

Engineering Career Cluster

The Engineering career cluster focuses on planning, designing, testing, building, and maintaining of machines, structures, materials, systems, and processes using empirical evidence and science, technology, and math principles. This career cluster includes occupations ranging from mechanical engineer and drafter to electrical engineer and to mapping technician.

Engineering Foundations Statewide Program of Study



The Engineering Foundations program of study focuses on occupational and educational opportunities associated with a wide range of skills applied in the Engineering industry. Students will design, test, and evaluate projects related to engines, machines, and structures. This program of study includes applying scientific, mathematical, and empirical evidence to solve problems through innovation, design, construction, operation, and maintenance of different engineering systems.

Keene High School Advanced Manufacturing and Machinery Mechanics Courses

Level 2

- Robotics 1

Level 3

- Robotics 2

Level 4

- Engineering Design & Problem Solving



Postsecondary Opportunities

Associates Degrees

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

Bachelor's Degrees

- Electrical Engineering
- Industrial Engineering
- Aerospace or 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"> • Participate in SkillsUSA and local STEM events 	<ul style="list-style-type: none"> • Work at a local business or industry apprenticeship • Join the American Welding Society

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
Aerospace Engineers	\$115,694	483	18%
Mechanical Engineers	\$99,937	1,755	19%
Industrial Machinery Mechanics	\$49,816	3,788	27%

