

# Advanced Manufacturing Careers



## About

### Career Description

This field focuses on planning, managing and performing the processing of materials into products through professional and technical activities such as production planning and control, maintenance and manufacturing, and process engineering.

### Industry Description

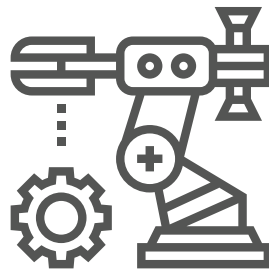
Advanced manufacturing is a critical sector of Tennessee's economy. The industry uses technology in combination with new processes, tools and equipment to produce products more efficiently.

### Skills

Anyone preparing for an advanced manufacturing career should have a strong background in problem solving, STEM and communication skills.



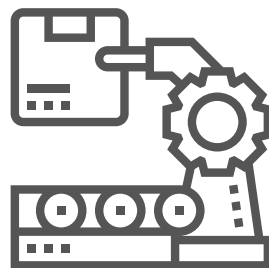
## HIGH SCHOOL CAREER & TECHNICAL EDUCATION



**CTE Pathway:** Mechatronics

**Schools:** Oakland High School

**Description:** Mechatronics is designed for students interested in becoming a mechatronics technician, electrical technician, mechanical engineering technician, robotics technician or mechatronics engineer. Course content focuses on the components of manufacturing systems, collection and analysis of quality data, electronics, mechanics, fluid power systems, computers and control systems, and technical documentation and troubleshooting.



**CTE Pathway:** Machining Technology

**Schools:** Rockvale High School

**Description:** This program is designed for students interested in becoming a computer-controlled machine tool operator, a CNC machining tool programmer or a machinist. This program covers safety practices concerning proper measurement and layout techniques, reading and interpreting specification drawings, production design processes, quality control procedures, machine parts to specifications using both manual and computer-controlled machine tools, and measuring, examining, and testing completed products to check for defects and conformance to specifications.

## RELATED HIGH SCHOOL EXPERIENCES



Career Exploration  
Work-Based Learning

Job Shadowing  
Industry Certification

# Higher Education Opportunities

## CONTINUING YOUR EDUCATION AFTER HIGH SCHOOL



### Training Certifications



**Example Institution:** TCAT

**Estimated Tuition:** \$8,000

**Jobs:** Machine Tool Setter, General Machinist, Assembler, Welder, Industrial Maintenance

**Estimated Salary Range:** \$22,000 - \$40,000



### Associate's Degree



**Example Institution:** Motlow State Community College

**Estimated Tuition:** \$10,000

**Jobs:** Industrial Maintenance Technician, Engineering Technician, Manufacturing Technology Technician, Product Design Technician

**Estimated Salary Range:** \$39,000 - \$65,000



### Bachelor's Degree



**Example Institution:** Middle Tennessee State University

**Estimated Tuition:** \$40,000

**Jobs:** Mechanical Engineer, Industrial Engineer, Electrical Engineer, Energy Applications Manager, Project Manager, Mechatronics Engineer

**Estimated Salary Range:** \$50,000 - \$105,000

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For more information on CTE pathways, and post-secondary options including Tennessee Pathways and Tennessee Promise please contact your school counselor. For information about your aptitude and career options examine your YouScience results with a counselor and parent/guardian.