

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.

Secondary Courses for High School Credit

Level 1

- Principles of Applied Engineering

Level 2

- Engineering Design & Presentation I

Level 3

- Robotics I

Level 4

- Robotics II

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

- Participate in BEST Robotic Competitions

Work-Based Learning Activities

- Work at a local business or industry apprenticeship

Industry-Based Certifications

- C-101 Certified Industry 4.0 Associate - Basic Operations

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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%

Successful completion of the Advanced Manufacturing and Machinery Mechanics program of study will fulfill requirements of the Business and Industry or STEM endorsement if the math and science requirements are met.
Revised – August 2022

Advanced Manufacturing and Machinery Mechanics

Course Information

Level 1

COURSE NAME	SERVICE ID	PREREQUISITES	COREQUISITES
Principles of Applied Engineering	13036200 (1 credit)	None	None

Level 2

COURSE NAME	SERVICE ID	PREREQUISITES	COREQUISITES
Engineering Design & Presentation I	13036500 (1 credit)	Algebra I	None

Level 3

COURSE NAME	SERVICE ID	PREREQUISITES	COREQUISITES
Robotics I	13037000 (1 credit)	None	None

Level 4

COURSE NAME	SERVICE ID	PREREQUISITES	COREQUISITES
Robotics II	13037050 (1 credit)	Robotics I	None

FOR ADDITIONAL INFORMATION ON THE MANUFACTURING CAREER CLUSTER,
PLEASE CONTACT: CTE@tea.texas.gov
<https://tea.texas.gov/cte>

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