



# MACHINE TOOL TECHNOLOGY

COLLEGE. CREDENTIAL. CAREER.

## Machine Tool Technology is a Hot Job in Michigan

CNC machinists design and make parts that build the world around us. They get to control robots, work in manufacturing environments with powerful tools, and produce specialized equipment. Machinists use their knowledge of the working properties of metals and tooling skills to make machined products that meet precise specifications.

To succeed in this industry, problem-solving and critical-thinking skills and the ability to work independently and communicate strongly are a must. Machinists make all sorts of parts, from bolts to automobile pistons. Career opportunities in this field include CNC operator, CNC programmer, machine builder, machinist, and tool and die maker.

## Cool Classes You Can Take

A good CNC machinist is familiar with their machine and understands the intricate details at work. They should have solid math skills and mechanical aptitude, understand CAD drawings, and know how to read blueprints. Some cool classes that could help you succeed in this field include:

### CNC Operations

Work in the lab to understand the concept of computer numerical control operations in the manufacturing environment. You will get to examine setup, operation, and programming of the CNC mill and lathe machines.

### Statistical Process Control (SPC) in Manufacturing

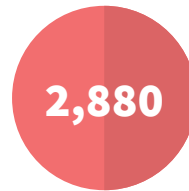
Learn the ins and outs of using SPC in manufacturing to achieve the best product quality at the lowest cost. You will develop and interpret statistical charts related to process improvement and learn about specific formulas needed to do the job.

### Jigs and Fixtures Design Fundamentals

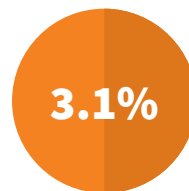
Hands-on learning allows you to practice creating your own set of jigs and fixtures that hold, locate, guide, and support workpieces during manufacturing. You will be trained on how to drill, mill, and turn custom-designed parts that do specific jobs.

## Financial Help

There are many federal grants, work-study funds, and low-interest loans available to help students cover the costs of tuition and fees, room and board, books and supplies, transportation, and other college-related expenses. The first step in securing necessary financial aid is to complete the Free Application for Federal Student Aid ([FAFSA](#)).



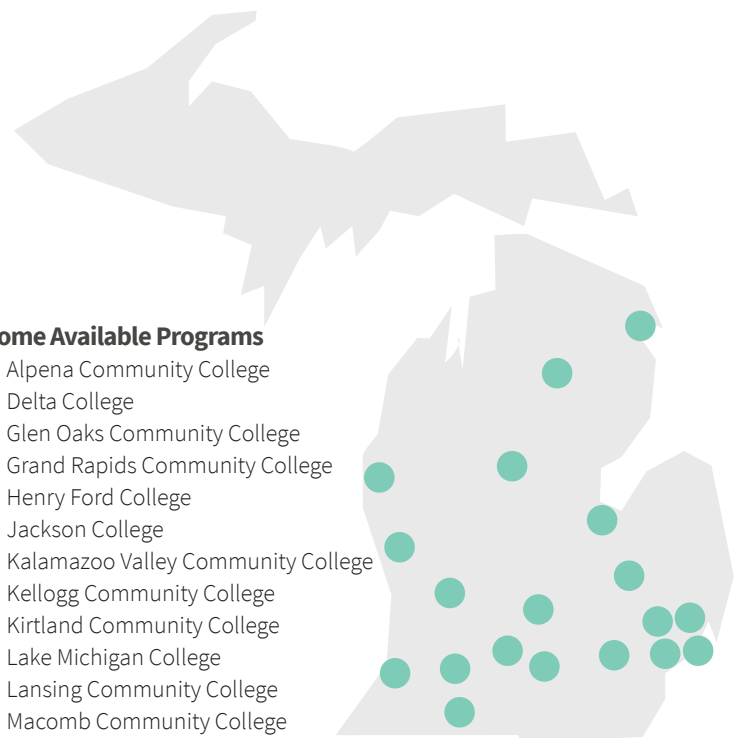
Projected job openings annually



Estimated job growth



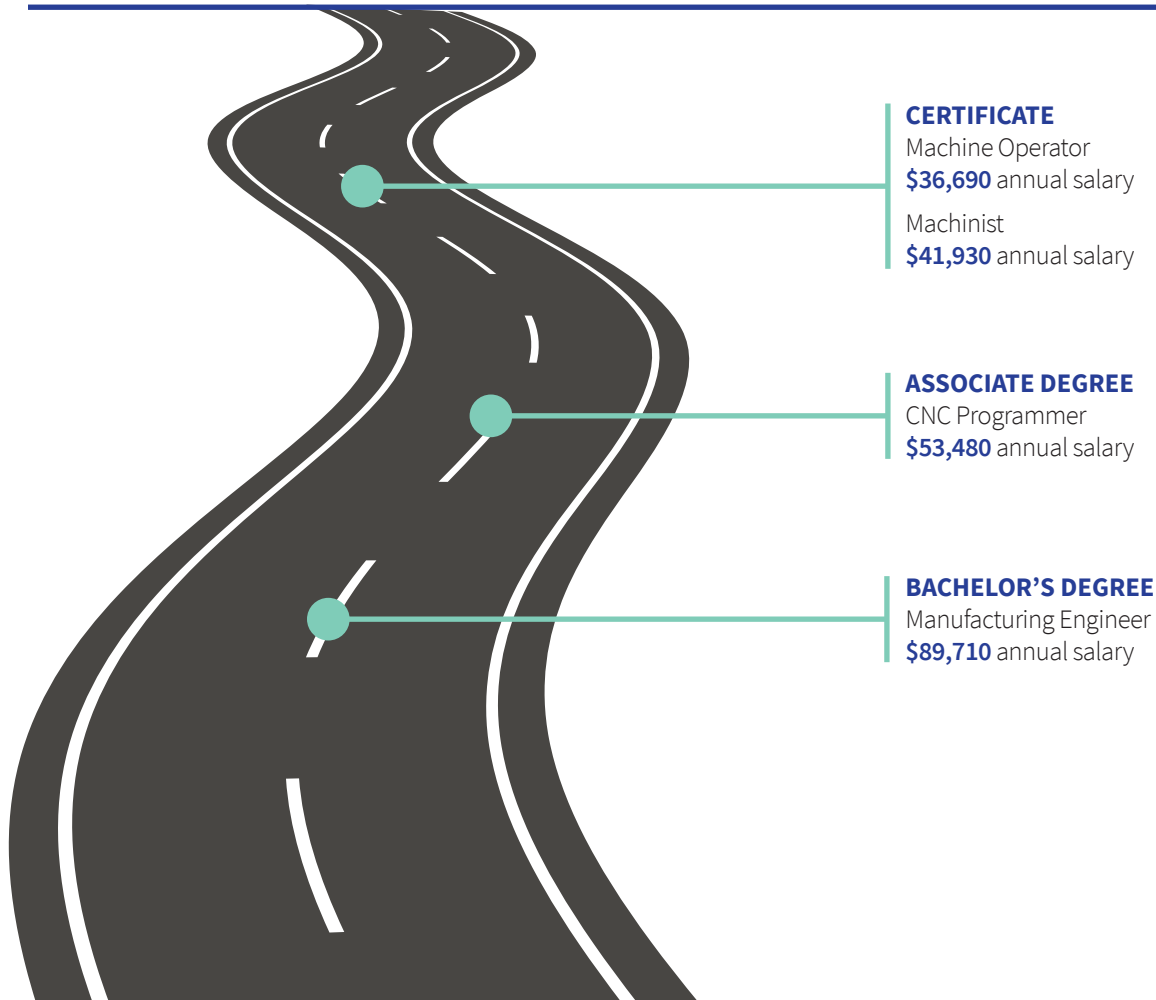
Hourly rates for machine tool technology



### Some Available Programs

- Alpena Community College
- Delta College
- Glen Oaks Community College
- Grand Rapids Community College
- Henry Ford College
- Jackson College
- Kalamazoo Valley Community College
- Kellogg Community College
- Kirtland Community College
- Lake Michigan College
- Lansing Community College
- Macomb Community College
- Mid Michigan College
- Mott Community College
- Muskegon Community College
- Oakland Community College
- Washtenaw Community College
- Wayne County Community College District
- West Shore Community College

There are many different education and career paths in **MACHINE TOOL TECHNOLOGY**. Here are a few you might follow after graduating from high school.



#### WHERE

**College** refers to an educational institution or establishment that provides education beyond high school and/or specialized professional training that is credit bearing.

#### WHAT

A **credential** verifies an individual's qualification or competence in a particular area and is usually issued by colleges in the form of certificates and academic degrees.

#### WHY

A **career** is a series of jobs that offers opportunities for advancement and provides a path to economic independence.

#### WHEN

Now! Don't wait to go to **college** to earn a **credential** that leads not only to your first job but also to a full and rewarding **career**!



To learn more about this pathway, check out the video at [roadmap2opportunity.org](http://roadmap2opportunity.org).

All occupational information provided by Roadmap to Opportunity is from O\*NET Online and is available at [onetonline.org](http://onetonline.org).