

Machinist Apprentice (50-420-2)

Effective 2026/2027

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 Apply principles of milling machine operations, including manual and/or CNC controlled.
- 3 Compare turning machine operations, including manual and/or CNC controlled.
- 4 Compare cut-off machine operations, including manual and/or CNC controlled.
- 5 Apply metallurgical principles to materials and work processes.
- 6 Compare practices for assembling parts per specifications.
- 7 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:

- 1 Communication Competence
- 2 Critical Thinking and Problem Solving
- 3 Professionalism and Career Management
- 4 Teamwork and Collaboration
- 5 Cultural Competence
- 6 Technology Competence

Get Started as an Apprentice

- 1 You should apply directly to employers, and entry requirement vary by employer.
- 2 If you need assistance finding an employer who will take you on as an apprentice, don't hesitate to get in touch with the local WI DWD-BAS Apprenticeship Training Representative at 414.216.8417 to find an employer who has been approved to train apprentices. You can also find apprenticeship employers at <https://dwd.wisconsin.gov/apprenticeship/ra/applicants.htm>.
- 3 Once your contract is in place with your employer and WI DWD-BAS, Gateway's Apprenticeship department will communicate with you regarding registration, classes and books.
- 4 You can contact Gateway's Apprenticeship department at apprenticeship@gtc.edu or 262.564.2954.

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 capable of performing the activities of the job, including equipment/tool use, for course grading. This may include any of these activities for an extended period: standing, sitting, reaching, bending, finger/hand dexterity, and, the use of head, face, eye, ear, hand and foot protection in various dynamic work environments including cramped/small spaces and hot or cold temperatures.
- 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.
- 5 Textbook, supplies and personal protective equipment requirements and sources will be provided by your instructor as well as outlined in the syllabus.
- 6 Virtual instruction will require the students to participate with the computer camera and microphones on when requested by the instructor.

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. The District reserves the right to modify, cancel, or relocate course offerings in response to factors such as low enrollment, resource availability, or other relevant considerations to ensure high-quality educational experiences. Students will be notified in writing and are encouraged to meet with their Academic Advisor to adjust their academic plan.

EQUAL OPPORTUNITY EMPLOYER AND EDUCATOR/EMPLEADOR Y EDUCADOR QUE OFRECE IGUALDAD DE OPORTUNIDADES

Machinist Apprentice (50-420-2) Effective 2026/2027

The course sequence shown on this sheet is the recommended path to completion. Courses will be scheduled in the terms indicated here.
 All courses should be taken in the order shown to 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.).
 More detailed scheduling information for this program can be found at <https://www.gtc.edu/machinist-apprentice>.
 Please see your academic advisor for additional information.

Term	Course Number	Course Name	Credits	Hours
1	*420-720	Cut-Off Machines for Machine Trades Apprentices	.25	9
1	*420-741	Metallurgy & Materials for Machine Trades Apprentices	.50	18
1	*420-740	Mathematics for the Machine Trades	1.25	45
2	*420-714	Engineering Drawings for Machine Trades Apprentices	1	36
2	*420-713	Precision Measurement for Machine Tool Trade Apprentices	1	36
3	*420-742	Turning Machines for Machine Trades Apprentices	1	36
3	*420-743	Milling Machines for Machine Trades Apprentices	1	36
4	*420-719	Grinding Machines for Machine Trades Apprentices	.50	18
4	*420-744	CAD/CAM for Machine Trades Apprentices	1.5	54
5	*420-726	Tooling and Workholding for Machine Trades Apprentices	.50	10
5	*420-727	Geometric Dimensioning and Tolerancing for Machine Trades Apprentices	.50	10
5	*420-745	CNC Programming and Operations 1 for Machine Trades Apprentices	1	36
6	*420-746	CNC Programming and Operations 2 for Machine Tool Trades Apprentices	2	72
6	*455-455	Transition to Trainer: Your Role as a Skilled Worker Trainer	.20	8

(*) Students must achieve a minimum of 2.0 ("C") or above for this major course to meet graduation requirements.

Training at a Glance

- Time to complete – Approximately 3 years
 - On the job time – 7888 Hours
 - Related Instruction Time – 432 Hours
 - Additional training – Transition to Trainer
- Consult the Wisconsin Bureau of Apprenticeship Standards website for more information at <https://dwd.wisconsin.gov/apprenticeship/occupations/machinist.htm>

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