Applied Manufacturing Technology includes the planning, management, and processing of materials into intermediate or final products as well as professional and technical support activities such as production planning and control, maintenance and manufacturing process engineering. Demand for skilled employees is growing rapidly in this field.

Manufacturing Technology Occupations in Highest Demand
- Chemical engineer
- Electrical engineer
- Electronics engineer
- Health, safety, environmental assurance
- Industrial engineer
- Labor relations manager
- Logistician
- Maintenance and repair workers

Potential Careers in Manufacturing Engineering Technology
- Product design
- 3-D CAD modeling
- Process planning
- Production scheduling

Graduates with a Bachelor of Science, Applied Manufacturing Technology (NIU), find careers at companies like
- AON
- Caterpillar
- Chrysler
- Conner-Winfield
- Hamilton Sundstrand (UTC Aerospace Systems)
- Ideal Industries
- Ingersoll
- Motorola
- Siemens
- Underwriters Labs
- Woodward

Did you know...

Analysts project 1,000,000 manufacturing vacancies by the year 2020.
Source: The 2014 Boeing Pilot & Technician Outlook

The average US Manufacturing worker earns more than $77,000…almost 25% more than other sectors.
Source: National Association of Manufacturers

The fastest-growing jobs in the Rockford area are in the manufacturing of transportation equipment, electrical equipment, appliances, and components.
Source: Regional P-20 Network Emerging Jobs Report

All required 300-400 courses in NIU’s Applied Manufacturing Technology program are offered online.

Manufacturing is responsible for 9% of the employment, 60% of exports and 69% of private funding for research and development.
Source: treasury.gov

Manufacturing productivity has grown 15% in the United States since 2009.
Source: treasury.gov

For every $1.00 spent in manufacturing, another $1.37 is added to the economy.
Source: mfgtalkradio.com

2015 median pay for an industrial engineer technician is $53,780

Integrated Work-Based Learning Components

<table>
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<th>Career Awareness Activities</th>
<th>Career Exploration Activities</th>
<th>Career Practice Activities</th>
<th>Professional Learning</th>
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<tr>
<td>Workplace Tours, Guest Speakers or Career Fairs</td>
<td>Job Shadowing, Site Visits, or Informational Interviews</td>
<td>Student Camps and Challenges, Student Enterprises or Service Learning</td>
<td>Internships and Industry Credentials</td>
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### Recommended Applied Manufacturing Technology Pathway

<table>
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<tr>
<th>Year 1</th>
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<th>Year 3</th>
<th>Year 4</th>
<th>Year 1</th>
<th>Year 2</th>
<th>Year 2</th>
<th>Year 2</th>
<th>Year 1</th>
<th>Year 2</th>
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<tbody>
<tr>
<td>Grade 9</td>
<td>Grade 10</td>
<td>Grade 11</td>
<td>Grade 12</td>
<td>Semester 1</td>
<td>Semester 2</td>
<td>Semester 3</td>
<td>Semester 4</td>
<td>Semester 5*</td>
<td>Semester 6*</td>
</tr>
<tr>
<td><strong>Tech</strong></td>
<td><strong>Orientation to Manufacturing</strong></td>
<td><strong>Fabrication I</strong></td>
<td><strong>Fabrication II</strong></td>
<td><strong>Fabrication II &amp; III</strong></td>
<td><strong>Continuous Improvement in Manufacturing</strong></td>
<td><strong>Prerequisite Information</strong></td>
<td><strong>Recommended Math/Science</strong></td>
<td><strong>Recommended English/Social Studies</strong></td>
<td><strong>Recommended Electives</strong></td>
</tr>
</tbody>
</table>
| Intro to Industrial Technology and Engineering | Plane Trigonometry (MTH–125) or College Algebra & Trigonometry (MTH–132) | Composition I (ENG–101) | Composition II (ENG–103) | Materials and Processes (MET–105) | Continuous Improvement in Manufacturing (MET–243) | Emphasis in Mechanical Design (MD) or Automated Production (AP) should be chosen by the end of Semester 4 | Algebra (MTH 095 6 credits), Plane Trigonometry (MTH–125) or College Algebra & Trigonometry (MTH–132) | Composition I (ENG–101), Composition II (ENG–103) or Introduction to Technical writing (ENG–110) | Technicale Electives
- TECH 305: Green Technologies
- TECH 435: Legal Aspects of Safety
- TECH 442: Work Simplification & Measurement
- TECH 444: Manufacturing Control Systems
- TECH 484: Energy Management |

**Prerequisite Information**
Emphasis in Mechanical Design (MD) or Automated Production (AP) should be chosen by the end of Semester 4

**Recommended Math/Science**
Math courses through Algebra II with Pre–Calc, Biology, Physical Science, Additional Physical Science

**Recommended English/Social Studies**
Recommended English (Social Studies) Composition I (ENG–101), Composition II (ENG–103) or Introduction to Technical writing (ENG–110)

**Recommended Electives**
Recommended Electives

**Professional Learning/Internships**
Professional Learning/Internships

**Industry Credentials Earned**
Industry Credentials Earned

**Degree Completion Information**
For more information about Rockford Public Schools — EMITT Academy Manufacturing Operations Pathway, contact Heidi Hoosy, Executive Director College and Career Readiness, 815-966-3123

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### Key
- Career-focused instructional sequence
- Academic Competencies
- Professional Learning