Start Pre-Manufacturing
As early as grade 7
(based on readiness)

Apprentice Machinist
Median Salary: $24,160
Job Growth (10 yr): 7.4%
Annual Openings: 685
Average Tuition (1 yr): $0 – $3,900/yr

Machinist
Median Salary: $37,800
Job Growth (10 yr): 7.4%
Annual Openings: 685
Average Tuition (2 yrs): $3,900/yr

Industrial Production Manager
Median Salary: $84,340
Job Growth (10 yr): 7.7%
Annual Openings: 317
Average Tuition (4 yrs): $9,600/yr

Workplace Visits
Job Shadow
Internship
Work

Supervised Experience
--- Work

Supervised Experience Internship
--- Work

Internship
--- Work

Provided by middle schools, high schools, employers, Ohio Tech Centers, and colleges.

Preparing students for multiple options after high school:
gainful employment and/or postsecondary study.

Ohio In-demand Occupations

Data reflects 2014 Ohio labor statistics and public institutions of higher education for 2013-2014. For specific tuition costs, visit ohiohighered.org.
# Manufacturing Technologies Career Pathway

**Secondary Pathway:** Manufacturing Operations  
**Postsecondary Program:** Industrial Technology

### An Example of Courses with Secondary and Postsecondary Credits

<table>
<thead>
<tr>
<th>Secondary</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>7 8</strong></td>
<td>English I</td>
<td>Algebra I</td>
<td>Physical Science</td>
<td>Social Studies</td>
<td>Fine Arts</td>
<td>Pre-Engineering Technologies</td>
</tr>
<tr>
<td><strong>9 10</strong></td>
<td>English II</td>
<td>Geometry</td>
<td>Biology</td>
<td>World History</td>
<td>Health (.5) PE (.5)</td>
<td>Manufacturing Operations</td>
</tr>
<tr>
<td><strong>11</strong></td>
<td>English III</td>
<td>Algebra II</td>
<td>Chemistry</td>
<td>U.S. History</td>
<td>Machine Tools</td>
<td>Mechanisms and Drives</td>
</tr>
<tr>
<td><strong>12</strong></td>
<td>English IV</td>
<td>Trigonometry/Calculus</td>
<td>Physics</td>
<td>U.S. Government</td>
<td>Computer Integrated Manufacturing</td>
<td>Machining with Industrial Lathes (CNC)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Postsecondary</th>
<th>Year 1 1st Semester</th>
<th>English</th>
<th>Technical Math</th>
<th>PLC I</th>
<th>AC/DC Electrical</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Year 1 2nd Semester</strong></td>
<td>OSHA Safety &amp; Health</td>
<td>Industrial Maintenance</td>
<td>PLC II</td>
<td>Digital Electronics</td>
<td>Mechatronics</td>
<td></td>
</tr>
<tr>
<td><strong>Year 2 1st Semester</strong></td>
<td>Communication</td>
<td>Quality Processes</td>
<td>PLC III</td>
<td>Fluid Power</td>
<td>Leadership</td>
<td></td>
</tr>
<tr>
<td><strong>Year 2 2nd Semester</strong></td>
<td>Financial Management</td>
<td>Management</td>
<td>Applied Electricity</td>
<td>Automation (Robotics)</td>
<td>Physics</td>
<td></td>
</tr>
</tbody>
</table>

### High School Career-Technical Education Program Courses

**High School Courses for Postsecondary Credit (Including Apprenticeship Hours) and the Corresponding Postsecondary Courses**

<table>
<thead>
<tr>
<th>Required Courses</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Recommended Electives</strong></td>
<td></td>
</tr>
</tbody>
</table>

Visit education.ohio.gov/CareerConnections for reference information.  
Course titles and sequences will vary between schools.