

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.

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Secondary Courses for High School Credit

Level 1

- Principles of Applied Engineering [1 Credit]

Level 2

- Robotics I [1 Credit]
- Manufacturing Engineering Technology I [1 Credit]

Level 3

- Engineering Design and Presentation I [1 Credit]
(Advanced Course)

Level 4

- Career Preparation I [3 Credits] (Advanced Course)

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

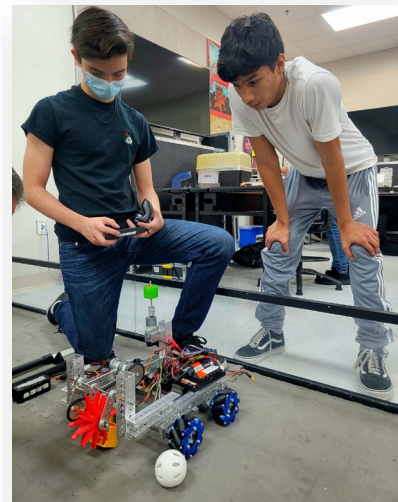
- Participate in SkillsUSA and local STEM events

Work-Based Learning Activities

- Work at a local business or industry apprenticeship
- Join the American Welding Society

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Industry-Based Certifications



- OSHA 30 Hour General*

*IBC sunseting 8/31/24

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
Robotics I	13037000 (1 credit)	None	None
Manufacturing Engineering Technology I	13032900 (1 credit)	None	None

Level 3

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

Level 4

COURSE NAME	SERVICE ID	PREREQUISITES	COREQUISITES
Career Preparation I	12701305 (3 credits)	None	None

FOR ADDITIONAL INFORMATION ON THE MANUFACTURING CAREER CLUSTER,
PLEASE CONTACT:

Your Junior High or High School Counselor

Sharyland ISD does not discriminate on the basis of race, color, national origin, sex, disability or age in its programs or activities and provides equal access to the Boy Scouts and other designated youth groups. For inquiries regarding the nondiscrimination policies, contact our Title IX Coordinator at 1200 N. Shary Road, Mission, TX 78572, or by email at deborahgarza@sharylandisd.org and our Section 504 Coordinator at 1200 N. Shary Road, Mission, TX 78572, by email at azucenagarza@sharylandisd.org or by calling (956) 580-5200.