## Aerospace and Digital Manufacturing

**Career Goal:** Assembler, Design Engineer, Precision Metal Production, Machine Operator, Inspector, Industrial Engineer, Industrial Machinery Mechanic, Production Manager, CNC Operator

**Cluster Overview:** Planning, managing, and performing the processing of materials into intermediate or final products and related professional and technical support activities such as production planning and control, maintenance and manufacturing/ process engineering.

### Suggested Coursework

<table>
<thead>
<tr>
<th>High School</th>
<th>Core Courses:</th>
<th>Career-Related Electives:</th>
</tr>
</thead>
<tbody>
<tr>
<td>9th</td>
<td>English I</td>
<td>World Geography</td>
</tr>
<tr>
<td></td>
<td>Algebra I</td>
<td>Languages other than English I</td>
</tr>
<tr>
<td></td>
<td>Biology</td>
<td>PE or Equivalent</td>
</tr>
<tr>
<td></td>
<td>Principles of Manufacturing Communication Applications</td>
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<tr>
<td>10th</td>
<td>English II</td>
<td>World History</td>
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<tr>
<td></td>
<td>Geometry</td>
<td>Languages other than English II</td>
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<tr>
<td></td>
<td>Chemistry</td>
<td>Fine Arts (Art, Theatre, Tech, Theatre, Dance, Band, Choir)</td>
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<tr>
<td></td>
<td>Engineering Design and Presentation</td>
<td></td>
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<tr>
<td>11th</td>
<td>English III</td>
<td>United States History</td>
</tr>
<tr>
<td></td>
<td>Algebra II or Math Models</td>
<td></td>
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<tr>
<td></td>
<td>Physics</td>
<td></td>
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<tr>
<td></td>
<td>Manufacturing Engineering*</td>
<td></td>
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<tr>
<td>12th</td>
<td>English IV</td>
<td>Government/Economics</td>
</tr>
<tr>
<td></td>
<td>Pre Cal or Algebra II</td>
<td>State Approved Science Class</td>
</tr>
<tr>
<td></td>
<td>Career-Related Electives:</td>
<td>Practicum in Manufacturing Engineering*</td>
</tr>
</tbody>
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**Curricular Experiences:**
- SkillsUSA
- CareerSafe

**Extended Learning Experiences:**
- National Engineering Design Competition
- Odyssey of the Mind

### Core Courses:
- English I
- Algebra I
- Biology
- Principles of Manufacturing Communication Applications
- English II
- Geometry
- Chemistry
- Engineering Design and Presentation
- English III
- Algebra II or Math Models
- Physics
- Manufacturing Engineering*
- English IV
- Pre Cal or Algebra II
- State Approved Science Class
- Practicum in Manufacturing Engineering*

**Career Learning Experiences:**
- Career Preparation (Paid/Unpaid)
- Job Shadowing
- Internship
- Apprenticeship

**Professional Associations:**
- American Iron & Steel Institute
- American Machine Tool Distributors Association
- American Society for Nondestructive Testing
- American Society for Testing and Materials
- Composites Fabricators Association
- National Association of Manufacturers
- National Tooling & Machining Association
- Precision Metalforming Association
- Society of Plastics Engineers

**Career Options:**
- Assemblers
- Machine Operator
- Production Managers
- Industrial and Manufacturing Engineers
- Precision Layout Worker
- Welders
- Solderers and Braziers
- Calibration Technician
- Electromechanical Technician
- Production Managers
- Industrial and Manufacturing Engineers

**On-the-Job Training:**
- Machinist Assistant
- Shop Helper
- Drafting/CADD Assistant
- Production Associate
- Welder/Welding
- Precision Metal Workers
- Drafting
- Machine Operator
- OSHA CareerSafe
- Welder
- Industrial Production
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**Postsecondary:**
- Technology Management
- Design Technology
- Industrial Technology
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