

# Manufacturing Career Cluster

The Manufacturing Career Cluster focuses on 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.

## Advanced Manufacturing and Machinery Mechanics Statewide Program of Study



The Advanced Manufacturing and Machinery Mechanics program of study focuses on the assembly, operation, maintenance, and repair of electromechanical equipment or devices. CTE learners may work in a variety of mechanical fields, gaining knowledge and experience in robotics, refinery and pipeline systems, deep ocean exploration, or hazardous waste removal. CTE concentrators may work in a variety of fields of engineering.

### Keene High School Advanced Manufacturing and Machinery Mechanics Courses

#### Level 2

- Robotics 1

#### Level 3

- Robotics 2



### Postsecondary Opportunities

#### Associates Degrees

- Electromechanical Engineering/Technology
- Certified Quality Technician
- Industrial Mechanics and Maintenance Technology

#### Bachelor's Degrees

- Electrical Engineering
- Industrial Engineering
- Mechanical Engineering

#### Master's, Doctoral, and Professional Degrees

- Electrical Engineering
- Industrial Engineering
- Mechanical Engineering

### Work-Based Learning and Expanded Learning Opportunities

Exploration Activities	Work-Based Learning Activities
<ul style="list-style-type: none"> <li>• Participate in SkillsUSA and local STEM events</li> </ul>	<ul style="list-style-type: none"> <li>• Work at a local business or industry apprenticeship</li> <li>• Join the American Welding Society</li> </ul>

### Industry-Based Certifications

- C-101 Certified Industry 4.0 Associate - Basic Operations
- C-103 Certified Industry 4.0 Associate - Robot System Operations
- C-200 Certified Industry 4.0 Automation System Specialist I - 216 Robotic System Integration 1
- C-200 Certified Industry 4.0 Automation Systems Specialist I - 208 Programmable Controller Troubleshooting 1
- C-200 Certified Industry 4.0 Automation Systems Specialist I - 215 Robotic Operations 1
- Certified SOLIDWORKS Professional (CSWP) - Additive Manufacturing
- Certified Manufacturing Associate
- Certified SOLIDWORKS Professional (CSWP) -CAM
- CNC Lathe Operations
- CNC Lathe Set Up and Operations
- FANUC Robot Operator 1
- FESTO Certified Industry 4.0 Associate Fundamentals
- Industrial Technology Maintenance (ITM) - Process Control Systems
- Machining CNC Mill Operations Level I
- Machining CNC Mill Programming Setup and Operations Level I
- Machining CNC Milling Skills Level II

### Aligned Occupations

Occupations	Median Wage	Annual Openings	% Growth
Electro-Mechanical Assemblers	\$30,160	951	9%
Electro-Mechanical Technicians	\$56,555	127	9%
Industrial Machinery Mechanics	\$49,816	3,788	27%

