

MACHINING TECHNOLOGY

PATHWAY COURSE SEQUENCE:







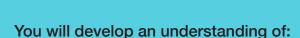












Level 1: Principles of Manufacturing

- General steps involved in the manufacturing process
- Essential skills needed to be an effective manufacturing team member

Exposes you to various occupations and pathways in Advanced Manufacturing.

Basic quality principles and processes, blueprints and schematics, and systems

Level 2: Principles of Machining I

Provides you with the skills and knowledge to be effective in production environments as a machinist, computer numerical control (CNC) operator, or supervisor.

You will learn:

- Safety practices concerning machining technology, proper measurement and layout techniques
- How to read and interpret drawings and blueprints
- Production design processes and quality control procedures

Level 3: Principles of Machining II

Advanced level course with emphasis on quality control, safety and engineering codes and standards, and production-grade machining systems.

You will work individually and in teams to:

- Examine blueprints and specification drawings to plan and apply the manufacture of products, machine parts to designs using both manual and computer-controlled machine tools
- Measure, examine and test products for defects and conformance to plans
- Design, produce and maintain products defined by detailed technical descriptions













MACHINING TECHNOLOGY PATHWAY COURSE SEQUENCE (continued)



Level 4: Manufacturing Practicum

A Capstone course providing you with the chance to apply your skills and knowledge of manufacturing within a professional working environment.

You will:

- Work in teams to plan the production of an advanced product
- Develop troubleshooting and problem solving mechanisms
- Analyze productions and write professional reports
- Connect your experiences with future careers and post-high school opportunities



Pathway Elective: Work Based Learning (WBL) Career Practicum:

Helps you connect your classroom knowledge to high-demand, high-skill careers in Tennessee. You will develop employability skills preparing you for post-high school education and future careers. As a junior or senior (16 years or older), you may earn high school credit for Capstone WBL through internships, apprenticeships, and paid work experiences.

*Course sequence is identified by Tennessee Department of Education. Each school district determines courses offered in each pathway.











*Median wage ranges based on Tennessee Department of Labor & Workforce Development Labor Market Information- June 2014. Job standards, descriptions, and wages vary by company.

**TCAT - Tennessee College of Applied Technology

CERTIFICATE TCAT**

\$21,000 - 37,000*

- Converting Machine Operator
- · Manual Machinist
- Machine Operator

TCAT Athens TCAT Chattanooga

ASSOCIATE COMM. COLLEGE

\$31,000 - 61,000*

- CNC Machinist Machinery
- Industrial Machinery Mechanic

Chattanooga State Cleveland State

BACHELOR'S UNIVERSITY

\$56,000 - 85,000*

- Manufacturing Engineer
- Project Engineer

UTC - University of Tennessee at Chattanooga