Manufacturing Engineering Technology A.A.S.
Career Community: Electrical and Manufacturing
Curriculum Code: 1359
Effective: Fall 2023 – Summer 2028
Revised 12/20/23

Description
This program prepares individuals to apply technical skills and advanced computer software to
the manufacturing of machined components relating to a broad range of industries. Students
receive instruction in manual machine tools, computer numerical control (CNC) machine
programming and operation, computer-aided manufacturing (CAM) design/programming,
manufacturing processes, metrology, metallurgy, geometric dimensioning and tolerancing,
three-dimensional engineering design graphics, and parametric modeling. Employment
possibilities include engineering firms and manufacturing companies in the automotive,
defense, special machinery, and medical components industries to name a few. Students
completing this pathway would also qualify for the CNC Machine Technology Certificate of
Achievement.

Milestone
In addition to the required General Education courses in Math and English, completion of METD
130 and METM 112 with a 2.0 or higher is a key component for success in completing this
program. Knowledge obtained in these courses is the foundation for learning in other required
courses. Students are encouraged to contact their faculty if they need additional assistance
with learning the concepts presented in these courses.

Additional Information
If students have already completed DCTM 102, ELTE 102, HVAC 102, METS 102, or WELD 102
with a grade of 2.0 or higher, that will satisfy the TECH 102 requirement.

Contact Information
For further information, including about career options, course substitutions and waivers, etc.,
contact the Trades Technology Program, West Campus Building, Room M103, telephone
number 517-483-5338 or Student Services West Campus, West Campus Building, Room M106,
telephone number 517-267-5452.

General Education - Applied Degrees, Recommended Courses
(For the full list of options, see General Education)
- English Composition or Applied English – Select one
  ENGL 124, Technical Writing, 3 credits / 3 billing hours

- English Composition (second course)/Communication or Applied Communication –
  Select one
  COMM 110, Communication in the Workplace, 3 credits / 3 billing hours
• Humanities and Fine Arts or Social Sciences or Applied Social Sciences – *Select one*
  MGMT 234, Diversity in the Workplace, 3 credits / 3 billing hours

• Mathematics or Applied Mathematics – *Select one*
  MATH 115, Technical Math II, 4 credits / 4 billing hours

• Natural Sciences Lab or Applied Science and Technology Lab – *Select one*
  METM 190, Metallurgy and Heat Treatment, 4 credits / 6 billing hours

### Program of Study Required Courses

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credit / Billing Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>METD 100</td>
<td>Basic Mechanical Drafting</td>
<td>3 / 4</td>
</tr>
<tr>
<td>METD 110</td>
<td>Mechanical CAD Drafting I</td>
<td>4 / 6</td>
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<tr>
<td>METD 130</td>
<td>Geometric Dimension/Tolerance</td>
<td>4 / 6</td>
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<td>METD 220</td>
<td>Basic Unigraphics/NX</td>
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<tr>
<td>METM 108</td>
<td>Machine Tool Operations</td>
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<tr>
<td>METM 112</td>
<td>Introduction to CNC Machining</td>
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<tr>
<td>METM 150</td>
<td>Advanced CNC Machining</td>
<td>4 / 6</td>
</tr>
<tr>
<td>METM 195</td>
<td>Quality/Metrology/Inspection</td>
<td>4 / 6</td>
</tr>
<tr>
<td>METM 220</td>
<td>Basic Mastercam</td>
<td>4 / 6</td>
</tr>
<tr>
<td>METM 221</td>
<td>Advanced Mastercam</td>
<td>4 / 6</td>
</tr>
<tr>
<td>METS 115</td>
<td>Intro to Mechanical Systems</td>
<td>4 / 6</td>
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<tr>
<td>TECH 102</td>
<td>General Industry Safety</td>
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### Minimum Total Credit Hours
62 credits / 86 billing hours

### Recommended Course Sequence

#### Semester I
- Gen Ed – Mathematics or Applied Mathematics
- METD 100
- METM 108
- TECH 102

#### Semester II
- METD 110
- METD 130 – Milestone course
- METM 112 – Milestone course
- METM 220
### Semester III
- Gen Ed – English Composition or Applied English
- Gen Ed – Natural Sciences Lab or Applied Science and Technology Lab
- METM 150
- METM 195
- METM 221

### Semester IV
- Gen Ed – English Composition (second course)/ Communication or Applied Communication
- Gen Ed – Humanities and Fine Arts or Social Sciences or Applied Social Sciences
- METD 220
- METS 115

*LCC makes every effort to limit revisions to the pathways during their effective timeframe. However, the College reserves the right to update certificate and degree title changes, and make course changes as needed, without prior notice.*