



PRECISION MACHINING TECHNOLOGY

2023-2024

TSTC offers an Associate of Applied Science degree in Precision Machining Technology and can be completed in four semesters. For those who want to enter the workforce more quickly or add to their existing knowledge, TSTC also offers certification in machining.

This intense, hands-on training consists of a series of machine tool operation courses to develop and challenge your skills using various conventional and Computer Numerical Controlled machines.

PRECISION MACHINING TECHNOLOGY CAREER PATHWAYS



La Vega High School
Graduation Endorsement:
 Business & Industry



Work-Based Learning and Expanded Learning Opportunity

Exploration Activities	Work-Based Learning Activities
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| <ul style="list-style-type: none"> Participate and compete in SkillsUSA Job shadow a machinist | <ul style="list-style-type: none"> Work in a local business or industry apprenticeship Join the American Welding Society |
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Postsecondary Opportunities

Associates Degrees

- Welding Technology/Welder
- Machine Shop Technology/Assistant
- Operations Management and Supervision
- Occupational Safety and Health Technology/Technician

Industry-Based Certifications

- C-101 Certified Industry 4.0 Associate –Basic Operations
- C-103 Certified Industry 4.0 Associate -Robot System Operations
- Certified Manufacturing Associate
- Certified Production Technician (CPT) 4.0
- CNC Lathe Operations
- CNC Lathe Set Up and Operations
- Machining CNC Mill Operations Level I
- Machining CNC Mill Programming Setup and Operations Level I
- Machining CNC Milling Skills Level II
- Machining CNC Turning Level II
- Machining Drill Press Level I
- Machining Grinding Level I
- Machining Measurement, Material, and Safety Level I
- Machining Milling Level I
- Manufacturing Technology
- NCCER Core
- Precision Machining -Job Ready
- Welding -Job Ready



- Mastercam Associate Certification Mill Design and Toolpaths*
- Mastercam Certified Professional Mill Level 1*
- Mastercam Professional Level Certification*
- OSHA 30 Hour General*

*IBC sunsetting 8/31/24

MANUFACTURING TECHNOLOGY

Statewide Program of Study

The Manufacturing Technology program of study focuses on the development and use of automatic and computer controlled machines, tools, and robots that perform work on metal or plastic. CTE learners will learn how to set up and operate a variety of machine tools to produce precision parts and instruments. Students will also learn how to modify parts to make or repair machine tools or maintain individual machines, and how to use hand-welding or flame-cutting equipment.



CAREER OPPORTUNITIES

Precision machinists are skilled artisans who create parts to fit a need. In precision machining, a tool or piece of hardware is made from a material to create a needed part. Machinists help create these parts used in everything from automobile production to surgical devices and aircraft parts. It's a job that has an application in every industry.

Texas is already the second-largest employer of machinists in the nation. Between now and 2028, there will be a 10% increase in the number of machinist jobs in Texas. Graduates can find careers in commercial and military aircraft, medical and telecommunications equipment, automotive tool manufacturing, and, of course, oil tool manufacturing.

PRECISION MACHINING TECHNOLOGY CERTIFICATE 2

TSTC COURSE	Crosswalk Suggestion (CTE/ TEKS Title)	PEIMS Suggestion	CTE Level	TSTC Credit
MCHN 1300 Beginning Machine Shop	Principles of Manufacturing (A)	13032200	1	3
MCHN 1320 Precision Tools and Measurements	Principles of Manufacturing (B)	13032200	1	3
MCHN 1302 Print Reading For Machining Trades	Blueprint Reading for Manufacturing Applications	N1303684	1	3
MCHN 1343 Machine Shop Mathematics	Applied for Technical Professionals	12701410	1	3
MCHN 1371 Engineering Computer Graphics I	Metal Fabrication and Machining 1 (A)	13032700	2	3
MCHN 1438 Basic Machine Shop I	Precision Metal Manufacturing 1 (A)	13033005	2	4
MCHN 2303 Fundamentals of CNC Machine Controls	Practicum in Manufacturing	13032500	3	3
MCHN 2344 Computerized Numerical Control Programming	Precision Metal Manufacturing 1 (B)	13032500	3	3
MCHN 1326 Intro to Computer Aided Manufacturing	Precision Metal Manufacturing 2 (A)	13032600	3	3
MCHN 1454 Intermediate Machining 2	Precision Metal Manufacturing 2 (B)	13032600	3	4
MCHN 2335 Advanced CNC Machining	Practicum in Manufacturing (A)	13033000	4	3
MCHN 2471 Specialized Equipment and Processes	Practicum in Manufacturing (B)	13033000	4	4



It is the policy of La Vega ISD not to discriminate on the basis of race, color, national origin, sex or handicap in its vocational programs, services or activities as required by Title VI of the Civil Rights Act of 1964, as amended; Title IX of the Education Amendments of 1972; and Section 504 of the Rehabilitation Act of 1973, as amended.