



# Mold Maker Apprentice (50-439-5) Effective 2024/2025

### Program Description

Mold Makers set up and operate plastic molding machines, such as compression or injection molding machines, to mold, form, or cast thermoplastic materials to specified shape. In this apprenticeship, learn basic theory in machining, print reading and metallurgy, in addition to knowledge in stamping, mold making blanking, jigs and fixtures, plastics and die casting. Computer-assisted CNC machining and die and mold design are also covered.

### Program Learning Outcomes

Graduates will be able to:

1. Inspect parts and material.
2. Apply knowledge of milling machine operations, including manual and/or CNC controlled.
3. Apply principles of drilling machine operations, including manual and/or CNC controlled.
4. Compare turning machine operations, including manual and/or CNC controlled.
5. Explore precision grinding machines including manual and/or CNC controlled.
6. Compare cut-off machine operations, including manual and/or CNC controlled.
7. Apply metallurgical principles to materials and work processes.
8. Design jigs and fixtures.
9. Summarize practices to produce a variety of molds for manufacturing operations.
11. 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.

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	*439-505	Stamping and Die Design Applications	1.00	36
4	*439-506	Mold Die Design Applications	1.00	36
4	*420-569	Electrical Discharge Machining	1.00	36
4	*439-507	Milling/Turning 1	1.00	36

### Training at a Glance

- Time to complete – Approximately 5 years
- On the job time – 9824 Hours
- Related Instruction Time – 576 Hours
- Additional training – First Aid and CPR Certifications; 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](mailto: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.