



Machinist Apprentice (50-420-2) Effective 2024/2025

Program Description

Machinists are highly skilled individuals who use machine tools, such as lathes, milling machines, and machining centers, to produce precision machined parts. Precision Machinists produce small batches or one-of-a-kind items. They use their knowledge of the working properties of materials and their skill with machine tools to plan and carry out the operation needed to make a variety of products that meet precise specifications. Along with operating machines that use cutting tools to shape work pieces, machinists also utilize machines that cut with lasers, water jets, or electrified wires. While some of the computer controls may be similar, Machinists must understand the unique cutting properties of these different machines. As engineers create new types of machine tools and new materials to machine, machinists must constantly learn new machining properties and techniques.

Program Learning Outcomes

Graduates will be able to:

1. Inspect parts and material.
2. Operate milling machines, including manual and/or CNC controlled.
3. Operate drilling machines, including manual and/or CNC controlled.
4. Operate turning machines, including manual and/or CNC controlled.
5. Operate cut-off machines, including manual and/or CNC controlled.
6. Apply metallurgical principles to materials and work processes.
7. Assemble parts according to specifications.
8. Local optional work processes may be used as additional college program outcomes.

Essential Career Competencies

Gateway's six essential career competencies are the general attitudes and skills promoted and assessed by all programs. All Gateway graduates will develop skills in:

- Communication Competence
- Professionalism and Career Management
- Cultural Competence
- Critical Thinking and Problem Solving
- Teamwork and Collaboration
- Technology Competence

Get Started as an Apprentice

1. To begin identifying or planning your apprenticeship, contact the local Apprenticeship Training Representative at 262.564.3210
2. If an employer wishes to hire you, they will submit an [apprentice application](#) to the Wisconsin Department of Workforce Development (DWD). If the DWD determines that you meet the Bureau of Apprentices Standards qualifications, you will be given a credential notice.
3. Once your permit is in place, Gateway's Apprenticeship department will communicate with you regarding registration, classes and books.

Graduation Requirements

- *Minimum of 2.0 ("C") or above for all required courses.
- Meet minimum hourly paid related instruction requirements per WI Registered Apprenticeship Contract.

Notes

1. Students must be physically able to perform the job.
2. Students must be 18 years of age and submit official high school, GED, or HSED transcript including a graduation or passing date.
3. Students must complete all courses with a grade of "C" or better.
4. Students must have a valid driver's license and pass an aptitude test.

Gateway Technical College reserves the right to modify curriculum requirements for students who interrupt enrollment for one year or take over seven years to complete. Tuition and material fees are determined by the board of the Wisconsin Technical College System. Consult My Gateway for exact fee amounts. Occasionally, the District may offer a particular course out of published sequence. By doing so, the District does not obligate itself to offer succeeding courses out of published sequence.



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The course sequence shown on this sheet is the recommended path to completion. Courses will be scheduled in the terms indicated here.
 Taking courses in the order shown will help you stay on track and graduate according to your academic plan.
 Courses in this program may be offered in a variety or combination of formats (for example: in-person, video conferencing, online, etc.).

Pathway to Success

Term	Course	Course Name	Credits	Hours
1	*420-560	Machine Trades/Mathematics 3	1.00	36
1	*801-500	Apprentice Communications	1.00	36
1	*421-515	Blueprint Reading I/Metal Trades	1.00	36
1	*420-516	Precision Measurement	1.00	36
2	*420-505	Machine Technology I	1.00	36
2	*420-561	Machine Trades/Mathematics 4	1.00	36
2	*421-516	Blueprint Reading 2/Machine Trades	1.00	36
2	*420-517	Cutting Tools	.50	18
2	*420-518	Machinery Handbook	.25	9
2	*420-519	Geometric Dimensioning & Tolerancing	.25	9
3	*439-535	Jig and Fixture Design	.75	27
3	*423-716	Metallurgy	1.00	36
3	*420-592	Numerical Control	1.00	36
3	*420-495	Grinding, Drilling, & Cut-Off Machine	1.00	36
3	*420-494	Cost Estimating	.25	9
4	*420-506	Basic CAD/CAM	1.00	36
4	*420-509	CNC Programming and Planning	1.00	36
4	*439-507	Milling/Turning 1	1.00	36
4	*439-508	Milling and Turning II	1.00	36

Training at a Glance

- Time to complete – Approximately 4 years
- On the job time – 7888 Hours
- Related Instruction Time – 576 Hours
- Additional training – Transition to Trainer
- Consult the Wisconsin Bureau of Apprenticeship Standards website for more information

If you need assistance getting started, Gateway's Apprenticeship Department is happy to help.

QUESTIONS?

PLEASE CONTACT:

Gateway Technical College
 Apprenticeship Department
 262-564-2954

apprenticeship@gtc.edu

Notes associated with courses (identified by a superscript number at the end of the course title) are located on the front of the sheet.
 (*) indicates students must achieve a minimum of 2.0 ("C") or above for these major courses to meet graduation requirements.