Machining Technology

# Advanced Manufacturing

*Level Four*

*Level Three*

*Level Two*

*Level One*

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| --- |
| **Industry Certifications options include:**  Machining Level I - Measurement, Materials, and Safety Certification (NIMS)  Snap-On Precision Measurement  Certified Production Technician (CPT) |

**ABOUT THE PROGRAM OF STUDY**

The *Machining Technology* program of study is designed for students interested in becoming a computer-controlled machine tool operator, a CNC machining tool programmer, or a machinist. This program focuses on safety practices concerning: machining technology; proper measurement and layout techniques; reading and interpreting specification drawings and blueprints; 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. Upon completion of this program, proficient students will be prepared to pursue industry certification at a technology college or more advanced coursework at a two-year or four-year postsecondary institution.

This is not an exhaustive list of all of the opportunities available in Tennessee.

**CAREER OPPORTUNITIES**

*Machining Technology* is the investigation of utilizing distinctive complex machining applications and procedures to help in more astute, more effective item plan and improvement. Engineers will set up and work a mixture of CNC controlled and mechanically-controlled machine apparatuses to deliver accurate metal parts, instruments, and devices. CNC machines control the cutting apparatus speed that intricately cut each section. The mechanic decides the cutting path, the velocity of the cut, and the feed rate by programming directions into the CNC machine. Mechanical engineers must have the capacity to utilize both manual and computer controlled apparatus in their occupations.

**Employment Projections for *Machining Technology* careers in Tennessee**





**POSTSECONDARY OPTIONS**

|  |  |
| --- | --- |
| **School** | **Degree Program** |
| Motlow State Community College | Mechanical Engineering Technician |
| Middle Tennessee State University | Mechanical Engineer |

For more college and career planning resources, visit <http://collegefortn.org>.

****Have you registered for the Tennessee Promise? Seniors enrolled in this program have the chance to attend a two-year program at a Tennessee College of Applied Technology (TCAT), community college, or some two-year university programs for free! To learn more, please see your school counselor or visit <http://www.tennesseepromise.gov> .

***Machining Technology* Related Occupations with the most Annual Average Openings in Tennessee (2014-2024)**

|  |  |  |  |
| --- | --- | --- | --- |
| Occupation | 2014 Estimated Employment | 2024 Projected Employment | Total Percent Change |
| Machinists | 8,470 | 9,960 | 17.70% |
| Computer Numerically Controlled Machine Tool Programmers, Metal and Plastic | 500 | 660 | 31.70% |
| Computer-Controlled Machine Tool Operators, Metal and Plastic | 2,810 | 3,720 | 32.40% |

Tennessee Department of Labor and Workforce Development, Job4TN Online. (2017). *Occupational Projections (Long-term)*. Retrieved from <https://www.jobs4tn.gov/vosnet/analyzer/results.aspx?session=occproj>

Students in this program of study will be eligible to join SkillsUSA. In addition to school events, students will be able to compete at the regional, state, and national level. SkillsUSA improves the quality of America’s skilled workforce through a structured program of citizenship, leadership, employability, technical and professional skills training. SkillsUSA enhances the lives and careers of students, instructors and industry representatives as they strive to be champions at work. See your manufacturing teacher to learn more about SkillsUSA or visit <http://www.skillsusa.org>

**For more information, contact:**

**High School Name**

**County Name**

**CTE Director: Name**

**Email**

**Instructor: Name**

**Email**