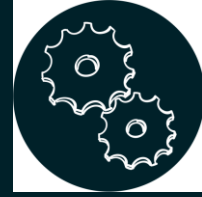


Manufacturing & Product Development Industry Sector



The Manufacturing & Product Development industry sector is an important part of California's economy, producing a wide range of products, including computers, communications equipment, electronic components, high-tech instruments, apparel, metal products, chemicals, plastics, aircraft, ships, missiles and space products, and search and navigation equipment. Both large and small manufacturers are important participants in the electronics, multimedia, and other emergent regional industrial clusters.

This sector provides a foundation in manufacturing processes and systems for all industrial and technology education students in California. These students are engaged in an instructional program that integrates technical preparation and academics with career awareness, career exploration, and skill preparation in four pathways: Introductory Core, Graphic Production Technologies, Machining and Forming Technologies, Welding and Materials Joining, Product Innovation and Design and Emerging Technologies in Manufacturing and Product Development. Manufacturing and Product Development pathways emphasize real-world, occupationally relevant experiences of significant scope and depth in manufacturing and graphic communication.

Red Bluff High School currently offers one Pathway in this Industry Sector.

Manufacturing & Product Development Industry Sector Pathway:

- Machining & Forming Technologies



Machining & Forming Technologies

Sequence of courses in the Machining & Forming Technologies pathway:

CTE courses	Related Courses
Introductory <ul style="list-style-type: none"> Introduction to Manufacturing 	<ul style="list-style-type: none"> Applied Physics Welding Robotics Computer-aided Drafting/Design Algebra
Concentration <ul style="list-style-type: none"> Machine Forming & Technologies 	
Capstone <ul style="list-style-type: none"> Advanced Specialized Machining & Forming CNC Machining & Manufacturing Proficiency 	

Sample of pathway occupations: This sample of pathway occupations is organized by level of education and training required for workforce entry. Asterisked (*) occupations require certification or licensure.

Machining & Forming Technologies Pathway Occupations	
High school (diploma)	<ul style="list-style-type: none"> Machine Operator Maintenance Mechanic Assembler Installation Apprentice Electro-Mechanical Helper
Postsecondary training (certification and/or AA degree)	<ul style="list-style-type: none"> CNC Programmer Machine Technician Tooling Journeyman Industrial Electrician* Manager
College or university (bachelor's degree or higher)	<ul style="list-style-type: none"> Manufacturing Engineer* Mechanical Engineer* Design Engineer Tooling Engineer Industrial Technology Educator**

Topics and contexts

1. Engine lathe setup and operations
2. Lathe tool design, grinding
3. Qualities of materials
4. Thread-chasing techniques and tools
5. Measuring with a steel rule to within 1/32 inch