

# Manufacturing Career Cluster

## Secondary Courses for High School Credit

Level 1	<ul style="list-style-type: none"> <li>‡ Principles of Manufacturing</li> <li>‡ Principles of Applied Engineering</li> <li>‡ Blueprint Reading for Manufacturing Applications</li> </ul>
Level 2	<ul style="list-style-type: none"> <li>‡ Diversified Manufacturing I</li> <li>‡ Occupational Safety and Environmental Technology I</li> <li>‡ Metal Fabrication and Machining I</li> </ul>
Level 3	<ul style="list-style-type: none"> <li>‡ Diversified Manufacturing II</li> <li>‡ Occupational Safety and Environmental Technology II</li> <li>‡ Computer Integrated Manufacturing (PLTW)</li> <li>‡ Precision Metal Manufacturing I</li> <li>‡ Metal Fabrication and Machining II</li> </ul>
Level 4	<ul style="list-style-type: none"> <li>‡ Precision Metal Manufacturing II</li> <li>‡ Precision Metal Manufacturing I + Precision Metal Manufacturing II Lab</li> <li>‡ Occupational Safety and Environmental Technology III</li> <li>‡ Practicum in Manufacturing</li> <li>‡ Practicum in Manufacturing Extended Practicum in Manufacturing</li> <li>‡ Career Preparation for Programs of Study</li> <li>‡ Career Preparation for Programs of Study Extended Career Preparation</li> </ul>

## Associate Degrees

- { Industrial Technology
- { Instrumentation Technology
- { Manufacturing Engineering Technology
- { Machine Shop Technology

- { Engineering/Industrial Management
- { Industrial Engineering
- { Mechanical Engineering Technology
- { Manufacturing Engineering

- { Mechanical Engineering
- { Engineering/Industrial Management
- { Industrial Engineering
- { Engineering



## Aligned Advanced Academic Courses

### Dual Credit

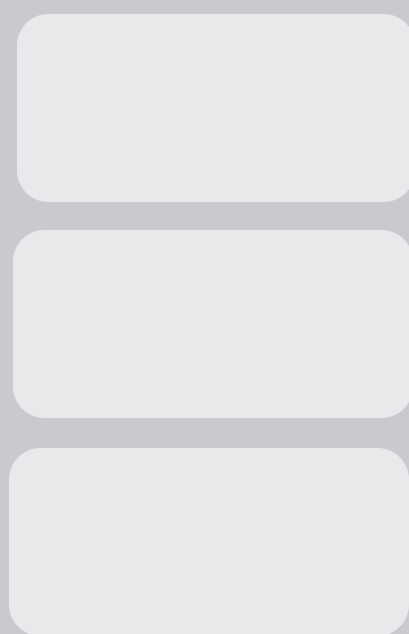
Dual credit offerings will vary by Local Education Agency.

## Work-Based Learning and Expanded Learning Opportunities

Work-Based Learning Activities	<ul style="list-style-type: none"> <li>‡ Shadow a metallurgist working at a refinery, steel mill, or aircraft manufacturing company</li> <li>‡ Intern at a manufacturing plant using CNC machines</li> </ul>
Expanded Learning Opportunities	<ul style="list-style-type: none"> <li>‡ Tour a manufacturing facility</li> <li>‡ Participate in SkillsUSA</li> </ul>

## Industry-Based Certifications

- ‡ AWS D1.1 Structural Steel
- ‡ AWS SENSE Level I: Entry Welder
- ‡ C-101 Certified Industry 4.0 Associate Basic Operations
- ‡ C-103 Certified Industry 4.0 Associate
- ‡ Machining Grinding Level I
- ‡ Machining Measurement, Material, and Safety Level I
- ‡ Machining Milling Level I
- ‡ Manufacturing Technology
- ‡ NCCER Core
- ‡ NCCER Welding Level I
- ‡ Precision Machining Job Ready
- ‡ Welding - Job Ready
- ‡ Certified Logistics Technician (CLT)
- ‡ Certified Technician Supply Chain Automation (CT SCA)





Course Prerequisites | Corequisites Career Clusters

Level 1

Principles of Manufacturing

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Manufacturing Technology

# Course Information

Course	Prerequisites   Corequisites	Career Clusters
Precision Metal Manufacturing II 13032600 (2 credits)	Prerequisites: Precision Metal Manufacturing I Z }uu v Corequisites: W CE ]}v D š o D v μ( š μ CE ]v P // > Z }uu v W CE CE ( μ ] • ] š • W E }v Z }uu v ) CE ( μ ] • ] š • W E }v	Manufacturing
Precision Metal Manufacturing II + Precision Metal Manufacturing II Lab 13032610 (3 credits)	Prerequisites: Precision Metal Manufacturing I Corequisites: W CE ]}v D š o D v ž ( ) š μ CE ]v P // W CE CE ( μ ] • ] š • W E }v Z }uu v ) CE ( μ ] • ] š • W E }v	Manufacturing