



Level 1	Principles of Manufacturing Principles of Applied Engineering
Level 2	Engineering Design and Presentation I Occupational Safety and Environmental Technology I Robotics I Manufacturing Engineering Technology I Programmable Logic Controller I
Level 3	Manufacturing Engineering Technology II Robotics II Occupational Safety and Environmental Technology II Programmable Logic Controller II (TBD)
Level 4	Practicum in Manufacturing Practicum in Entrepreneurship (TBD) Career Preparation I

HIGH SCHOOL/INDUSTRY CERTIFICATION	CERTIFICATE/LICENSE*	ASSOCIATE'S DEGREE	BACHELOR'S DEGREE	MASTER'S/DOCTORAL PROFESSIONAL DEGREE
FANUC Robot Operator 1	Engineer, Professional	Electro-mechanical Engineering/Technology	Electrical Engineering	Electrical Engineering
Mastercam Associate Level Certification	Certified Quality Technician	Certified Quality Technician	Industrial Engineering	Industrial Engineering
NCCER Industrial Maintenance Mechanic	Plant Maintenance Technologist	Industrial Mechanics and Maintenance Technology	Mechanical Engineering	Mechanical Engineering
NIMS Industrial Technology Maintenance - Maintenance Operations				

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%

WORK BASED LEARNING AND EXPANDED LEARNING OPPORTUNITIES	
Exploration Activities:	Work Based Learning Activities:
Participate in SkillsUSA and local STEM events	Apprenticeship at a local business or industry American Welding Society

Additional industry-based certification information is available on the TEA CTE website. For more information on postsecondary options for this program of study, visit TXCTE.org.

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.



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.

Successful completion of the Advanced Manufacturing and Machinery program of study will fulfill requirements of the Business and Industry or STEM endorsement if the math and science requirements are met. Revised - July 2020



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