### Program Outcomes (PROGRAM level)

**MCC CTE Program: Industrial Technology – Engineering Technology, Electronics Emphasis**

**CTE or Occupational Program Outcome:** Students will demonstrate the ability to apply foundational skills in an engineering technology setting, safely and to industry guidelines.

<table>
<thead>
<tr>
<th>Expected Student Outcome (Performance Criteria or Indicator)</th>
<th>Curriculum or Courses (Strategies)</th>
<th>Assessment Method(s)</th>
<th>Context for Assessment</th>
<th>Time of data collection</th>
<th>Assessment Coordinator</th>
<th>Evaluation of Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Demonstrate an understanding of OSHA regulations as used industry</td>
<td>EHSS 111</td>
<td>Locally developed assignments, rubrics, exams, labs, and projects</td>
<td>EHSS 111</td>
<td>Fall and Spring Semesters</td>
<td>ETEC Coordinator</td>
<td>ETEC Coordinator, ETEC Faculty and Advisory Committee</td>
</tr>
<tr>
<td>Demonstrate safe work practices in the classroom and lab settings</td>
<td>EHSS 111, ETEC 110, ETEC 118, ETEC 130, ETEC 230, INTE 271</td>
<td>Locally developed assignments, rubrics, exams, labs, and projects</td>
<td>ETEC 110, ETEC 118, ETEC 130, ETEC 230, INTE 271</td>
<td>Fall and Spring Semesters</td>
<td>ETEC Coordinator</td>
<td>ETEC Coordinator, ETEC Faculty and Advisory Committee</td>
</tr>
<tr>
<td>Demonstrate correct procedures for design &amp; installation of electrical &amp; electronic equipment</td>
<td>ETEC 111, ETEC 230</td>
<td>Locally developed assignments, rubrics, exams, labs, and projects</td>
<td>ETEC 111, ETEC 230, INTE 271</td>
<td>Fall and Spring Semesters</td>
<td>ETEC Coordinator</td>
<td>ETEC Coordinator, ETEC Faculty and Advisory Committee</td>
</tr>
<tr>
<td>Demonstrate ability to troubleshoot electrical &amp; electronic problems</td>
<td>ETEC 111, ETEC 220, ETEC 230</td>
<td>Locally developed assignments, rubrics, exams, labs, and projects</td>
<td>ETEC 111, ETEC 220, ETEC 230</td>
<td>Fall and Spring Semesters</td>
<td>ETEC Coordinator</td>
<td>ETEC Coordinator, ETEC Faculty and Advisory Committee</td>
</tr>
</tbody>
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**Results** _______________ (date):

**Actions** _______________ (date):

**Second-Cycle Results** _______________ (date):
Program Outcomes (PROGRAM level)

MCC CTE Program: Industrial Technology - Engineering Technology, Electronics Emphasis

CTE or Occupational Program Outcome: Students will demonstrate professional oral and written communication skills.

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<th>Expected Student Outcome (Performance Criteria or Indicator)</th>
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<td>Demonstrate appropriate interpersonal skills and written communication related to obtaining and retaining employment in a technical field.</td>
<td>ENGR 101 INTE 124</td>
<td>Learning log, role playing, and portfolio</td>
<td>INTE124</td>
<td>Fall and Spring Semesters</td>
<td>ETEC Coordinator</td>
<td>ETEC Coordinator, ETEC Faculty and Advisory Committee</td>
</tr>
<tr>
<td>Demonstrate appropriate oral, written, and technical/electronic communication skills</td>
<td>CSIS 123 DRAF 152 ENGR 101 ETEC 275 ENGL 101 ENGL 215 INTE 124 SPAN 100 SPDR 100</td>
<td>Written assignments/journal review</td>
<td>INTE 124 ETEC 275</td>
<td>Fall and Spring Semesters</td>
<td>ETEC Coordinator</td>
<td>ETEC Coordinator, ETEC Faculty and Advisory Committee</td>
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Results ________________ (date):

Actions ________________ (date):

Second-Cycle Results ________________ (date):
**Program Outcomes (PROGRAM level)**

MCC CTE Program: Industrial Technology - Engineering Technology, Electronics Emphasis

**CTE or Occupational Program Outcome:** Students will think critically and apply problem-solving skills.

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<td>Demonstrate skill using mathematical equations to solve problems in the field of engineering technology.</td>
<td>MATH 180 ETEC 110 ETEC 130 INTE 271</td>
<td>Locally developed assignments, exams, labs, and projects</td>
<td>ETEC 110 ETEC 118 ETEC 130 INTE 271</td>
<td>Fall and Spring Semesters</td>
<td>ETEC Coordinator</td>
<td>ETEC Coordinator, ETEC Faculty and Advisory Committee</td>
</tr>
<tr>
<td>Demonstrate skill in understanding the logical thinking skills needed in electrical &amp; electronic design &amp; troubleshooting</td>
<td>ETEC 111 CSIS 123 CSIS 223 ETEC 130 ETEC 230 INTE 271</td>
<td>Locally developed assignments, exams, labs, and projects</td>
<td>ETEC 111 ETEC 130 ETEC 230 INTE 271</td>
<td>Fall and Spring Semesters</td>
<td>ETEC Coordinator</td>
<td>ETEC Coordinator, ETEC Faculty and Advisory Committee</td>
</tr>
<tr>
<td>Demonstrate skill in understanding the logical thinking skills needed in microcontroller programming design &amp; troubleshooting</td>
<td>ETEC 111 CSIS 123 CSIS 223 ETEC 130 ETEC 230 INTE 271</td>
<td>Locally developed assignments, exams, labs, and projects</td>
<td>ETEC 111 ETEC 130 ETEC 230 INTE 271</td>
<td>Fall and Spring Semesters</td>
<td>ETEC Coordinator</td>
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**Results** _______________ (date):

**Actions** _______________(date):

**Second-Cycle Results** _______________(date):
Program Outcomes (PROGRAM level)

MCC CTE Program: Industrial Technology - Engineering Technology, Electronics Emphasis

CTE or Occupational Program Outcome: The program will graduate individuals who exhibit competence in the entry-level skills of technical profession in engineering technology.

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</tr>
</thead>
</table>
| Demonstrate an understanding of basic Electrical & Electronic Theory | ETEC 110  
ETEC 118  
ETEC 130 | Locally developed assignments, exams, labs, and projects | ETEC 110  
ETEC 118  
ETEC 130 | Fall and Spring Semesters | ETEC Coordinator | ETEC Coordinator, ETEC Faculty and Advisory Committee |
| Demonstrate ability to design & electrical & electronic components using schematics and prints | DRAF 152  
ETEC 118  
ETEC 220  
ETEC 230 | Locally developed assignments, exams, labs, and projects | ETEC 118  
ETEC 220  
ETEC 230 | Fall and Spring Semesters | ETEC Coordinator | ETEC Coordinator, ETEC Faculty and Advisory Committee |
| Demonstrate a basic understanding of elementary control systems & electronic control components | ETEC 118  
ETEC 130  
ETEC 220 | Locally developed assignments, exams, labs, and projects | ETEC 118  
ETEC 130  
ETEC 220 | Fall and Spring Semesters | ETEC Coordinator | ETEC Coordinator, ETEC Faculty and Advisory Committee |
| Demonstrate a basic understanding of Digital systems & Programmable Microcontroller Logic | ETEC 111  
ETEC 130  
INTE 271 | Locally developed assignments, exams, labs, and projects | ETEC 111  
ETEC 130  
INTE 271 | Fall and Spring Semesters | ETEC Coordinator | ETEC Coordinator, ETEC Faculty and Advisory Committee |

Results __________________ (date):

Actions _______________(date):

Second-Cycle Results __________________(date):

Program Outcomes (PROGRAM level)

MCC CTE Program: Industrial Technology - Engineering Technology, Electronics Emphasis

CTE or Occupational Program Outcome: The program will graduate individuals who exhibit competence in the entry-level skills in the design and implementation of microcontrollers.

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<th>Expected Student Outcome (Performance Criteria or Indicator)</th>
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<tr>
<td>Demonstrate an understanding of Programmable Logic Controllers, Microcontroller &amp; Computer Technology</td>
<td>ETEC 111 ETEC 130 ETEC 230 INTE 271</td>
<td>Locally developed assignments, exams, labs, and projects</td>
<td>ETEC 111 ETEC 130 ETEC 230 INTE 271</td>
<td>Fall and Spring Semesters</td>
<td>ETEC Coordinator</td>
<td>ETEC Coordinator, ETEC Faculty and Advisory Committee</td>
</tr>
<tr>
<td>Demonstrate ability to program microcontrollers</td>
<td>ETEC 130 ETEC 230 INTE 271</td>
<td>Locally developed assignments, exams, labs, and projects</td>
<td>ETEC 130 ETEC 230 INTE 271</td>
<td>Fall and Spring Semesters</td>
<td>ETEC Coordinator</td>
<td>ETEC Coordinator, ETEC Faculty and Advisory Committee</td>
</tr>
<tr>
<td>Demonstrate Basic understanding of microcontroller &amp; PLC program design &amp; troubleshooting</td>
<td>CSIS 123 CSIS 223 ETEC 130 ETEC 230 INTE 271</td>
<td>Locally developed assignments, exams, labs, and projects</td>
<td>ETEC 130 ETEC 230 INTE 271</td>
<td>Fall and Spring Semesters</td>
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