Machine Tool Technology (MTT.CNC.AAS)

Associate in Applied Science
Engineering/Manufacturing and Industrial Technology
Auburn Hills Campus

The Machine Tool Technology program is designed to emphasize the concepts of manually operated and computer-driven metal cutting machinery. Instruction will include cutting principles, programming techniques, computer controls, and computer numerical control (CNC) machine tool operations. In addition, the interfacing of automated equipment with computer aided design (CAD) and computer aided manufacturing (CAM) systems will be addressed.

Program Webpage - Click Here (https://www.oaklandcc.edu/programs/mtt/default.aspx)
Program Plan Example - Click Here (https://www.oaklandcc.edu/academics/docs/2019/mtt.cnc.aas.2019.pdf)

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>MTT 1100</td>
<td>Introduction to Machine Tools</td>
<td>3</td>
</tr>
<tr>
<td>MTT 1200</td>
<td>Machine Tool Setup &amp; Operation</td>
<td>3</td>
</tr>
<tr>
<td>MTT 1300</td>
<td>Advanced Machining Processes</td>
<td>3</td>
</tr>
<tr>
<td>MTT 1400</td>
<td>Manufacturing Processes</td>
<td>3</td>
</tr>
<tr>
<td>MTT 2100</td>
<td>Introduction to Computer Numerical Control (CNC)</td>
<td>3</td>
</tr>
<tr>
<td>MTT 2200</td>
<td>G&amp;M Code CNC Programming</td>
<td>3</td>
</tr>
<tr>
<td>MTT 2300</td>
<td>2D &amp; 3D Computer Aided Machining</td>
<td>4</td>
</tr>
<tr>
<td>MTT 2400</td>
<td>Jig &amp; Fixture Assemblies</td>
<td>3</td>
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Required Supportive Courses

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAD 1050</td>
<td>Geometric Dimensioning and Tolerancing (GD&amp;T)</td>
<td>4</td>
</tr>
<tr>
<td>CAD 1101</td>
<td>Introduction to CAD</td>
<td>4</td>
</tr>
<tr>
<td>CAD 1501</td>
<td>Special Topics in CAD: Fusion 360 Design</td>
<td>2</td>
</tr>
<tr>
<td>MAT 1560</td>
<td>Trigonometry</td>
<td>3</td>
</tr>
<tr>
<td>MSE 1000</td>
<td>Material Science Fundamentals-Metallurgy</td>
<td>3</td>
</tr>
<tr>
<td>ROB 1500</td>
<td>Introduction to Robotics Technology</td>
<td>4</td>
</tr>
<tr>
<td>TED 1030</td>
<td>Basic Blueprint Reading</td>
<td>3</td>
</tr>
<tr>
<td>WEL 1000</td>
<td>Introduction to Welding: Theory and Practice I</td>
<td>3</td>
</tr>
</tbody>
</table>

Complete one of the following ENG courses:

- ENG 1450²,³ Writing and Reading for Problem Solving | 3
- ENG 1510³ Composition I | 3

Total Credit Hours for Program-Related Courses: 54

General Education Requirements

<table>
<thead>
<tr>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Communication / English (3-credits) 0</td>
</tr>
</tbody>
</table>

Prospective transfer students should select MAT 1560.
Prospective transfer students should select ENG 1510.
Course may be used to meet General Education requirements.

A minimum cumulative 2.00 grade point average (GPA) overall is required for graduation.

May be satisfied with ENG-1450 or ENG-1510. This course will apply toward the Communication/English requirement or the Written Communication requirement, but not both. (http://catalog.oaklandcc.edu/graduation-requirements/general-education-distribution/#communication-english)

Fine Arts / Humanities (3-credits)

Complete 3 credits from Fine Arts/Humanities courses listed in the General Education Distribution List (http://catalog.oaklandcc.edu/graduation-requirements/general-education-distribution/#fine-arts-humanities)

Mathematics / Science (3-credits)

Satisfied

Social Science (3-credits)

Complete 3 credits from Social Science courses listed in the General Education Distribution List (http://catalog.oaklandcc.edu/graduation-requirements/general-education-distribution/#social-science)

Written Communication (3-credits)

May be satisfied with ENG-1450 or ENG-1510. This course will apply toward the Communication/English requirement or the Written Communication requirement, but not both. (http://catalog.oaklandcc.edu/graduation-requirements/general-education-distribution/#written-communication)

Additional elective credits needed to meet requirements for an Associate in Applied Science degree

Total Credit Hours: 63

1. Prospective transfer students should select MAT 1560.
2. Prospective transfer students should select ENG 1510.
3. Course may be used to meet General Education requirements.

A minimum cumulative 2.00 grade point average (GPA) overall is required for graduation.