This program is designed to prepare the student for careers in a wide range of opportunities such as: control systems, industrial automation, robotics, electronic communications, electronic system development, embedded controls, medical equipment, avionics, aerospace, navigational equipment and technical sales careers. Many careers are available in design, product development, maintenance, installation, testing and troubleshooting.

See Notes below for more information

Expand all "Preferred Classes" links

**Area of Concentration:** Students will meet with the program coordinator or technical advisor to identify courses in their area of concentration. A minimum of three courses, with a minimum of nine credits, are required to complete the program.

### Occupational Specialty Courses

<table>
<thead>
<tr>
<th>NOTE</th>
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<th>DESCRIPTION</th>
<th>GEN ED</th>
<th>CREDIT HOURS</th>
<th>CONTACT HOURS</th>
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<tbody>
<tr>
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<td>ELEC-131</td>
<td>Residential Electrical Wiring</td>
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<td></td>
<td>ELEC-133</td>
<td>Electrical Circuits</td>
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<td>3</td>
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<td>ELEC-135</td>
<td>Electronic Components and Applications</td>
<td>NTL</td>
<td>6</td>
<td>8</td>
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<td>ELEC-139</td>
<td>Logical Control Systems</td>
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<td>ELEC-150</td>
<td>National Electrical Code</td>
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<td>ELEC-231</td>
<td>Fundamentals of Labview</td>
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<td>ELEC-233</td>
<td>Embedded Controllers</td>
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<td>ELEC-235</td>
<td>Instrumentation and Industrial Electronics</td>
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**Required** 36 47

### Related Requirement Courses

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<tr>
<th>NOTE</th>
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<td>MATH-120</td>
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<td>or</td>
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<td>College Algebra</td>
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<td>MATT-121</td>
<td>Technical Mathematics II</td>
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<td>or</td>
<td>MATH-140</td>
<td>Trigonometry</td>
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**Required** 7-8 7-8
Recommended Elective Courses

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<td>CADD-181</td>
<td>Engineering Drawing and Cad I</td>
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<td>COMG-153</td>
<td>Computers-A Practical Approach</td>
<td>CAC</td>
<td>3</td>
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<tr>
<td>COMG-154</td>
<td>Intermediate Practical Computer Skills</td>
<td>CAC, SMC, WAC</td>
<td>3</td>
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<tr>
<td>COMN-112</td>
<td>Principles of Computer Networking</td>
<td>WAC</td>
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<tr>
<td>COMS-170</td>
<td>Intro to Programming</td>
<td>NTL</td>
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<td>COMS-171</td>
<td>Introduction to C++</td>
<td>NTL</td>
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<td>MDES-101</td>
<td>Modern Industrial Robotics</td>
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<td>MECH-143</td>
<td>Welding Processes</td>
<td>NTL</td>
<td>3</td>
<td>4</td>
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<td>MECH-144</td>
<td>Machining</td>
<td>NTL</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>TECH-100</td>
<td>Communication Skills for Technology</td>
<td>CAC, SAC, WAC</td>
<td>2</td>
<td>2</td>
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<table>
<thead>
<tr>
<th>NOTE</th>
<th>COURSE</th>
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<td>English Composition</td>
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<td>and ENGL 102</td>
<td>English Composition</td>
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<td>WAC</td>
<td>Writing Across the Curriculum</td>
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<td>Speaking Across the Curriculum</td>
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Sub Total: 43-44 54-55

Plus any additional credits needed to fulfill graduation and/or General Education Requirements.

General Education Requirements

To assure a broad experience with general education for every MCC student, the College has adopted the following General Education Graduation Requirements. In order to graduate with an AA, AS, AGS or AAS degree, each student must fulfill each of these objectives:

Objective I - Communication

Complete the following:

<table>
<thead>
<tr>
<th>NOTE</th>
<th># REQ.</th>
<th>COURSE</th>
<th>DESCRIPTION</th>
<th>GEN ED</th>
<th>CREDIT HOURS</th>
<th>CONTACT HOURS</th>
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<td>English Composition</td>
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<td></td>
<td></td>
<td>and ENGL 102</td>
<td>English Composition</td>
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<td>WAC</td>
<td>Writing Across the Curriculum</td>
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<tr>
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<td>Speaking Across the Curriculum</td>
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</table>

Objective II - Mathematics

Complete one of the following:
a. Placement Test score of Math 120 or higher;
b. Score 22 or better on the Math portion of the ACT or 560 on the Math portion of SAT test;
c. Complete Math 110 or higher level MCC math course;
d. Placement Test score of Math 110 or higher

or complete:

<table>
<thead>
<tr>
<th>NOTE</th>
<th># REQ.</th>
<th>COURSE</th>
<th>DESCRIPTION</th>
<th>GEN ED</th>
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<th>CONTACT HOURS</th>
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<td>1</td>
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<td>Math Across the Curriculum</td>
<td>Preferred Classes</td>
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and

<table>
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<th>NOTE</th>
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<th>CONTACT HOURS</th>
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<td>or</td>
<td>MATT 094A</td>
<td>Technical Arithmetic</td>
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<td>or</td>
<td>MATT 094B</td>
<td>Technical Algebra</td>
<td></td>
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<tr>
<td>or</td>
<td>MATT 094C</td>
<td>Technical Measurement</td>
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<td>or</td>
<td>MATT 094D</td>
<td>Technical Geometry</td>
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<td>or</td>
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<td>Business Mathematics</td>
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<td>or</td>
<td>FMG.104</td>
<td>Food Service Math</td>
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Objective III -Multicultural Awareness

Complete one of the following:

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<th>DESCRIPTION</th>
<th>GEN ED</th>
<th>CREDIT HOURS</th>
<th>CONTACT HOURS</th>
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<tr>
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<td>MES</td>
<td>Multi-cultural Ethnic Studies</td>
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Objective IV -Computing

Complete one of the following:

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<th>COURSE</th>
<th>DESCRIPTION</th>
<th>GEN ED</th>
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<tr>
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<td>Preferred Classes</td>
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<th>CREDIT HOURS</th>
<th>CONTACT HOURS</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>COMG-154</td>
<td>Intermediate Practical Computer Skills</td>
<td>CAC, SMC, WAC</td>
<td>3</td>
<td>3</td>
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<td></td>
<td>COMG-153</td>
<td>Computers-A Practical Approach</td>
<td>CAC</td>
<td>3</td>
<td>3</td>
</tr>
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<td></td>
<td>TECH-100</td>
<td>Communication Skills for Technology</td>
<td>CAC, SAC, WAC</td>
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Objective V -Scientific Inquiry

Complete one of the following:

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<th>NOTE</th>
<th># REQ.</th>
<th>COURSE</th>
<th>DESCRIPTION</th>
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<tbody>
<tr>
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<td>SMC</td>
<td>Scientific Method Course</td>
<td>Preferred Classes</td>
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<table>
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<th>GEN ED</th>
<th>CREDIT HOURS</th>
<th>CONTACT HOURS</th>
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</thead>
<tbody>
<tr>
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<td>COMG-154</td>
<td>Intermediate Practical Computer Skills</td>
<td>CAC, SMC, WAC</td>
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Area Requirements
Complete *one* for *each* requirement:

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<th>DESCRIPTION</th>
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<td>Social Sciences courses</td>
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<tr>
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<td>NTL</td>
<td>Natural/Technical Laboratory Science courses</td>
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<table>
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<th>CONTACT HOURS</th>
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<tbody>
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<td>ELEC-135</td>
<td>Electronic Components and Applications</td>
<td>NTL</td>
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<td>Welding Processes</td>
<td>NTL</td>
<td>3</td>
<td>4</td>
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</tbody>
</table>

**NOTES**

A. Students who first started classes Fall 2002 or after must complete requirements in all categories. Students who enrolled prior to Fall 2002 may choose to fulfill these requirements or those in effect when they first enrolled. Those requirements may be found in previous catalogs or by checking with an advisor or counselor.

B. A student may qualify to skip ENGL 101 and go directly to ENGL 102 by scoring 24 on the English part of the ACT, or 590 on verbal part of the SAT, or 115 on the placement test along with a reading level of grade 13 or higher and applying for and passing a special writing exam.

C. Students may satisfy this requirement by passing the MCC computer literacy test.

D. Students may substitute ENGL 101 & 102 - English Composition I & II with ENGL 101 & 102 - Technical Writing Emphasis I & II.

**Graduation:**
Remember to file an application for graduation with the Registration & Cashier's Office as soon as you register for your final semester.

*Associate Degrees require completion of 62 credits minimum, which include the requirements listed above.*

Expand all "Preferred Classes" links