, laying out stringers, and fabricating basic stairways.

CSTR 2011 Carpentry Level I Capstone Lab: This “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 Framing and Finishing

Level II

Prerequisite: NCCER Core Curriculum, NCCER Carpentry Fundamentals Level I

Corequisite: MAT 170 or MNFG 7170

Carpentry Framing and Finishing Level II

This series introduces the second-year carpentry trainee to a higher level of residential carpentry as well as an introduction to some light commercial carpentry applications. Trainees will learn about commercial drawings, roofing applications, thermal and moisture protection, exterior finishing, steel framing, drywall installation and finishing, door installation, suspended ceilings, trim work, cabinet installation and fabrication.

Carpentry 2220 Carpentry Framing
CST 220 for 3 credits

Commercial Drawings: Describes the types and uses of drawings prepared for commercial structures. Provides information about the format and content of commercial drawings and their use on conveying specific construction requirements. Describes the standard format for specifications.

Roofing Applications: Covers the common materials used in residential and light commercial roofing, along with the safety practices and application methods for these materials. Includes shingles, roll roofing, shakes, tiles, and metal and membrane roofs, as well as selection and installation of roof vents.

Thermal & Moisture Protection: Covers the selection and installation of various types of insulating materials in walls, floors, and attics. Also covers the uses and installation practices for vapor barriers and waterproofing materials.

Exterior Finishing: Covers the various types of exterior siding used in residential construction and their installation procedures, including wood, metal, vinyl, and cement board siding.

Carpentry 2230 Introduction to Carpentry Finishing
CST 221 for 3 credits

Cold-Formed Steel Framing: Describes the types and grades of steel framing materials and includes instructions for selecting and installing metal framing for interior walls, exterior non-bearing walls, and partitions.

Drywall Installation: Describes various types of gypsum drywall, their uses, and the fastening devices and methods used to install them. Contains detailed instructions for installing drywall on walls and ceilings using nails, drywall screws, and adhesives. Also covers fire- and sound-rated walls.

Drywall Finishing: Covers the materials, tools, and methods used to finish and patch gypsum drywall. Includes coverage of both automatic and manual taping and finishing tools.

Door & Door Hardware: Covers the installation of metal doors and related hardware in steel-framed, wood-framed, and masonry walls. Along with their related hardware, such as locksets and door closers. Also covers the installation of wooden doors, folding doors, and pocket doors.

M-TEC offers open entry courses to fit your schedule. Sign up today and start your training tomorrow!
Prerequisite: NCCER Core Curriculum Package
Corequisite Required: MAT 170 or MNFG 7170

CSTR 3000 Electrical Level I Package: This 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 hands-on competency lab and a hands-on “capstone lab” experience supervised by a Master Electrician.

CST 230 Intro to Electrical Level I for 4 credits
Prerequisite: CST 1000 (B or better) or CSTR 1100 Recommended Corequisite: MAT 170

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

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.

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.

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.

Electrical Theory I: This interactive training unit offers a general introduction to the electrical concepts used in Ohm’s law applied to DC series circuits, along with atomic theory, electromotive force, resistance, and electric power equations. (formerly Basic Electrical Review)

Electrical Theory II: This interactive training unit introduces series, parallel, and series-parallel circuits. Also covers resistive circuits, Kirchoff’s voltage and current laws, and circuit analysis. (formerly AC Circuits)

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.

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.

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 be also to describe procedures for installing raceways in various types of environments.

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.
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 231 Intro to Electrical Level II for 3 credits
Prerequisite: CST 230 (B or better) Corequisite: MAT 170

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.

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.

Capstone Electrical Lab: This “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.

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
Prerequisite: NCCER Core Curriculum Package  
NCCER Electrical Level I Package

CSTR 3200 Electrical Level II Package: This 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 hands-on competency lab and a hands-on “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 1301 for .62 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 32EL Electrical Lab: This “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 Electrical
Level III

Prerequisite: NCCER Core Curriculum Program
NCCER Electrical Level I & II Programs
(or permission from an M-TEC Advisor & Instructor)
Corequisite: MAT 170 or MNFG 7100

CSTR 3300 Electrical Level III Package: This program provides a combination of internet-based theory and hands-on lab training for third-year electrician apprentices. The program addresses Load Calculations, Conductor Selection and Calculations, Over-current Protection, Raceway Requirements, Wiring Devices, Distribution Equipment, Distribution System Transformers, Lamp and Ballasts, Motor Calculations, Motor Maintenance, Motor Controls, Hazardous Locations, and expands on the modules presented in Levels I & II. Trainees are also required to complete a hands-on competency lab and a hands-on “capstone lab” experience supervised by a Master Electrician.

CSTR 3301 Load Calculations-Branch and Feeder Circuits: This module introduces the industry standards for electrical work, including the topics of branch circuits, rating and de-rating, and various types of residential and commercial electrical loads.

CSTR 3302 Conductor Selection and Calculations: This module covers the types of conductors used in wiring systems, including insulation, current-carrying capacity, and temperature ratings.

CSTR 3303 Over-current Protection: This module stresses the use of a variety of over-current protection devices, including circuit breakers and fuses, in all types of electrical systems.

CSTR 3304 Raceway, Box, and Fitting Fill Requirements: This module covers the number of conductors allowed in raceways, boxes, and fittings.

CSTR 3305 Wiring Devices: This module covers popular receptacles and switches, and takes an in-depth look at safety switches and other wiring devices.

CSTR 3306 Distribution Equipment: This module explains the distribution equipment including grounding, switchboard and ground fault maintenance, transformers, and electrical drawing identification.

CSTR 3307 Distribution System Transformers: This module discusses transformer types, construction, connections, protection, and grounding along with capacitors and rectifiers.

CSTR 3308 Lamps, Ballasts, and Components: This module covers basic types of incandescent, fluorescent, and HID lamps, as well as ballasts, troubleshooting, and various types of lighting controls.

CSTR 3309 Motor Calculations: This module covers single and multi-motor calculations to enable the trainee to size conductors, over-current protection, and over-load protection for motor applications.

CSTR 3310 Motor Maintenance, Part One: This module covers proper maintenance of motors in use and in storage. This also includes a troubleshooting and motor identification guide.

CSTR 3311 Motor Controls: This module provides information on selecting, sizing, and installing motor controllers. This also covers control circuit pilot devices and basic relay logic.

CSTR 3312 Hazardous Locations: This module covers all classes of hazardous locations, including seals, components, and equipment approved for use in various hazardous locations.

CSTR 33EL Electrical Lab: This “hands-on lab” serves as a capstone experience for year three of the apprentice curriculum. The trainee will be given a project to complete which will encompass making direct application of all of the level-three electrical modules. The capstone experience will be supervised by a Master Electrician.
Prerequisite: NCCER Core Curriculum Program
NCCER Electrical Level I, II & III Programs
(or permission from an M-TEC Advisor & Instructor)

CSTR 3400 Electrical Level IV Package: This program provides a combination of internet-based theory and hands-on lab training for fourth-year electrician apprentices. The program addresses Load Calculations-Feeders and Services, Practical Applications of Lighting, Standby and Emergency Systems, Basic Electronic Theory, Fire Alarm Systems, Specialty Transformers, Advanced Motor Controls, HVAC Controls, Heat Tracing and Freeze Protection, Motor Maintenance Part Two, High-Voltage Terminations & Splices while expanding on the modules presented in Levels I, II & III. Trainees are also required to complete a hands-on competency lab and a hands-on “capstone lab” experience supervised by a Master Electrician.

CSTR 3401 Load Calculations-Feeders and Services: This module introduces the basic calculation procedures and calculations for commercial and residential applications.

CSTR 3402 Practical Applications of Lighting: This module covers various lighting installations, applications, and wiring systems.

CSTR 3403 Standby and Emergency Systems: This module introduces NEC complete installation requirements for electric generators and storage batteries.

CSTR 3404 Basic Electrical Theory: This module explains the function and operation of basic electronic devices, including semi-conductors, diodes, rectifiers, and transistors.

CSTR 3405 Fire Alarm Systems: This module covers fire alarm control units, Digital Alarm Communicator Systems (DACS), installation wiring for alarm initiating and notification devices, and alarm system maintenance.

CSTR 3406 Specialty Transformers: This module explains the various types of transformers and their applications. It also provides information on selecting, sizing, and installation of various transformers.

CSTR 3407 Advanced Motor Controls: This module explains applications and operating principles of solid-state controls, reduced-voltage starters, and adjustable frequency drives. It also covers basic troubleshooting procedures.

CSTR 3408 HVAC Controls: This module provides a basic overview of HVAC systems and their controls. It also stresses electrical trouble-shooting and NEC requirements.

CSTR 3409 Heat Tracing and Freeze Protection: This module covers various heat tracing systems along with their applications and installation procedures and requirements.

CSTR 3410 Motor Maintenance, Part Two: This module covers motor cleaning, testing, and preventative maintenance. It also describes basic trouble-shooting procedures.

CSTR 3411 High-Voltage Terminations and Splices: This module offers an overview of the NEC and cable manufacturers’ requirements for high-voltage terminations and splices.

CSTR 34EL Electrical Lab: This “hands-on lab” serves as a capstone experience for year three of the apprentice curriculum. The trainee will be given a project to complete which will encompass making direct application of all of the level-four electrical modules. The capstone experience will be supervised by a Master Electrician.
Construction Technology

NCCER Plumbing

Prerequisite: NCCER Core Curriculum Package
Corequisite: MAT 170 or MNFG 7170

CSTR 5100 Plumbing Package: These 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 5112 Plumbing Safety: This module discusses the causes of accidents and their consequences and repercussions in terms of delays, increased expenses, injury, and loss of life. It also reviews the types and proper use of personal protective equipment (PPE), instructs the trainees in the use of critical safety information conveyed in hazard communication (HAZCOM), safety signs, signals, lockout/tagout, emergency response, confined space safety, and reviews safety issues related to hand and power tools.

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. (includes materials)

CSTR 5113 Corrugated Stainless Steel Tubing: Reviews flexible plastic-coated steel tubing, discusses piping system components, and the various connection and installation options. Also reviews applicable safety and code requirements.

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 5113 Plumbing Lab: This “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.
Prerequisite:  NCCER Core Curriculum  
NCCER Plumbing I

Corequisite: MAT 170 or MNFG 7170

CSTR 5200 Plumbing II Package: This course consists of a combination of internet-based on-line training, textbook, and hands-on, practical lab exercises that expands on the content from the NCCER Plumbing Level I program, introducing the student to the next level of plumbing applications and practices. Topics covered include plumbing math two; reading commercial drawings; hangers, supports, structural penetrations, and fire stopping; installing and testing DWV piping; installing roof, floor, and area drains; types of valves; installing and testing water supply piping; installing fixtures, valves, and faucets; introduction to electricity; installing water heaters; fuel gas systems; and servicing of fixtures, valves, and faucets.

CSTR 5215 Plumbing Level II (Section 1)

CSTR 5201 Plumbing Math Two: This module explains the Pythagorean Theorem and reviews methods for finding angles. It also discusses techniques used to calculate simple and rolling offsets, as well as offsets on parallel runs of pipe.

CSTR 5202 Reading Commercial Drawings: This module teaches the students how to interpret and use civil, architectural, structural, mechanical, plumbing, and electrical drawings when installing plumbing systems. How to create and use isometric drawings, material takeoffs, and approved submittal data are covered in this unit.

CSTR 5212 Hangers, Supports, Structural Penetrations, and Fire Stopping: This module introduces the student to methods for attaching and running DWV and water supply piping in relation to structural elements, including pipe hangers and supports, modifications to structural members, and fire-stopping.

CSTR 5203 Installing and Testing DWV Piping: This module explains how to locate, install, connect, and test a complete drain, waste, and vent (DWV) system.

CSTR 5204 Installing Roof, Floor, and Area Drains: This module explains the proper techniques for locating, installing, and connecting roof, floor, and area drains according to code. It also discusses waterproof membranes and flashing, drain components, and proper drain applications.

CSTR 5205 Types of Valves: This module reviews many types of valves, their components, and valve applications. Valve repair and replacement is also covered.

CSTR 5206 Installing and Testing Water Supply Piping: This module explores the proper techniques for locating, installing, and testing complete water supply systems, including piping, meters, water heaters, water softeners, and hose bibs. It also reviews the common code requirements for water supply systems.

CSTR 5216 Plumbing Level II (Section 2)

CSTR 5207 Installing Fixtures, Valves, and Faucets: This module covers the installation of basic plumbing fixtures, including bathtubs, shower stalls, lavatories, sinks, water closets, and urinals. It also reviews the installation of associated valves, faucets, and components.

CSTR 5211 Introduction to Electricity: This module introduces the student to the principles of electricity, including voltage, current, resistance, and power. It also includes important electrical formulas, circuitry, and common plumbing-related electrical applications.

CSTR 5208 Installing Water Heaters: This module discusses gas-fired, electric, solar, instantaneous, and indirect water heaters, components, and applications. Proper installation and testing techniques and the latest federal guidelines that apply to water heaters are also covered.

CSTR 5209 Fuel Gas Systems: This module introduces the techniques for safe handling of natural gas, liquefied petroleum gas, and fuel oil. Fuel gas and fuel gas applications, system installation, and testing are also covered.

CSTR 5210 Servicing of Fixtures, Valves, and Faucets: This module covers the troubleshooting and repair of fixtures, valves, and faucets in accordance with code and safety guidelines.
Construction Technology

Masonry
Level I

Prerequisite: NCCER Core Curriculum
Corequisite: MAT 170 or MNFG 7170

CSTR 4100 Masonry Package: These 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 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 Measurements, 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 I Capstone Lab: This "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.

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.
A fluid and air power specialist is a maintenance technician with concentrated interest in hydraulics and pneumatics. This individual may be found performing the following activities as a Shuttle Machine Technician, this individual will repair and maintain injection, extrusion, blow molding and other molding machines. 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. Advanced studies or experience in pneumatics, and hydraulics is essential. An entry level salary range can be $16.00-$22.00 or higher depending on geographic location.

**Corequisite: Math 104 or higher**

**MNFG 4200 Hydraulics I:** The series of courses cover 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. Systems design and troubleshooting takes a student deeper into this technological field. Parker components are used in the advanced series. *MNF 1200 Hydraulics I for 3 credits*

**MNFG 4220 Hydraulics II:** This secondary hydraulics course is designed to introduce the student to hydraulics as it relates to industrial machinery. The student will be introduced to fifteen areas of hydraulics which include: The Physical World of a Machine, Hydraulic Transmission of Force and Energy, Petroleum Base Hydraulic Fluid, Fire Resistant Hydraulic Fluid, Operation at the Suction Side of the Pump, Hydraulic Actuators, Control of Hydraulic Energy, Check valves, Accumulators and Cylinders, Flow Control Valves, Directional Control Valves, Pressure Control Valves, Pilot Operated Pressure Control Valves, Hydraulic Pumps, Hydraulic Motors, and Reservoirs, Coolers and Filters. Electro-hydraulics is also introduced in fifteen additional lab exercises. *(4-IDH on-line courses)*

**MNFG 2120 Pneumatics II:** This secondary pneumatics course provides a practical overview of pneumatic formulas, principles and functions of typical pneumatic system components. It is designed to give the reader (with or without engineering training) a working knowledge of pneumatic components and systems. The student will be introduced to eleven chapters which include: The Evolution of Compressed Air, Force Transmission Through a Fluid, Energy, Transmission Using a Pneumatic System, Control of Pneumatic Energy, Compressors, After Coolers, Driers, Receivers and Air Distribution Systems, Check Valves, Cylinders and Motors, Directional Control Valves, Flow Control Valves, Pressure Points, Quick Exhausts, Regulators, Excess Flow Valves, Boosters and Sequence Valves, and Air Preparation. *(Includes: Pneumatics System Inspection on-line)*

**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 5401 Basic Applications 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. *(Sensor & Transducer Principles, Transmitters and Transducers.)* *MNF 1500 for 2 credits*
Manufacturing Technologies

CNC Programmer
(Computer Numerical Control)

Once completed, the M-TEC’s CNC Programmer has both CNC machine operator skills and CNC programming skills. A CNC operator has competency in mill and lathe machines using G and M codes to calculate programs, along with the ability to edit 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. The CNC programmer has the ability to: create CNC programs using G and M codes and enters them into CNC machines, edit and troubleshoot CNC programming, has good blueprint reading skills, and may often supervise other CNC operators. Skills learned in this course listed below in detail. Salary range can be $14.00 - $22.00 P/H depending on organization and geographic location.

Corequisite: MAT 104 or higher.

MNFG 2700 Manufacturing Print Reading Basics: This course will provide participation 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 3 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 1300 Intro to Metallurgy: Introduction to Metallurgy introduces the student to the properties and characteristics of metals. Students will gain a basic understanding of the latest industry processes that change the physical and mechanical properties of metals and materials processing techniques. This course utilizes both an on-line training format in the theory and concepts of metallurgy and a text book that examines the behavior and characteristics of metals and materials, and current practices for materials processing that is being used in industry today. Students will take a visual approach using video, graphics, drawings, and photographs to illustrate actual equipment, processes, and differences in metals when they are subjected to certain conditions such as heating, forming, or forging. Knowledge in metallurgy is needed when performing machine tool practices, welding applications, manufacturing applications, and any other application that uses metals and metal by-products. (On line - Metals in the Plant) MNF 2140 for 3 credits
MNFG 5101 Basic Machine Shop Practices: This course is an introduction to machine tool operations and associated processes. Students will become familiar with milling machines, engine lathes, drill press, grinding machines and band saws. Knowledge of machining terminology and concepts such as speeds and feeds, tool geometry, blueprint interpretations as well as skill in the use of precision measuring tools will be developed. IND 101 for 4 credits (refer to MMCC schedule)

MNFG 5102 Machine Tool Practices II: This course expands on the principles learned in Basic Machine Shop Practices, including thread manufacturing, precision grinding, boring operations, and the ability to precisely place and inspect geometric features to determine product conformance is also covered. Prerequisite: MNFG 5101 or IND 101, grade of "C" or better in MAT 104 or equivalent.

IND 102 for 4 credits (refer to MMCC schedule)

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 Intermediate CNC Programming. Training manual is included in this course. MNF 2200 for 2 credits IND 113 Equivalent

MNFG 6501 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 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

Pre-Requisite: Introduction to CNC Programming.

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. MNF 1800 for 3 credits
Manufacturing Technologies

Industrial Electrical Technician I
(Electromechanical and Instrumentation)

This series provides training for individuals interested in the industrial electrical field. The series addresses industrial safety, basic electrical theory, industrial sensors, programmable logic controllers, industrial conduit bending & cabletrays, relay logic, electrical control systems, motor & motor controls, motor drives, electronics, and electronic maintenance. Using a combination of on-line, textbook, and “hands-on” lab exercises, the student will gain the comprehensive training to enter into an entry-level industrial electrical position.

Corequisite: MAT 104 or higher.

MNFG 1511 Industrial Electrical Safety: Introduces the student to safe practices and safety standards required by OSHA. Topics include PPE, Fall Protection, Hazard Communication, Back Safety, Ariel Lift devices, Indoor Cranes, Ladders & Scaffolds, Lockout/Tagout, Machine Guarding, Fire Extinguishers, Rigging, and Electrical Safety.

MNFG 7500 Basic Electrical Theory: The course covers basic rules for AC/DC circuits including how Kirchoff’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.

MNFG 5401 Basic Applications 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. MNF 1300 for 3 credits

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 8700 Electrical Control Systems: This course will introduce the student to the fundamentals of electrical control systems, and how their used to operate mechanical devices and applications. Students will learn how to understand and create electrical control schematics, lockout and design, troubleshooting, energy management, and electrical controls.

MNFG 1548 Cable Tray Installation: Introduces the student in the basic layout, design, and construction of cable trays. Students will measure, cut, and assemble supports and cable trays using different corners and angles as used in industry.

MNFG 1549 Industrial Conduit Bending: Introduces the student in the basic layout, measurement, styles and procedures of bending different types of conduit, and the installation of conduit as performed in industry.

MNFG 8000 Motor & Motor Controls: Introduces the student to the fundamentals of motors and motor control, including basic controls, overload and time relays, schematic symbols, wiring diagrams, Wye-Delta, synchronous, and wound rotor controls. Students also will be learn panel layout design and construction, and layout and install multiple motor control circuits and systems.
Corequisite: MAT 104 or higher

MNFG 2100 Fundamentals of Pneumatics: The 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 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 4901 Industrial Drives & Mechanism: This course will familiarize the student with industrial drives, mechanical components, and their applications in practical and applied technology. This course covers the theory, concept, and modes of operation of gear trains, industrial drive trains, and the functionality of cams and linkages. Theory and concept of physical properties include, force, work, power, friction, kinetic and potential energy, and ratios. Theory is enhanced by hands-on lab exercises. MNF 1400 for 3 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

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 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 means of theory and concept and hands-on lab applications. MNF 1500 for 2 credits

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. MNF 1600 for 2 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.
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.

Corequisite: MAT 104 or higher

MNFG 2700 Manufactured 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 3 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, 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. MNF 1900 for 2 credits

MNFG 2410 Gaging and Measurement: Students will be introduced to the process of gaging, which is used to control the quality of manufactured products. Processes such as how to properly operate each gage, as well as examine the types of physical dimensions that each gage is designed to measure, and how to interpret gage readings to determine whether a part is within specifications are discussed.

MNFG 9300 Statistical Process Control: This open entry course covers the theory of SPC. The course theory is blended with applications based learning. Student will learn how to develop and interpret process control charts. Students will be exposed to stable and unstable component process applications. Process capability is a focus of this course. Six Sigma techniques are introduced. MNF 2000 for 2 credits

MNFG 1300 Intro to Metallurgy: Introduction to Metallurgy introduces the student to the properties and characteristics of metals. Students will gain a basic understanding of the latest industry processes that change the physical and mechanical properties of metals and materials processing techniques. This course utilizes both an on-line training format in the theory and concepts of metallurgy and a text book that examines the behavior and characteristics of metals and materials, and current practices for materials processing that is being used in industry today. Students will take a visual approach using video, graphics, drawings, and photographs to illustrate actual equipment, processes, and differences in metals when they are subjected to certain conditions such as heating, forming, or forging. Knowledge in metallurgy is needed when performing machine tool practices, welding applications, manufacturing applications, and any other application that uses metals and metal by-products. MNF 2140 for 3 credits

MNFG 1000 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.

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

Robotics Technologists or Technicians design, develop, and manufacture robots for all industry sectors. Robots are used in a variety of industries 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.

Corequisite: MAT 104 or higher

MNFG 4200 Fundamentals of Hydraulics: This 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 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 Applications 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, the principles, applications, and functionality of these sensors by mean of theory and concept and hands-on lab applications. MNF 1500 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

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. MNF 1600 for 2 credits
Manufacturing Technologies

Electronics Technician

Electronic Technician: assembles and installs, maintains, 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.

Corequisite: MAT 104 or higher

MNFG 1511 Industrial Electrical 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, and Electronic Maintenance.

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 8000 Motor & Motor Controls: Introduces the student to the fundamentals of motors and motor control, including basic controls, overload and time relays, schematic symbols, wiring diagrams, Wye-Delta, synchronous, and wound rotor controls. Students will also be learn panel layout design and construction, and layout and install multiple motor control circuits and systems.

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, and Distribution & Lighting.

MNFG 8700 Electrical Control Systems: This course will introduce the student to the fundamentals of electrical control systems, and how their used to operate mechanical devices and applications. Students will learn how to understand and create electrical control schematics, lockout and design, troubleshooting, energy management, and electrical controls.

MNFG 5401 Basic Applications 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, the principles, applications, and functionality of these sensors by mean of theory and concept and hands-on lab applications. MNF 1500 for 2 credits
Business & Industry Development Center

• Workforce Training
• Community Education
• 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.

• Grant Information
• Training Partners
• Supervisory Skills
• Customer Service
• Lean Manufacturing

Benefits of Customized Training

• Professional training to meet your specific needs
• Flexible schedule and locations
• Low cost

Workforce Training

• Job Skills Workshops
• Management Workshops
• Employability Skills Workshops
• 250 Online Courses
• Meeting Rooms
• Computer Labs
• Customized

Community Education

• Life Skills Workshops
• Enrichment Workshops
• Computer Skills Workshops
• Personal, Academic, & Civic Engagement (PACE Program)
• Meeting Rooms
• Computer Labs

Call for a complete course listing: 989-386-6614

For More Information
Contact Melody Wentworth
989-240-0059
mewentworth@midmich.edu

Ready-To-Work Courses

• Phlebotomy
• Certified Nurse Aide
• Medical Clerk
• Additional Health-Related Topics Available

For More Information
Contact Karen Kleinhardt
989-386-6629
kkleinha@midmich.edu

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

M-TEC Customers and Partners

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• Dow Chemical
• FED Corporation
• Federal Broach
• Filcon
• Future Mold
• Gladwin County Council on Aging
• Hillsdale Tool
• Huhtamaki
• Isabella County Medical Care Facility
• JD Metalworks
• Kyle Manufacturing
• Lear Corporation
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• Michael Engineering
• Michigan Rural Water Association
• Mid Michigan Industries
• MidMichigan Health
• Morbark Industries
• North Woods Nursing Center
• Packaging Direct
• Pittsburg Plate Glass
• Prescott Products
• Renosol Corporation
• Roll-Rite
• RWP
• Saginaw Chippewa Indian Tribe
• Saint-Gobain Performance Plastics
• StageRight Inc.
• T. B. Woods
• Unified Brands
• Vantage Plastics
• Wolfe Enterprises
What is the Michigan Small Business & Technology Development Center℠?  
The Michigan Small Business & Technology Development Center (MI-SBTDC℠) is a statewide network of 12 regional offices providing services for small businesses that are emerging and growing throughout the state.

Who does the MI-SBTDC serve?  
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.

What types of services does the MI-SBTDC provide?  
One-to-one meetings with experienced business consultants to assist small business owners with:
- Developing growth strategies
- Preparing a business plan for financing
- Determining cash flow issues
- Defining and quantifying marketing initiatives
- Developing sales strategies

Workshops, seminars and full training programs help entrepreneurs learn about topics such as:
- Getting a business started
- How to get financing
- Cost effective marketing and sales techniques
- Setting up legal structures
- Writing a complete business plan
- Understanding financial operations

As part of the MI-SBTDC network and through the Seidman College of Business Services at Grand Valley State University, the MI-SBTDC can access essential data for developing a new company or for an existing firm to gain a competitive edge including:
- Research to determine market size
- Competitive analysis
- Demographics
- Lead list generation

What do the services of the MI-SBTDC cost?  
All services of the MI-SBTDC are available at low or no cost. One-on-one counseling is a free service for individuals who want to improve, revitalize or expand their companies, or develop a new venture. Training and research services are available at nominal cost.

How is the MI-SBTDC funded?  
The MI-SBTDC is funded through a cooperative agreement with the U.S. Small Business Administration (SBA) and matching funds from a 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.
MI-Small Business and Technology Development Center
Types of Training & Consulting Assistance

Services Provided to Small Businesses:
- No-cost one-to-one counsel
- Low-cost business education workshops
- Market research/information

New Ventures:
- Introductory nuts and bolts sessions: what you need to do to start a small business
- Business basics workshops: market research, writing a business plan, understanding financials, legal issues for small businesses, marketing, selling, patents & copyrights, new product development, and accessing financing
- Demographics for geographic areas
- Population profile maps
- Industry/trade association information
- Industry start-up information
- Business Resource Centers (BRC)
- Licensing information
- Linkage to SBA Business Information Centers & Micro-Loan programs
- Assistance to innovators and assistance to inventors
- Business counsel: financial management, marketing, human resources, operations, and information technology
- Preparation of financials for accessing conventional/non-conventional financing
- Referrals to resources (legal, accounting, consulting, etc.)

Existing Companies:
- Business plan development-information based planning
- Strategic planning
- Market research and undergrad and MBA student class project to learn more about your current or potential customers
- Business-to-business target market assistance
- Site-ring analysis maps
- Competition assessment
- Customer demographics
- Assistance to innovators
- Business counsel: financial management, marketing, human resources, operations, and information technology
- Procurement (government) contracting
- Preparation of financials for accessing conventional/non-conventional financing
- Referrals to resources (legal, accounting, consulting, etc.)

Specialized Services:
- Fiscal Fitness w/ Optimist
- Strategy Matrix
- Implications Wheel
- FastTrac NewVenture
- Venture Forward
- Covey 7 Habits
- Retail Survival Strategies
- Technology Roadmapping

Technology Based Companies:
- Proof of concept
- Financing
- Industry Analysis
- Market research
- Regulatory strategy
- Intellectual property
- Business infrastructure
- Business model development
- Commercialization strategy
- New product development
- Building an Advisory Board
- Business plan development
- Business presentation
- Management Strategy
- Research and Development
- Marketing and Sale
- Manufacturing
- Investor Relations
- Business Development and Milestones
- Exit strategy

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.
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 and/or applicable exam. A 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

Articulation is a term used to describe the process that facilitates the transition of a student from one educational institution to another, or from one level of education to the next with minimum duplication of coursework. High school students successfully completing career/technical training may receive college credit through articulation. For more information please contact the Admissions Office.

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 The Academic Support Center in Room 219 on the Harrison Campus or in Room 135 on the Mt. Pleasant Campus to complete the Credit by Examination permission form. It is recommended to see an advisor if the Credit by Examination process is an option for the specific program.

The student will then pay the cashier a set fee ($15.00 per credit for general education courses and $20.00 per credit for non-general education courses) to cover testing costs. The ASC will make the necessary arrangements for the examination. 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)

The College Level Examination Program (CLEP) sponsored by the College Board affords students the opportunity to demonstrate their academic proficiency in specific subjects. After completing the CLEP exam(s), students should have their scores sent directly to the Office of Enrollment Services for evaluation.

Policies concerning the use of CLEP examinations at MMCC are developed and controlled by the Office of Enrollment Services. The minimum scores for CLEP subject examinations are determined by the department authorizing credit for the subject. Credit will be allowed for specific subjects provided that the score is above 50. The exception is that for French level 2, the score must be 52. For German level 2, the score must be 63. See the Office of Enrollment Services for a detailed list of CLEP subject exams accepted for credit, as well as their critical cut scores.

To be eligible for credit for CLEP scores, a student must have been granted regular admissions at MMCC and an official score report must be sent directly from the College Board. CLEP examination credit may not be used to repeat any course(s) previously taken. Grades for the CLEP examination(s), where credit is granted, will be recorded as credit (CR) on a student’s transcript. MMCC currently does not proctor the CLEP examination. See the College Board website (www.collegeboard.com) for a list of testing centers.

MILITARY TRAINING CREDIT

Veterans are eligible to receive academic credit for their military experience. To have military experience evaluated for credit, veterans should send their certified DD 214 to the American Council on Education (www.acenet.edu). MMCC will follow the American Council on Education’s recommendations for evaluating credits. In addition, MMCC will grant veterans HED 151 and 2 physical education elective credits (PED XXX). Veterans planning to transfer from MMCC should be aware that other colleges/universities may not accept the credit for military training given by MMCC.

NON-TRADITIONAL CREDIT

Students possessing education experiences or skills gained through non-traditional sources (i.e. work experience, life experience, etc.) may request such experiences be evaluated for credit. Students may obtain a Non-Traditional Credit Application in the Office of Enrollment Services. The completed Application should be returned to the Office of Enrollment Services with any and all supporting documentation for evaluation. If credit is granted, a $20 per credit hour fee will be charged at the time the non-traditional credit is recorded. Students should be aware that non-traditional credit typically does not transfer to other colleges/universities.
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 sent directly to MMCC from the issuing institution. Transcripts not sent directly from an issuing institution will be considered unofficial and will not be evaluated.

Credits are transferred for courses with a grade of “C” or better. 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.

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 with the exception of math. 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 with the exception of math.

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.

All students in the following categories must complete the Accuplacer assessment prior to registration:

1: New 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 may take the Accuplacer test in the Academic Support Center on either campus.

ORIENTATION

All students new to Mid Michigan Community College are expected to complete an online orientation before starting their first semester.

Students will discover the various resources available to them, how to register for classes, and apply for financial aid. The orientation also contains many ideas on how to be successful at college.

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. 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 EXPLORATION AND 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 counseling staff. There are 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 Office at 989-386-6659 or 989-773-6622.

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. Accommodations will vary and depend on the specific disability. Services may include: readers, writer/scribes, notetakers, interpreters, instructional aides, visual aids, books-on-tape, adaptive equipment, assistive technology, 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 at 989-386-6659.

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 Grant is a federal program designed to help qualified MMCC students who are enrolled in two-year state approved occupational programs. Special population students are those students who have 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 ASC 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.

ENROLLMENT SERVICES

REGISTRATION

Returning Students
- Students who have at least 12 credit hours recorded on their transcript and are in good academic standing may register in person or on MidWeb. All others must see an advisor.
- Pay the non-refundable Enrollment Fee ($50 or $25) the day of registration to secure a spot in your classes.
- Pay tuition in full, enroll in the NBS (Nelnet Business Solutions) Tuition Management Plan, or have sufficient Financial Aid awarded by the Tuition due date.

New & First Time Students
1. Complete an application in Admissions. (Admissions Application available online at www.midmich.edu)
2. Complete the Online Orientation.
3. Schedule an Assessment for English and Math
4. Pay the non-refundable Enrollment Fee ($50 or $25) when you register.
5. Pay tuition in full, enroll in the NBS (Nelnet Business Solutions) Tuition Management Plan, or have sufficient Financial Aid awarded by the Tuition due date.

Guest Students
Guest students are those attending other colleges who wish to take courses at MMCC for transfer credit. Note: Financial aid is not available to guest students. Guest students should follow these easy steps for admission and registration:
- Apply for Admission: Complete the Guest Application.
- Make an appointment with an MMCC advisor. Bring an unofficial copy of your transcript.
- Pay the non-refundable Enrollment Fee ($50 or $25) when you register.
- Pay your tuition by the tuition due date.

ADDING COURSES

Students may add courses to their schedule during the schedule adjustment period by completing the Drop/Add form obtained in the Office of Enrollment Services or by utilizing the MidWeb system (if eligible to do so).

DROPPING COURSES

Students may drop courses from their schedule by completing the Drop/Add form obtained in the Office of Enrollment Services of by utilizing the MidWeb system (if eligible to do so). Refund of tuition will be based on the Tuition and Fee Refund Schedule. Courses that are dropped after the schedule adjustment period will be assigned a grade of “W” with no grade point average penalty. Students will not be allowed to drop courses after the posted last day to drop date.
INSTITUTIONAL DROP
MMCC can drop a student who has never attended any classes, or has quit attending classes during a semester. Institutional considerations, including reporting requirements, will guide the utilization of this policy. If a student feels they have been identified in error, contact the Office of Enrollment Services.

AUDITING A COURSE
A course in which a student enrolls for no grade and no credit is regarded as an Audit. Student must pay the regular tuition and fees. 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 schedule adjustment 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 grade point average (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 credit 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 be allowed to re-enroll for a course for a third time but must complete a same course enrollment form in consultation with an advisor prior to registering.

3. For a student to re-enroll in a course for a fourth time or more the student must make a request in writing and receive approval from the Dean of Student Success or the Vice President of Instruction, plus agree in writing to pay the complete course cost explained below.

   In-District Student:
   \[ \text{In-District Tuition} \times 3 + \text{all Fees} = \text{Total Cost}^* \]

   Out-District Student:
   \[ \text{Out-District Tuition} \times 3 + \text{all Fees} = \text{Total Cost}^* \]

   * 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 must initiate formal withdrawal procedures with the Office of Enrollment Services to 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 aid they received. Please see Return of Title IV Funds Policy.

STUDENT CREDIT HOUR LOAD
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.

The normal credit hour load for a full-time student consists of 15-17 semester credit hours. A student may not elect more than 19 semester credit hours without prior special permission from the Dean of Student Success.

Students earning 0 through 23.9 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 Instructional Administrator, and must apply and be approved prior to the beginning of the semester the honors option will be taken.

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.

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 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, all course requirements 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 Office of Enrollment Services during the official schedule adjustment 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 is a "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.

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.

GRADING SYSTEM

<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>
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<tr>
<td>D+</td>
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<td>1.3</td>
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<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

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.
GRADE REPORTS

Grade reports can be obtained on the Mid Michigan Community College's website at www.midmich.edu.

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 final semester grade disputes is shared among the instructor, student, faculty, appropriate Instructional Administrator, and Vice President of Academic Services.

Under Mid Michigan Community College policy, it is the instructors’ prerogative to determine student grades. If a student has a question about a grade, the student should discuss the matter with the instructor. The instructor should discuss the matter willingly and provide clear evidence for assignment of the student’s grade. The student should be able to demonstrate a valid basis for the grievance.

If, after discussion with the instructor, the student feels there is a valid reason for a grade grievance, he or she should contact the appropriate Instructional Administrator with a written justification for the grade change. The Instructional Administrator will arrange an informal conference with the instructor and the student for the purpose of resolving the grievance.

If, after such a conference, the student wishes to pursue a grade change, the student must write a formal letter of grievance to the Instructional Administrator explaining the rationale for the desired change and providing detailed supporting information.

After receiving the grade grievance form from the student, the Instructional Administrator will call a Grade Review Committee into session. This committee shall be composed of three faculty members, the Dean of Students Services, or his/her representative, and the appropriate Instructional Administrator. The Vice President of Academic Services or his/her representative will serve as chair of the committee and will appoint a recording secretary.

After the presentation of the facts, the Grade Review Committee will meet privately to come to a consensus decision on the grievance. Before telling the student the committee’s decision, the Chair of the committee will review the details of the grade grievance with the President or his/her representative. The final decision rests with the Vice President of Academic Services. The student will be notified in writing of the decision within seven day of the conclusion of the hearing. This written decision is the final institutional determination of the grade grievance. No additional appeals are available.

Grade grievances must be initiated within 60 days of the last day of the semester in which the grade was received. Please note: individual academic programs may have grade grievance policies that supersede this one.

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

At the time of publication this policy is under review. Please contact the Enrollment Services Office on either campus for the current policy.

ACADEMIC PROBATION & DISMISSAL PROCEDURES

1. Academic Probation/Dismissal notification letters are mailed to students after grades are submitted. Students are prevented from registering until contact is made with an advisor.

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
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 excluding Spring and Summer.

4. Students who are dismissed may appeal the decision. The appeal must be initiated by the student prior to the start of the next semester.

5. Students who continue on academic probation can re-enroll, but will be required to meet with a counselor.

6. A dematriculated student who wishes to register for any future semester(s) must first meet with a counselor.

**ACADEMIC HONESTY**

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

**MMCC POLICY ON ACADEMIC DISHONESTY AND PLAGIARISM**

**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 Success. 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 lapse 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 an advisor and agree to the conditions of Academic Amnesty. The applicant must sign a release form empowering the Dean of Student Success 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 Success 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 Success has the responsibility of implementing Amnesty as stated in the Academic Amnesty Policy when it is granted to a student.

**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 of the following requirements to be eligible for graduation:

1. Apply for graduation prior to registration for your last semester. Students should apply by October 1 for Winter graduation (May) and March 1 for Spring/Summer/Fall graduation. Only students applying for Associate Degrees or Certificates of Achievement can participate in Commencement.
2. Earn a minimum of 12 credit hours at MMCC for an Associate's Degree and 6 credits for a Certificate of Achievement.
3. Complete the number of credit hours required for each degree. A minimum of 62 is required for an Associate's Degree and 31 for a Certificate of Achievement.
4. Maintain a 2.0 GPA or higher. Some programs require students to get a minimum grades in many or all of their courses. Students are expected to be aware of program specific grade requirements.
5. Courses numbered below 100 do not count toward graduation.
6. For each additional Associate Degree, a student must take an additional 12 credits at MMCC. For each additional Certificate of Achievement, a student must take an additional 6 credits at MMCC.
7. If a student has taken classes from another college, the transcript must be received by MMCC within six weeks after the scheduled gradation 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.

**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. This form should be completed by the student in consultation with the Department Chair, 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 Instructional Dean, and by the Registrar. 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.

**SUPPLEMENTAL SERVICES**

**CAMPUS BOOKSTORES**

MMCC owns and operates two bookstores, one at the Pickard Campus (Mt. Pleasant) and one at the Harrison Campus. The Bookstore's web site is www.bookstore.midmich.edu. Information regarding hours of operation, textbook info and bookstore announcements can be found on this website. You may also call 989-386-6640 to reach the Harrison Bookstore or 989-773-6622 x 235 to reach the Pickard Bookstore.

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 flash drives and calculators. Backpacks and specialty book totes are stocked year-round. Many snack items including candy, chips, gum, and pop are available at both campus bookstores. In addition, the Pickard Bookstore also sells coffee and prepackaged sandwiches.

**BOOKS & BEANS ESPRESSO CAFÉ**

Books & Beans Espresso Café is located on the Harrison Campus in the Library. Specialty coffee drinks, iced smoothies, bottled soft drinks, juices and waters are available. Also available are quick snacks including: prepackaged sandwiches, muffins, bagels and yogurt. Please check the information sign located outside the library regarding Books & Bean's hours of operation.

**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.

A wide variety of on-campus catering and banquet services is offered year-round. The Houghton 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.

**MEDIA CENTER**

The Charles A. Amble Library/Media Center at Mid Michigan Community College provides services that are designed to meet the academic, general and technical needs for students, faculty, and administration at MMCC. In addition to servicing the college's academic community, the library is proud to offer information services and programs to members of the general public as well.

The Harrison campus library contains a collection of over 30,000 volumes of informational material. All of the information that is housed in the library is cataloged under the Library of Congress Classification System. Other resource holdings include a collection of numerous periodicals, 10 newspaper subscriptions, along with an audio and video collection that is approaching 2,000 titles.

In the fall of 2006, a library service desk was created in the Pickard (Mt. Pleasant) campus Academic Support Center in order to better serve the expanding student population in the Mt. Pleasant area. During the traditional academic year, students on the Pickard (Mt. Pleasant) campus can get library assistance Monday-Friday from 8:00 a.m. until 4:30 p.m.

The library staff at both campus locations can provide upon request, bibliographic instruction, library tours, and research tutorials for instructional purposes. In addition to this, staff members strive to satisfy any other informational needs for members of our academic and non-academic community.

Both campus library locations provide the most up to date technology and services. Some of the technical services include, free wireless internet, check-out laptops for both in house and take home use, viewing facilities for students who need to watch a DVD for course related purposes, and a pay-for-print copy machine. The Mt. Pleasant location offers 12 desktop computers while the Harrison location houses 20 for both student and community member use.

The Harrison campus library is equipped with satellite capabilities that can satisfy the need for potential on campus satellite seminars. Other technical services that can be found at the Harrison campus library location are audio, DVD, and CD duplication, a fax machine, and lamination.

In order to meet the research needs of our student population, an array of online academic databases are available. Some of the academic databases that can be found at both campus locations are ProQuest, FirstSearch, Ebsco, CINAHL, ECO, The Gale Reference Library, Info Trac, MEDLINE, and the NetLibrary. Other online services include the Oxford English Dictionary Online, The Routledge
Encyclopedia Online, online tutorials for all of the academic styles of writing, and tutorials on how to effectively avoid plagiarism.

MMCC’s Charles A. Amble Library is a member of the Michigan Electronic Library (MEL) and the Valley Library Consortium. These partnerships give both students and community members InterLibrary Loan (ILL) access to the majority of college, university, and public libraries around the state of Michigan. This computerized resource sharing system allows users to navigate the databases of over 1 million items held by these various libraries by author, title, subject and keyword searches. All of MMCC’s ILL and online services are available for on or off campus users. (Note: off campus access is restricted to library card holders).

Hours for the Harrison campus library location 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., during the academic year. Library hours between academic sessions and summer are 8:00 a.m. until 4:30 p.m. Monday through Friday. Hours for the Mt. Pleasant library service desk are Monday through Friday 8:00 a.m. until 4:30 p.m. during the Fall and Winter semesters. Hours between academic sessions and summer are as posted inside the Mt. Pleasant campus Academic Support Center.

ACADEMIC SUPPORT CENTER (ASC)

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 and reading assistance is designed to help students with their writing and reading 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 for consultation. Students can also get help with academic and textbook reading.

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 assessment testing, make-up and Internet classes, Credit by Exam classes, and the media site for research.

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 these hours, unless an approved (by the Vice President of Finance and Administrative Services or Vice President of Institutional Services) written exception is in effect.

During times when the College is not officially open, employees or individuals entering the facility should ensure that all entries are secured.

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.

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.

STUDENT ACTIVITIES

STUDENT IDENTIFICATION CARDS

Student ID cards are issued for students carrying 3 or more credits. Your original ID card is free but a replacement ID card will cost $5.

MID’S CAMPUS COUNCIL (MC²)

MC² functions as an advisory body to provide activities and services to students of the college. It is also the student council and programming board of MMCC. The council is composed of an executive board and any student who wishes to participate is eligible to attend. The Board strives to offer student activities that meet a variety of interests. It also funds and supports student groups and club sports. Announcements of meetings are posted. Students and employees of the college may present proposals requesting funding or council support for activities or groups on
campus. All proposals will be reviewed and voted on by the council. Students interested in being elected to MC should contact the advisor at 989-386-6634 or a council member. Elections take place yearly or as needed to fill vacancies.

**PHI THETA KAPPA INTERNATIONAL HONOR SOCIETY ALPHA OMICRON OMICRON CHAPTER**

Phi Theta Kappa is the international honor society of the two-year college. Phi Theta Kappa has recognized academic excellence since 1918 and has become the largest, and one of the most prestigious, honor societies in higher education. More than 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 and have a GPA of 3.5 or better.

Involvement with Mid's Phi Theta Kappa 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 Phi Theta Kappa 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.

**CONTINUING EDUCATION NON-CREDIT COURSES**

In an effort to meet special interests and needs of the non-academic and academic community, MMCC provides an array of continuing education classes, lectures, and special events. Courses and events falling under the following major headings – professional development and personal interest are offered each enrollment period at both campus locations.

**CAMPUS CRIME PREVENTION AND SECURITY REGULATIONS**

Mid Michigan Community College 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.

**CAMPUS LAW ENFORCEMENT**

Campus law enforcement is provided SST Security.

**CRIME REPORTING AND EMERGENCY PROCEDURES**

If you are a victim of a crime or suspect a crime, notify the campus security officer located in Harrison at the Information Desk in the main entrance or in the main office on the Mt Pleasant Pickard Campus. If they are not available call 989-539-7166 (Clare County) or 989-773-1000 (Isabella County).

**DISCIPLINARY ACTION**

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 occur. Students are expected to respect the laws governing the community, as well as the MMCC rules and regulations governing student conduct as set forth in this catalog and other policy manuals. All rules and regulations apply on all College property and at all College sponsored events.

**STANDARDS OF CONDUCT**

The Mid Michigan Community College (MMCC) Board of Trustees prohibits the possession, use, distribution, and unlawful manufacture of illegal drugs, narcotics or controlled substances on MMCC’s campuses. Alcohol is prohibited on campus except when a written exception request is submitted to, and approved by MMCC’s Board of Trustees for consideration.

**LEGAL SANCTIONS**

MMCC 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 MMCC campuses. Any person who illegally sells, provides, transports, possesses or consumes alcoholic beverages or controlled substances on college property may face immediate arrest and prosecution under applicable federal, state and local laws. Penalties under these laws may include fines, imprisonment or both. More information is available at www.dea.gov/agency/penalties.htm
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, may be 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 is available in the MMCC library and through the Substance Abuse Contact Counselor as well as various Substance Abuse Agencies.

AVAILABLE COUNSELING AND TREATMENT PROGRAMS

All MMCC students will have access to substance abuse awareness literature, workshops, seminars, and classes offered at the college. A student or employee who voluntarily seeks assistance to overcome substance abuse problems will receive counseling services on a confidential and non-punitive basis. When necessary, referral will be made to a community agency for assessment, prescribed treatment, and follow-up.

Local Assistance is available from:
Ten Sixteen, Inc. (989) 631-0241 or (989) 773-9655 or (989) 802-0742 or (989) 426-8886

Additional support services may be obtained by contacting the MMCC Counseling Office at (989) 386-6659.

Students and employees participating in counseling or a prescribed program are not exempt from college policies, procedures or rules.

DISCIPLINARY SANCTIONS

Students and employees who illegally use alcoholic beverages or controlled substances on college property face disciplinary action, suspension from the college, and/or prosecution under the law.

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.

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) 317-4602
• Equal Opportunity/Affirmative Action: Human Resources Department (989) 386-6621
• Financial Aid Office: (989) 386-6664

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/Health Technologies (989) 386-6643
• Liberal Arts, Science/Math (989) 386-6642
• Occupational Studies (989) 386-6655
• Radiography, PED, ECE (989) 386-6646
• M-TEC Director (989) 386-6624

For Non-Instructor problems contact the Dean of Student Success (989) 317-4601. The Dean will direct your call to the appropriate department.

For Registration problems contact The Registrar's Office (989) 773-6622 ext. 230. Sexual Harassment: Human Resources Department (989) 386-6621.

STUDENT RESPONSIBILITIES

As a member of this academic community, each student enjoys the right to learn. Mid Michigan Community College has a duty to promote this 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 act in a responsible manner that promotes the environment for learning. 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.
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. If a student’s conduct on campus is improper and deemed a potential threat to the College or its students, employees, or visitors, the College reserves the right to take any action that is appropriate including immediate and permanent dismissal from the College.

Administrative implementation of the disciplinary action 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.

The following represent but are not limitations of examples that would constitute unacceptable student behavior and could result in disciplinary action:

1. Willful destruction, injury, or disruption of College property or operations.
2. Possession of alcoholic beverages, illegal drugs, or being 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, physical characteristics, or marital status.
8. Aggressive, hostile and/or disruptive behavior directed toward any College employee, student, or guest.
9. Bringing a dependent child (children) to class/open lab or leaving a child (children) unattended in College facilities.
10. Violation of the acceptable use policy in regard to on campus computers.

STUDENT DISCIPLINE

The following principles and procedures shall govern cases in which a student is alleged to have violated the "College Rules and Regulations".

I. Procedural Due Process

Procedural due process appropriate to the specific case must be followed prior to the imposition of discipline for violation of the "College Rules and Regulations" listed in MMCC catalog. Some elements of due process, such as timely and specific notice of charges, are almost always appropriate regardless of the gravity of the violation alleged. Other elements, such as a written transcript of the hearing or representation by a lawyer, are only appropriate in cases where the discipline is severe (dismissal from the College and criminal charges, for example). Prior to hearing, the student shall be informed of the elements of due process to be followed in the case. Among the elements of due process that may be provided are:

A. Timely and specific notice of the charges
B. Right to a hearing before the Dean of Student Services
C. Right to appeal the decision of the Dean of Student Services to the Judicial Board
D. Right to present evidence on the student's behalf
E. Right to rebut adverse testimony
F. Right to a written transcript of the hearing (at the student's expense)
G. Right to request representation by a lawyer

Other procedural safeguards may be followed as required by the circumstances.

II. Burden and Standard of Proof

The burden shall be on the College to show by a preponderance of the evidence that the student violated the "College Rules and Regulations".

III. Status of Student Pending Hearing

A student's status shall not be changed prior to a hearing unless there is reasonable cause to believe that the student's status (for example, his or her continued presence in the classroom or on campus) poses a danger to persons or property or will disrupt the educational process. The decision to alter a student's status pending hearing will be made by the Dean of Student Services or his/her designee.

IV. Forms of Discipline

Disciplinary action must be proportionate to the violation, and depending on the nature of the violation, may take the form of a reprimand; restrictions on activities or privileges; restitution; temporary or permanent suspension from a class or program; dismissal from the College; or other measures appropriate under the circumstances of the case.

V. Procedures for Classroom Misconduct

The following procedures shall govern cases wherein violation of any rule or regulation regarding classroom conduct is alleged.
Immediate Removal From Class
If misconduct warrants an immediate removal from the class for the remainder of the class period, the instructor may do so without a prior hearing. If the student resists, the instructor may ask for assistance from campus law enforcement. The instructor shall as soon as practical provide written certification to the Dean of Student Services that the student has violated "College Rules and Regulations" and has refused to leave the classroom.

Additional or Different Discipline
If an instructor believes misconduct warrants additional or different discipline, the instructor may consult with their Instructional Administrator first, then the Dean of Student Services or his/her designee who may elect to:

- Take no action;

  OR

- Change the student's status pending a meeting with the student; AND

- Notify the student in a timely fashion of his/her change of status, the specific charges, and the due process to be afforded under the circumstances; AND do one of the following:

- Meet with the student and contact the instructor and other appropriate persons to explore and adopt non-disciplinary solutions, including the establishment of guidelines for returning the student into class;

  OR

- Meet with the student and contact other persons appropriate to the case, make a written determination of the facts, take disciplinary action if such action is warranted, and notify the student of his/her decision and the right to appeal to the Judicial Board.

VII. Appeal
The student, instructor, or charging party may appeal the decision of the Dean of Student Services to the Judicial Board. Written Notice of Appeal shall be filed with the Dean of Student Services. The Notice of Appeal shall state with specificity why the Dean's decision should not stand.

Upon receipt of a timely filed Notice of Appeal, the Dean of Student Services shall schedule the appeal for hearing before the Judicial Board and notify the student of the date, time and place of the hearing and of the due process to be afforded in the appellate process. The hearing may be adjourned at the request of any party for good cause.

The Judicial Board may affirm, modify or reverse the decision of the Dean of Student Services. The decision of the Judicial Board shall be final.

VIII. Judicial Board
The Judicial Board shall be composed of the Vice President of Academic Services or his/her designee, an Instructional Administrator or his/her designee, and a faculty member appointed by Mid Michigan Community College Faculty Senate.

IX. Timelines
Disciplinary action, if any, should be imposed within 30 days of the date the student receives notice of the charge(s); notice of appeal should be filed with the Dean of Student Services within 20 days of the date disciplinary action is imposed; and the final decision of the Judicial Board should be made within 30 days of the date Notice of Appeal is filed with the Dean of Student Services. These timelines are intended as guidelines and may be extended by the Judicial Board if the circumstances of the case justify an extension.
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 Executive Director of Enrollment Management written requests that identify the record(s) they wish to inspect. The Executive Director of Enrollment Management 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:

   Executive Director of Enrollment Management
   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 Executive Director of Enrollment Management; 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

SOCIAL SECURITY NUMBER DISCLOSURE STATEMENT

Federal law recognized the student’s Social Security Number (SSN) as personally identifiable information under the Family Education Rights and Privacy Act of 1974 (FERPA). However, the law allows Mid Michigan Community College to require and to use this information in compliance with state and federal guidelines. While you are not required to provide you SSN to be considered for admission to Mid Michigan Community College, you are strongly encouraged to do so, if you have one. Providing a SSN will speed up matching material such as transcripts and test scores with your application. A SSN is required if you are applying for financial aid or federal tax benefits, or for employment; it may be required for other purposes. The information may be disclosed only under certain circumstances, including the following:

- To other institutional officials
- To representatives of state and local educational authorities
- In connection with financial aid
- For research purposes to improve instruction
- To collection agents in connection with university-related businesses
- Pursuant to an order from the court of law
- Other circumstances are required by state or federal law

Mid Michigan Community College is committed to ensuring the privacy and confidentiality of student records.

VOTER REGISTRATION

Applications are available on both the Harrison campus and Mt. Pleasant Pickard location in the Office of Enrollment Services.
MISSION STATEMENT

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.

COLLEGE GOALS

Enduring Goal #1: Enabling Student Success

The success of MMCC is tied inexorably to the success of our students. To accurately assess our students’ success, we must recognize that students choose MMCC for a wide variety of reasons; consequently, we must first accurately identify individual student’s goals and then facilitate each student’s ability to attain those goals. To that end, we must provide relevant, high quality instruction, programming, and services that adapt to diverse learning styles, that enhance students’ ability to perform in a global society, that support career advancement, and/or that facilitate successful transfer to a senior institution. To maintain both efficiency and a student-centered learning environment, MMCC must thoughtfully balance a high tech/high touch approach.

Enduring Goal #2: Enhancing Employee Success

The success of MMCC depends on our employees. We must provide effective leaders who value and support high standards of performance using clear direction and open,
honest communication. We must work collaboratively to create, nurture, and sustain a culture of mutual support and service. To do so, we must align and support employees in positions that most effectively utilize, develop, and challenge their talents.

**Enduring Goal #3: Engaging the Community**

The success of MMCC depends on the support of the communities we serve. Consequently, we must continuously and deliberately develop and maintain mutually beneficial relationships with our multiple communities. At the same time, we must provide leadership in uniting our communities by positioning MMCC as a regional service provider. We must identify and prioritize the most significant needs of our communities, assuring that our activities align closely with our mission.

**Enduring Goal #4: Improving Institutional Effectiveness**

The success of MMCC depends on the way we work. In an unstable state and national environment, we must create our own stability yet be agile to serve the needs of both our internal and external customers. In times of economic uncertainty, we must develop and use our precious human, financial, and physical resources prudently and efficiently. We must ensure that our means of making decisions, communicating, and planning are streamlined yet inclusive. We must put the principles of the Academic Quality Improvement Program at the center of our operations, using data to guide our constant pursuit of excellence.

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**PROFILE OF MID MICHIGAN COMMUNITY COLLEGE STUDENTS** *

As a community college, we are committed to assisting each student meet his/her unique goals. As illustrated by the Fall 2008 profile, our student body is diverse:

**Student Credit Hour Load**
- Male Full Time ............................................................ 23%
- Female Full Time ......................................................... 27%
- Male Part Time ............................................................ 18%
- Female Part Time ......................................................... 33%

**Student Age Distribution**
- Under 18 ........................................................................ 7.7%
- 18-25 ............................................................................ 62%
- 26-45 ............................................................................ 18%
- 46-60 ............................................................................ 4.4%

**Geographic Residence**
- Clare County .................................................................. 23%
- Gladwin County ........................................................... 13%
- Isabella County ............................................................ 41%
- Gratiot County ............................................................ 9%
- Other Counties .............................................................. 14%

**Gender of Students**
- Female ........................................................................... 60%
- Male ............................................................................. 40%

**Declared Program Choices**
- General ........................................................................... 41%
- Business & Public Service ............................................ 27%
- Industrial & Technical Trade ....................................... 4%
- Health Occupations ...................................................... 27%
- Human Development & Personal ................................ 1%

* Figures based on academic classes only

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**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 audiovisual 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.

In the Spring of 2004, MMCC opened the Student Orientation and Academic Readiness (SOAR) Center. The addition to the Harrison Campus centralized student services like admissions, financial aid, records, cashiering, course placement testing, counseling and academic readiness services. The new configuration made services more accessible and convenient for students. The addition also gave the Harrison Campus a main entrance.

Recognizing the growing need for skilled healthcare professionals, MMCC opened the Herbert D. Doan Center for Science and Health Technologies in the Spring of 2008. Located on 44 acres in Mt. Pleasant, the Doan Center is a vital part of MMCC’s effort to expand its highly respected nursing program and establish new health programs. The Center doubled MMCC’s available space in Mt. Pleasant and provided additional science labs, classrooms, and computer labs.

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.

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 Vice President of Academic Services at (989) 386-6607. Written requests may be mailed to 1375 S. Clare Avenue, Harrison, MI 48625.

A number of MMCC’s programs are also accredited by other organizations. These include:

- The Associate in Applied Science: **Medical Assistant** program is currently accredited through CAAHEP - Committee on Accreditation of Allied Health Education Programs and (CRB-AAMAE) – The Curriculum Review Board of the American Association of Medical Assistants Endowment. Accreditation for this program was obtained on April 30th, 1999.

- The Training Credential: **Pharmacy Technician** program accreditation process is currently under way through ASHP – Associate Society of Health-System Pharmacists.

- The Associate in Applied Science: **Physical Therapy Assistant** program accreditation process is in progress through CAPTE – The Commission on Accreditation for Physical Therapy Education.

- The Associate in Applied Science: **Radiography** program is currently accredited through the Joint Review Committee on Education in Radiologic Technology.

- The Associate in Applied Science: **Registered Health Information Technologist** program accreditation is in progress through CAHIIM – The Commission on Accreditation for Health Informatics and Information Management.
Mid Michigan Community College affirms its commitment to the principles of equal employment and educational opportunity, and of non-discrimination in the provision of services to the public, through its compliance with the provisions of Title VI of the Civil Rights Act, Title IX of the Education Amendments, Section 504 of the Rehabilitation Act, the American with Disabilities Act, the Age Discrimination Act, the Elliot-Larsen Civil Rights Act, and the Persons with Disabilities Civil Rights Act.

Mid Michigan Community College will not discriminate in employment or educational opportunities, or exclude participation in the services provided as an institution, because of race, religion, color, national origin, age, sex, family or marital status, height, weight, disability or any other status protected by law.

Any applicant, employee, government agency, or any other person who has a complaint or concern about any type of discrimination is required to report this conduct in writing to the Human Resources Department. Complaints against or by a student must be made in writing and referred to the Dean of Student Success.

Upon receipt of the complaint, the appropriate college representative will conduct an investigation that is appropriate and warranted based on the circumstances. After conducting an investigation, the college representative will issue a written determination to the complainant.

Inquiries and complaints may also be directed at any time to the Michigan Department of Civil Rights in Lansing, Michigan, or the Office of Civil Rights in Washington, D.C.
PERSONNEL DIRECTORY

FULL-TIME FACULTY

Jan Ackerman, Ph.D. (2006) Science, Biology
Ph.D. University of Michigan

Bernard E. Alford, Ph.D. (1979) English, Humanities, Communications
B.S. Central Michigan University
M.A. Central Michigan University
Ph.D. Michigan State University

Luzdelys Andarcia (1999) Foreign Language Coordinator
A.S. Indiana State University
B.A. Indiana State University
M.A. Indiana State University
M.A. Central Michigan University

Ronald E. Balch (2007) CIS-CPS
A.A.S. Davenport University
B.S. Davenport University
M.S. Central Michigan University

Patricia A. Block (1987) Visual Art, Graphic Design
B.F.A. Michigan State University
M.F. A. Central Michigan University

Mary Bosman (2008) Nursing Instructor
B.S.N University of Windsor
M.S.N. Andrews University

Charles W. Bowden (1976) Sociology, Social Science
A.A. Ferris State University
B.S. Central Michigan University
M.A. Central Michigan University

Kelli Butler (2007) Business Information Systems
B.S. Ferris State University
M.S. National University

Eric Chamberlin (2008) English Instructor
B.S. Northern Michigan University
M.A. Northern Michigan University

Deborah M. Claypool, Ph.D. (1994) Biology
B.S. Southeast Missouri State University
M.S. Oklahoma State University
Ph.D. Oklahoma State University

Susan M. Cobb (1986) Special Populations Counselor/Coordinator
A.A. Mid Michigan Community College
L.P.C. Central Michigan University
B.S. Central Michigan University
M.A. Central Michigan University

David Demske (1999) Automotive Technology
B.S. Central Michigan University

Larry D. Derscheid (1971) Science, Mathematics
A.B. Greenville College
M.S. Central Michigan University

Gail E. Dunham (1988) Nursing Education
A.D. Ferris State University
B.S.N. Ferris State University
M.S.N. Grand Valley State University

FULL-TIME FACULTY

Lucia M. Elden (1986) English/Humanities/Communications
B.A. Michigan State University
M.A. Central Michigan University

Rodney L. Elmore (1992) Mathematics
B.S. Central Michigan University
M.A. Central Michigan University

Kelley Eltzroth (2002) Psychology
B.A. Washington State University
B.S. Washington State University
M.A. Central Michigan University

B.S. Central Michigan University
M.A. Central Michigan University

Gerald D. Freeland (1983) Mathematics
A.A. Delta College
B.S. Saginaw Valley College
M.A. Central Michigan University

Janet M. Grimm (1984) Nursing Education
B.S.N. Eastern Michigan University
M.S.N. Wayne State University

Laura Grow (2007) English, Composition
B.A. Grand Valley University
M.A. Central Michigan University

Toni A. Hayes (2006) Nursing Instructor, Coordinator of Nursing On-Line Programs
A.D.N. Delta College
B.S.B.A Central Michigan University
M.S. University of Minnesota

Laurie Hilyard (2008) Nursing Instructor
A.D.N. Mid Michigan Community College
B.S. Michigan State University
M.S.N. University of Texas

B.S. Brigham Young University
M.A. Central Michigan University
L.P.C. Central Michigan University
N.C.C. Central Michigan University

B.A.A. Central Michigan University
M.A. Central Michigan University

B.S. Western Michigan University
M.S. Stanford University
M.A. Central Michigan University

Sherlyn C. Loubert (1995) Nursing Education
B.S. Eastern Michigan University
M.S. University of Michigan

William Mathews (2002) Social Science
M.A. Central Michigan University

194
PERSONNEL DIRECTORY

FULL-TIME FACULTY

B.S.  Central Michigan University
M.S.  Ferris State University
M.B.A.  Central Michigan University

Bruce Yuille (2003) Business
B.A.  University of Michigan - Flint
M.B.A.  University of Michigan

REGULAR PART-TIME FACULTY

Darren Acton (2005) Skiing
B.S.  Central Michigan University

John Ade (1998) Criminal Justice
B.A.  Michigan State University

Jan Alfano (2007) Art
B.S.  Central Michigan University
M.A.  Central Michigan University

Michelle Ambrozaitis (2004) Law Enforcement/ Criminal Justice
B.A.  University of Pittsburg
J.D.  Thomas M. Cooley Law School

FULL-TIME FACULTY

Ililana Miller (2008) Temporary Full-time English Instructor
B.A.  University of Plovdiv, Bulgaria
M.A.  University of Plovdiv, Bulgaria

Jan Noteboom (2001) Faculty Coordinator of Allied Health
A.G.S.  Mid Michigan Community College
B.B.A.  Northwood University

Kevin Allen (2007) Biology/Mathematics
B.S.  Michigan State University
M.A.  Central Michigan University

Teri Paradise (2006) Nursing Education
B.S.N.  Oakland University
M.S.N.  Wayne State

Jeff Percha (1993) Chemistry, Biology
B.S.  Central Michigan University
M.S.  Central Michigan University

B.A.  St. Petersburg University of Economy & Finance
M.A.  State Conservatory - St. Petersburg, Russia
M.A.  Central Michigan University
M.B.A.  Central Michigan University

William Reader (1999) English, Humanities, Reading
B.S.  Central Michigan University
M.A.  Central Michigan University

A.A.S.  Mid Michigan Community College
B.A.  Spring Arbor University
M.S.  Ferris State University

Mary Battaglia (1995) Business
A.B.A.  Mid Michigan Community College
B.S.  Central Michigan University

James H. VanderMey (1980) English, Humanities
B.A.  University of Michigan
M.A.  University of Michigan

Scott Barnhart (2002) Mathematics
B.S.  Ferris State University
M.A.  Ohio State University

Linda Voelker (2005) Temporary Full-time Business Information Systems
B.A.  Michigan State University
M.A.  Central Michigan University

Aileen Wernert (2002) Nursing Education
M.S.N.  Saginaw Valley State University

Bruce Yuille (2003) Business
B.A.  University of Michigan - Flint
M.B.A.  University of Michigan

Jan Alfano (2007) Art
B.S.  Central Michigan University
M.A.  Central Michigan University

Kevin Allen (2007) Biology/Mathematics
B.S.  Michigan State University
M.A.  Central Michigan University

Michelle Ambrozaitis (2004) Law Enforcement/ Criminal Justice
B.A.  University of Pittsburg
J.D.  Thomas M. Cooley Law School

PHARM-D  Ferris State University

Ryan Badgley (2009) Biology
B.A.  Central Michigan University

Margaret Baily (2002) Early Childhood Development
B.A.  Central Michigan University

Emily Balk (2007) Mathematics
B.S.  Central Michigan University

Scott Barnhart (2002) Mathematics
B.S.  Ferris State University
M.A.  Ohio State University

Mary Battaglia (1995) Business
A.B.A.  Mid Michigan Community College
B.S.  Central Michigan University

Christi Beck (2009) Business
A.A.S.  Ferris State University
B.B.A.  North Western University

Tracyjo Biata (2008) Allied Health
B.S.N.  Davenport University
M.S.N.  Walden University

Jeffery Boakes (2005) Heating/Refrigeration/Air Conditioning Technology
A.A.S.  Mid Michigan Community College

B.S.  Central Michigan University

Dominic Borawiak (2009) English
B.S.  Central Michigan University
M.A.  Central Michigan University
## PERSONNEL DIRECTORY

### REGULAR PART-TIME FACULTY

<table>
<thead>
<tr>
<th>Name</th>
<th>Degree(s)</th>
<th>Institution(s)</th>
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<tbody>
<tr>
<td>Steven Boyer (1997)</td>
<td>Mathematics</td>
<td>Central Michigan University</td>
</tr>
<tr>
<td>John J. Bradac (1998)</td>
<td>Law Enforcement</td>
<td>Ferris State University</td>
</tr>
<tr>
<td>Julie Briggs (2003)</td>
<td>Nursing Education</td>
<td>Mid Michigan Community College</td>
</tr>
<tr>
<td>Curtis Burdette (2007)</td>
<td>English</td>
<td>Central Michigan University</td>
</tr>
<tr>
<td>Todd Burlingham (2009)</td>
<td>Speech</td>
<td>Central Michigan University</td>
</tr>
<tr>
<td>Jeffrey Butkiewicz (2009)</td>
<td>History</td>
<td>Saginaw Valley State University</td>
</tr>
<tr>
<td>Sallie J. Butler (1997)</td>
<td>English</td>
<td>Central Michigan University</td>
</tr>
<tr>
<td>Julie Christensen (2007)</td>
<td>Spanish</td>
<td>Central Michigan University</td>
</tr>
<tr>
<td>Michael S. Clark (2002)</td>
<td>Speech</td>
<td>Central Michigan University</td>
</tr>
<tr>
<td>Kelly J. Combs (2002)</td>
<td>Psychology</td>
<td>University of Flint</td>
</tr>
<tr>
<td>Beverly Cook (2009)</td>
<td>Nursing</td>
<td>Central Michigan University</td>
</tr>
<tr>
<td>Kendra Curtiss-Tomanski (1996)</td>
<td>Early Childhood Development</td>
<td>Central Michigan University</td>
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<td>Carol Darlington (1986)</td>
<td>Psychology</td>
<td>Central Michigan University</td>
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<td>Raymond Davies (2004)</td>
<td>Music</td>
<td>University of Massachusetts Boston</td>
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<td>David DeGraaf (1999)</td>
<td>Physical Science</td>
<td>Calvin College</td>
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<td>Betty L. Derscheid (2000)</td>
<td>Psychology</td>
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<td>Andrew Devenney (2003)</td>
<td>History</td>
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<td>Monica Dukes (2008)</td>
<td>Business</td>
<td>Ferris State University</td>
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<tr>
<td>Andrew Dunn (2007)</td>
<td>English</td>
<td>Temple University</td>
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<tr>
<td>Amy L. Durfee (2002)</td>
<td>German Language</td>
<td>Central Michigan University</td>
</tr>
<tr>
<td>Nancy Eaton (2005)</td>
<td>Music</td>
<td>Central Michigan University</td>
</tr>
</tbody>
</table>
REGULAR PART-TIME FACULTY

B.S. Saginaw Valley State University
M.S. Central Michigan University

Jennifer Fields (2008) Education
B.A. Western Michigan University

Nancy Foor (2007) Allied Health
R.H.I.T. AHIMA

Cody Forsberg (2009) Math
B.S. University of Michigan

Anthony Fox (2006) Entrepreneurship
B.A.A. Central Michigan University

Q. W. Consumers Power Welding Lab

A.S. Northwestern Michigan University

U.A. Star Cert. United Assoc. of Plumbers & Pipe Fitters

Edith Gibson (2008) Humanities
B.A. Michigan State University
M.A. United Theological Seminary

Corey Goethe 2002 English
A.S. Monroe Community College
B.S. Central Michigan University
M.A. Central Michigan University

Christopher Goffnett (1999) Computer Information Systems
B.S.B.A. Central Michigan University
M.B.A. Central Michigan University

Traci Goldsworthy (2008) Biology
B.S. Central Michigan University
M.S. Central Michigan University

Shawn Goodrich (2007) Business
B.S. Central Michigan University

B.S. Southern Oregon University

B.S. Northern Michigan University

Kira Gray (2008) Speech
B.S. Ferris State University
M.A. Michigan State University

Shelley Greer (1990) Art
B.A. Michigan State University
M.A. Central Michigan University

Maria Greskowiak (2006) Nursing
B.S.N. Saginaw Valley State University

M.A. Northern Michigan University

REGULAR PART-TIME FACULTY

Melissa Haring 2004 Skiing

Thomas C. Harms (1991) Tax Accounting
B.A. Alma College

Kristen Haskin (2003) Spanish
B.S. Central Michigan University

James Haupt (2007) Accounting
B.S.B.A. Central Michigan University
M.A. Northwood University

Jennifer Henry (2006) Education
B.A. Spring Arbor University

Julie Hipkins (2007) Nursing Education
A.D.N. Mid Michigan Community College

John Holland (2006) Environmental Science
B.S. Lake Superior University
M.S. Central Michigan University

Dean Holsworth (2000) Mathematics
B.S. Central Michigan University
M.B.A. Central Michigan University

M.A. Saginaw Valley University

Amy Howard (2004) Health Education
B.S. Central Michigan University

Dawn Jenkins (2007) Nursing Education
B.S.N. Northern Michigan University

Dara John (1991) Sociology
B.S. Central Michigan University
M.A. Central Michigan University

Debra Johnson (2008) English/Accounting/BIS
B.A. Central Michigan University
M.A. Central Michigan University

Michael Johnston (2000) Humanities
B.S. Central Michigan University
M.A. Central Michigan University

B.A. Western Michigan University

B.A. Central Michigan University
M.A. Saginaw Valley State University

Yvette Keast (2008) Theatre

B.S. Central Michigan University
M.A. Central Michigan University

Elizabeth Kindermann (1994) Speech
B.S. Central Michigan University
M.A. Central Michigan University

Marcy Klaus (2003) Law Enforcement
B.A. Michigan State University
J.D. Valparaiso University
PERSONNEL DIRECTORY

REGULAR PART-TIME FACULTY

A.B. Mid Michigan Community College

Lorraine Koehn (2007) Nursing
B.S.N. Ferris State University

AnneMarie Koelbel (2006) Speech
B.S. Western Michigan University
M.S. University of Missouri

Jessica Kutschman (2008) Sociology
B.S. Central Michigan University

B.S. Northern Michigan University

Barney Ledford (1993) Criminal Justice
A.S. Macomb Community College
B.S. Wayne State University

Karen Lee (1992) Early Childhood Development
B.S. Indiana University

Debra Linton (2007) Biology
B.S. Rutgers University
M.S. University of Akron
Ph.D. Rutgers University

Jason Liptow (2007) Business
B.A. Madonna University
M.S.B.A. Madonna University
M.E.D. Saginaw Valley State University

Gerald Longnecker (1996) Psychology/Speech
B.S. Central Michigan University
M.A. Central Michigan University

A.A.S. Mid Michigan Community College

B.S. Central Michigan University

Maggie Magoon (2009) Psychology
B.A. Purdue University
M.S. Indiana University
Ph.D. Indiana University

B.S.N. Nazareth College

Patricia McBride (2009) English
B.S. Central Michigan University

B.S. Central Michigan University
M.A. Central Michigan University

Patti McNeilly (2007) Early Childhood Development
B.S. Central Michigan University

Christopher McNicol (2006) Mathematics

REGULAR PART-TIME FACULTY

Jennifer Mertz (2001) Biology/Zoology
M.S. Michigan State University
B.S. Michigan State University

Cheryl Meyer (2006) English
B.A. Central Michigan University
M.A. Central Michigan University

Marlene Michels (1996) English
B.S. Eastern Michigan University
M.A. Central Michigan University

Jonathon Miller (2004) Geology/Physical Science
B.S. Grand Valley State University

David Moyses 2009 Chemistry
B.S. Michigan Technology University
M.A. Central Michigan University

Glenda Nielson (2007) Allied Health
A.A.S. Moraine Valley Community College

Matthew Odell (2008) Chemisry
B.S. Alma College
M.S. University of Maryland

B.A. Central Michigan University

Stacey Pechacek (2009) Speech
B.A. Central Michigan University
M.A. Central Michigan University

Chris Pellerito (2007) Speech
B.S. Wayne State University
M.A.T. Saginaw Valley State University

B.S. Central Michigan University
M.A. Central Michigan University

L. Joseph Phillips (1972) Psychology
B.S. Central Michigan University
M.A. Central Michigan University

Cindy Poag (2007) Business
B.S. Central Michigan University

Beverly Powell (2003) Health Technologies
A.A.S. Pitt Community College

Dave Prescott (2009) French
B.A. Michigan State University
M.A. Central Michigan University

B.S. Miami University
M.B.A. Northwood University

Martha Putt (2003) Early Childhood Development
A.B. University of Michigan

Jennifer Quick (2008) Political Science
B.S. Huntington College
M.A. Nova Southeastern University
<table>
<thead>
<tr>
<th>Name</th>
<th>Year</th>
<th>Department</th>
<th>Undergraduate</th>
<th>Graduate School</th>
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<tr>
<td>Ronald Ratkos</td>
<td>2008</td>
<td>Math/Science</td>
<td>B.S. Central Michigan</td>
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<td>Christopher Redker</td>
<td>2007</td>
<td>Psychology</td>
<td>B.S. Central Michigan</td>
<td>M.S. Central Michigan</td>
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<tr>
<td>Karen Reger</td>
<td>2002</td>
<td>Allied Health</td>
<td>A.B.S. Delta Community College</td>
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<tr>
<td>Rodney Reid</td>
<td>2008</td>
<td>Allied Health</td>
<td>B.S. Central Michigan</td>
<td>M.S. Institute for Creation Research</td>
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<tr>
<td>Steven Rellinger</td>
<td>1998</td>
<td>Economics</td>
<td>B.S.B.A. Central Michigan</td>
<td>M.A. Central Michigan</td>
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<tr>
<td>Robin Riggs</td>
<td>2003</td>
<td>Speech</td>
<td>B.A. Anderson University</td>
<td>M.Div Anderson School of Theology</td>
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<tr>
<td>Paul Robb</td>
<td>1982</td>
<td>Psychology</td>
<td>M.A. Central Michigan</td>
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<tr>
<td>Ryan Robb</td>
<td>2003</td>
<td>Health Education</td>
<td>B.A. Central Michigan</td>
<td>M.A. Central Michigan</td>
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<td>Brian Roberts</td>
<td>2007</td>
<td>Computer Information Systems</td>
<td>A.S. Lansing Community College</td>
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<td>Terrance Rood</td>
<td>2008</td>
<td>Mathematics, Algebra</td>
<td>B.S. Bowling Green State University</td>
<td>M.A. University of Findlay</td>
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<tr>
<td>Karen Sanders</td>
<td>2000</td>
<td>Chemistry</td>
<td>A.A.S. Mid Michigan Community College</td>
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<tr>
<td>Anthony Sassin</td>
<td>2008</td>
<td>English</td>
<td>B.S. Ferris State University</td>
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<td>Ellen Saxton</td>
<td>2007</td>
<td>Biology</td>
<td>B.S. Grand Valley State University</td>
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<td>Thomas Schultz</td>
<td>2008</td>
<td>Biology</td>
<td>B.S. Central Michigan</td>
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<td>Jeffrey Scofield</td>
<td>2008</td>
<td>Biology</td>
<td>B.S. Central Michigan</td>
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<td>Linda Sellke</td>
<td>2009</td>
<td>Nursing</td>
<td>B.S.N. University of Phoenix</td>
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<td>Andreanna Smithl</td>
<td>2009</td>
<td>Nursing</td>
<td>A.D.N. Montcalm Community College</td>
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<td>James Smith</td>
<td>2009</td>
<td>Psychology</td>
<td>B.S. Central Michigan</td>
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<td>Ronald Snyder</td>
<td>2009</td>
<td>Geology</td>
<td>B.S. Central Michigan</td>
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<td>Louise St. John</td>
<td>2004</td>
<td>Biology</td>
<td>B.S. Alma College</td>
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<td>JoAnn Stackowicz</td>
<td>2007</td>
<td>Mathematics</td>
<td>B.S. Illinois State University</td>
<td>M.A. Central Michigan</td>
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<td>Joanne Steggall</td>
<td>2008</td>
<td>Theatre</td>
<td>B.F.A. Emerson College</td>
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<td>Thomas Stewart</td>
<td>1991</td>
<td>Political &amp; Social Science</td>
<td>B.S. Central Michigan</td>
<td>J.D. Thomas M. Cooley Law School</td>
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<td>Jamie Stoike</td>
<td>2008</td>
<td>Industrial Technology</td>
<td>B.A. Ferris State University</td>
<td>M.A. Western Michigan University</td>
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<td>Jared Stotzel</td>
<td>2004</td>
<td>Physical Education</td>
<td>A.A.S. Delta Community College</td>
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<td>Lori Tapia</td>
<td>2008</td>
<td>History/Social Science</td>
<td>B.S. Central Michigan</td>
<td>M.A. Central Michigan</td>
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<td>Dave Thomas</td>
<td>2007</td>
<td>Speech</td>
<td>B.S. Ferris State University</td>
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<td>Kathy Thomas</td>
<td>2007</td>
<td>Speech</td>
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<td>Elmer Tofteland</td>
<td>2003</td>
<td>Accounting</td>
<td>B.S. Central Michigan</td>
<td>M.A. Central Michigan</td>
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<td>Ingrid Tourangeau</td>
<td>2008</td>
<td>Art</td>
<td>B.F.A. Central Michigan</td>
<td>M.F.A. Maine College of Art</td>
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<td>Anip Uppal</td>
<td>2007</td>
<td>Economics</td>
<td>M.A. Central Michigan</td>
<td>M.A. Bombay University</td>
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<td>Julia Wagester</td>
<td>2009</td>
<td>Computer Information Systems</td>
<td>B.S. Central Michigan</td>
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<td>Cecil Wagner</td>
<td>2009</td>
<td>English</td>
<td>B.A. Murray State University</td>
<td>M.A. Central Michigan</td>
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<td>Harold Walls</td>
<td>2008</td>
<td>Business</td>
<td>B.A. Saginaw Valley State University</td>
<td>M.B.A. Florida Metropolitan University</td>
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</tbody>
</table>
PERSONNEL DIRECTORY

REGULAR PART-TIME FACULTY

Mark Weaver (2003) Mathematics
B.S. Central Michigan University

Sarah Webster (2008) Physical Education
B.A. Central Michigan University

Sarah Wells (1995) Speech
B.A. Central Michigan University
M.Ed Marygrove College

Rhonda Wezensky (2009) Nursing
B.S.N. Saginaw Valley State University

Jeanette Wieczorek (2009) Nursing
Nur Asst Washtenaw Community College
B.F.A. American InterContinental Univ.

Theresa Wilberding (2009) Humanities
B.S.B.A. Michigan Technological University
M.A. Central Michigan University

Perry Wiles (1997) Automotive
B.S. Ferris State University
M.S. Ferris State University

Jason Williams (2009) Psychology
B.S. University of Pittsburg
M.A. University of North Carolina

B.B.A. University of Michigan
J.D. Wayne State University

Eric Wittig (2007) Mathematics
A.S. Mid Michigan Community College
B.A. Central Michigan University

B.S. Central Michigan University
M.A. Ferris State University

Diane Wood (2006) Speech /Education
B.A. Alma College
M.A. Central Michigan University

George Wylie (2004) History
B.A. University of Michigan

B.S. Lake Superior University
M.S. Central Michigan University

B.A. Michigan State University

STRATEGIC COUNCIL MEMBERS

Carol Churchill (2007) President
A.A. Southwestern Michigan College
B.A. Western Michigan University
M.A. Western Michigan University

Gwladys A. Austin, Ed.D. (1990) Vice President of Institutional Services and Technology
B.S. Michigan State University
M.A.Ed. Central Michigan University
Ed. D. Eastern Michigan University

Lillian Frick, CPA (1999) Vice President of Finance and Administrative Services
A.Acc. Lansing Community College
B.A. Michigan State University

Michael W. Jankoviak, Ph.D. (1994) Vice President of Academic Services
B.A. Northern Michigan University
M.A. Michigan State University
Ph.D. Michigan State University

L. Scott Govitz (2000) Executive Director of M-TEC
B.S. Central Michigan University

Matt Miller (2002) Executive Director of College Advancement
B.A. Central Michigan University
M.B.A. Central Michigan University

Gail Nunamaker, (2008) Executive Director of Human Resources
B.S. Central Michigan University
M.A. Central Michigan University

DEANS

B.S. Central Michigan University
M.A. University of Missouri

Catherine L. King (1998) Dean of Nursing and Health Technologies
NNP Children’s Hospital Columbus, OH
A.S.N - RN Wayne County Community College
B.S.N. Eastern Michigan University
M.S.N. University of Phoenix

Carol J. Santini (1987) Dean of Student Success
A.A. Ferris State University
B.S. Ferris State University
M.A. Central Michigan University

Todd M. Tarrant (2009) Dean of Arts & Sciences
B.S. Michigan State University
M.S. Michigan State University
Ph.D. Michigan State University

200
ADMINISTRATIVE COUNCIL MEMBERS

Tammy Alvaro (2008) Coordinator of Student Services
A.A. Montcalm University
B.A.A. Central Michigan University

Kimberly M. Barnes (1992) Executive Director of Enrollment Management
A.S. Mid Michigan Community College
B.B.A. Northwood University
M.A. Central Michigan University

Mary E. Battaglia (1995) Associate Director of Human Resources
A.B.A. Mid Michigan Community College
B.S. Central Michigan University

Christi L. Beck (2008) RHIT Program Director
A.A.S. Ferris State University
B.B.A. North Western University

B.S.W. Central Michigan University
M.S.A. Central Michigan University

Jennifer A. Cooper (1988) Associate Director Financial Aid
A.B.A. Mid Michigan Community College
B.A. Franklin University

Gale M. Crandell (1989) Director of Financial Aid
A.S.S. Delta College
B.S. Central Michigan University

Carol J. Darlington (1986) Special Training Coordinator, Special Populations
A.A. Mid Michigan Community College
B.S. Central Michigan University
M.A. Central Michigan University

Julie Fortino (2007) Recruiter
M.A. Central Michigan University

Anthony Fox (2006) Regional Director, Michigan Small Business & Technology Center
B.A.A. Central Michigan University

Anthony Freds (2005) Director of Distance Education
B.A.A. Central Michigan University

Eric Gilbert (2003) Food Service Manager
E.P.A. Certification

Corey Goethe (2002) Director of Academic Support Center
A.S. Monroe County Community College
B.S. Central Michigan University
M.A. Central Michigan University

Chad Hathcock (2007) Payroll Manager and G.L. Accountant
B.A. Davenport University

ADMINISTRATIVE COUNCIL MEMBERS

Candace Henry-Schroder (2006) Financial Aid Loan Officer
B.B.A. Baker College

Jerilyn Hopper (2007) MI-SBTDC, Intake- Small Business Consultant Clare County
B.A. Michigan State University
M.B.A. Central Michigan University

Corinne Y. Howdyshell (2001) Coordinator of Health and Nursing Skills Lab
A.D.N. MMCC
B.S.N. Ferris State University

Karen Kleinhardt (1986) Director of BIDC
A.G.T. Mid Michigan Community College

Chris Kliewe (1984) Systems Manager
A.B. Mid Michigan Community College

Kelly Koch (2000) Bookstore Manager
A.B. Mid Michigan Community College
B.S.B.A. Central Michigan University

Sherry Kyle (1987) Executive Assistant to the President and Board of Trustees
A.G.T. Mid Michigan Community College

Cynthia Lehr (2006) Coordinator of Clinical Sites/ Nursing and Allied Health
R.N. St. Vincent Hospital School of Nursing
B.S.N. Saginaw Valley State University

Kirk A. Lehr (1995) Director of Communications & Computer Services
B.A. Grand Rapids Baptist College

Terry J. Loafman (1996) Custodial Foreman
A.B. Mid Michigan Community College

Scott Mertes (2005) Director of Admissions & Registration
B.A. Winona State University
M.A. University of Iowa

B.S. Western Michigan University
R.T. Florida Hospital School of Radiologic Technology

Juliann Murphy (2004) Financial Aid Officer
B.A. Cleary College

Crystal Parker (2008) Physical Therapist Assistant Program Clinical Coordinator
A.S. Delta College

Christopher Pellerito (2007) General and Occupational Recruiter
B.S. Wayne State University
M.A.T. Saginaw Valley State University

Gene Schmidt, (2001) Director of Accounting
B.A. Michigan State University
M.B.A. Saginaw Valley State University
ADMINISTRATIVE COUNCIL MEMBERS

Ronald Schmidt (2008) Facilities Manager (Pickard & Doan)
B.S. Central Michigan University

John B. Skinner, R.T. (R) (1990) Director of Radiography
B.A. Alma College
M.Ed. Boston University
M.S.A. Central Michigan University

KendraSue Sysak (2007) Financial Aid Officer
B.A. Northwood University

Todd Treece (2006) Distance Education Technical Coordinator

Shawn Troy (2003) Director of Library/Media Services
A.A. Oakland Community College
B.S. Central Michigan University
M.A. Central Michigan University
M.I.S. University of Wisconsin - Milwaukee

B.S. Central Michigan University

Adam VanNoord (2007) Coordinator of Graphic Design
B.A. Central Michigan University

B.A. Adrian College

Diane Whiting (2007) Physical Therapist Assistant Program Director
B.S. University of Michigan
M.A. Central Michigan University

William D. Whitman (1979) Director of Facilities

Barbara Wieszczyinski (2009) Director of Nursing
A.D.N. Delta Community College
M.S.N. Saginaw Valley State University

SUPPORT STAFF

Lois Aultman (2006) Hospitality Assistant/Grill


B.S. Central Michigan University
M.S. Central Michigan University

Angela Benner (2008) Part-time Science Lab Tech (Biology)
A.B.S. Mid Michigan Community College

Dorothy Boge (2006) Payroll Specialist

Theresa Borawski (2007 Academic Advisor
A.A. Mid Michigan Community College
B.A. Spring Arbor University

Lori A. Bowers (1996) Computer Lab Technician
A.B. Mid Michigan Community College

Phillip Brazier (2008) Custodian
B.A. University of Michigan-Flint

Martha J. Budd (1987) Accounts Payable Specialist
A.S.S. Mid Michigan Community College

Jeremy Carrier (2003) Operation Support Assistant
A.A.S. Ferris State University
B.S. Ferris State University

Jennifer Casebeer (2007) Executive Secretary Financial Aid
A.B. Mid Michigan Community College

Sylvia Conway (1974) Faculty Secretary
A.A. Mid Michigan Community College

Tena G. Diamond (1990) Admissions Specialist
A.S. Mid Michigan Community College
B.B.A. Northwood University

Anitra Eldred (2008) Custodian
A.S. Grand Rapids Community College

Beth Fitzpatrick (2001) Accounts Receivable Specialist
A.B. Mid Michigan Community College
B.B.A. Davenport

Carl Fouts (2001) Custodian

Ronald Gepford (2001) Maintenance


B.A. Rochester College

Jonathon Graham (2007) HVAC Technician
A.A. S. Mid Michigan Community College
SUPPORT STAFF

A.B. Mid Michigan Community College

Marsha J. Hovey (1996) Executive Secretary, Financial Aid, Mt. Pleasant
A.B. Mid Michigan Community College

Rhonaca A. Jankoviak (1986) Media Assistant II
A.S. Mid Michigan Community College

Alicyn Johnson (2007) Records Clerk, Mt. Pleasant
A.A. Ozarks Technical Community College
B.A. Missouri State University

Leslie Jones (2001) Records Clerk, Mt. Pleasant
A.G.S Mid Michigan Community College

Charlotte Keel (2002) Custodian

Lana I. Kleinhardt (1994) Records Clerk
A.B. Mid Michigan Community College

Rebecca Knickmeier (1999) Academic Support/Media Specialist
A.A. Lansing Community College
B.A. Saginaw Valley State University

James Kridler (2008) Academic Advisor
B.A. Earlham College

B.S. Central Michigan University

Julie Lobdell (2008) Custodian

Cristina Marleau (2008). Resource Team Advisor
M.A. Oakland University
B.A. Oakland University

Sandra Mosher (2007) BIO Lab Technician

Cynthia Mussell (2001) Administrative Assistant, College Advancement
B.A. Michigan State University

Rebecca Nalevayko (2006) Bookstore Clerk
A.B. Mid Michigan Community College

A.B. Mid Michigan Community College

A.S.S. Mid Michigan Community College

Tonia Persky (2001) Academic Services Specialist
A.B. Mid Michigan Community College

JoDell Richmond (1996) Distance Education Administrative Specialist, Mt. Pleasant
A.B. Mid Michigan Community College

Melissa Rohen (2005) Library Assistant
A.A. Mid Michigan Community College
B.A. Southern New Hampshire University

Angela Rosenberg (2004) Hospitality Assistant/Grill

Christine Rowden (2008) Admissions Clerk
B.S. Central Michigan University

Derek Sandel, (2009) Bookstore Sales Clerk
B.A. Central Michigan University

Karen Sanders (1994) Science Lab Technician
A.S. Mid Michigan Community College

Constance J. Sanderson (1986) Records Clerk


Camille Spitzley (2005) Academic Advisor
B.S. Central Michigan University
M.A. Central Michigan University

Cathy Starkweather (2008) Hospitality/Kitchen Assistant


Jessica Wicks (2007) Academic Advisor
M.A. Central Michigan University

Donald J. Zuker (1997) Custodian, Mt. Pleasant