

# 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.

## Robotics



This program of study is ideal for students who wish to explore how industries use robots and automated systems. Basic programming skills will be used to complete projects, and students will gain an understanding of programmable circuits. Mastering how systems use electronic building blocks as inputs and outputs will be studied as well as maintenance and testing of robots. The current job market for robotics continues to increase, making this program an in-demand career field where students can get a leg up and stand out from the competition.

### Secondary Courses for High School Credit

#### Level 1

- Principles of Applied Engineering

#### Level 2

- Robotics I

#### Level 3

- Robotics II

#### Level 4

- Practicum in Manufacturing - Robotics



### 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

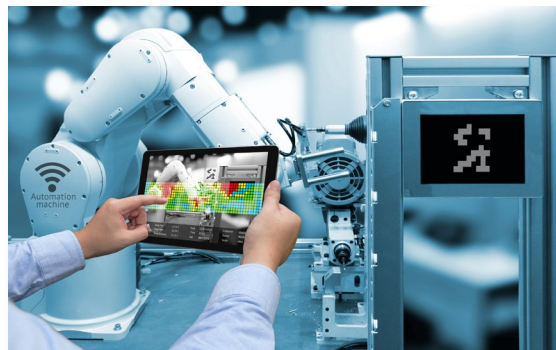
- Electrical Engineering
- Industrial Engineering
- Mechanical Engineering

### 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></ul>

### Industry-Based Certifications

- To be determined



### Aligned Occupations

Occupations	Median Wage	Annual Openings	% Growth
Robotics Engineers	\$109,000	820	15%
Robotics Technicians	\$70,000	150	12%
Industrial Machinery Mechanics	\$59,800	5,300	35%

Successful completion of the Robotics program of study will fulfill requirements of the Business and Industry. Revised – January 2023

# Robotics

## Course Information

### Level 1

COURSE NAME	SERVICE ID	PREREQUISITES	GRADE LEVEL(S)
Principles of Applied Engineering	13036200 (1 credit)	None	9

### Level 2

COURSE NAME	SERVICE ID	PREREQUISITES	GRADE LEVEL(S)
Robotics I	13037000 (1 credit)	Principles of Applied Engineering	10

### Level 3

COURSE NAME	SERVICE ID	PREREQUISITES	GRADE LEVEL(S)
Robotics II	13037050 (1 credit)	Robotics I	11

### Level 4

COURSE NAME	SERVICE ID	PREREQUISITES	GRADE LEVEL(S)
Practicum in Manufacturing - Robotics	13033000 (2 credits)	Robotics II	12

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

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