

Manufacturing

Build something big

The Robotics & Automation Technology and Manufacturing Technology programs of study prepare students for careers in advanced manufacturing and mechanical systems. Students gain hands-on experience with robotics, automated machinery, and precision tools used in industries such as deep ocean exploration, hazardous waste removal, and industrial production—learning to operate, maintain, and repair complex mechanical and electromechanical equipment.

This pathway prepares students for careers in advanced manufacturing and robotics by teaching them how to operate, maintain, and repair automated machines, tools, and robotic systems used in various industrial and technical fields.



PROGRAMS OF STUDY

Manufacturing Technology

Robotics & Automation Technology

INTRODUCTION COURSE

Principles of Manufacturing
Principles of Applied Engineering

Principles of Manufacturing
Principles of Applied Engineering

CONCENTRATION COURSE

Diversified Manufacturing I

Robotics I
Programmable Logic Controller I

CONCENTRATION COURSE

Precision Metal Manufacturing I
Diversified Manufacturing II

Engineering Design & Presentation I

ADVANCED COURSE

Precision Metal Manufacturing II/Lab
Practicum in Manufacturing

Practicum in Manufacturing

Industry-Based Certifications

- **C-101 Certified Industry 4.0 Associate - Basic Operations**
- **FESTO Certified Industry 4.0 Associate Fundamentals**
- **843 Machining Mill Operations Level 1 NIMS**
- **845 CNC Lathe Operations**
- **850 Machining Measurement, Material, and Safety Level 1 NIMS**



Work-based Learning

- Intern with a robotics technician working at a manufacturing plant
- Shadow a PLC programmer
- Work at a local business or take an industry apprenticeship
- Join the American Welding Society

Exploration Activities

- Tour a manufacturing facility
- Participate in SkillsUSA or TSA
- Build a robot and participate in a robotics competition
- Join SkillsUSA
- Participate in local STEM events
- Job shadow a machinist