



# Machine Repair Apprentice (50-420-6)

## Effective 2024/2025

### Program Description

Machine repairers keep machines, mechanical equipment, or the structure of an establishment in repair. They carefully observe and inspect machinery to detect problems, use computerized diagnostic systems and vibration analysis to determine the cause, repair or replace broken or malfunctioning components, then test and adjust machinery to ensure it operates properly. Perform routine maintenance, such as inspecting drives, motors, or belts, checking fluid levels, replacing filters, or doing other preventive maintenance actions.

### Program Learning Outcomes

Graduates will be able to:

1. Demonstrate proper rigging techniques.
2. Select an appropriate power transmission system for a given application.
3. Identify suitable pumps for given applications.
4. Recommend bearings for given applications.
5. Plan for fabricating parts and assemblies according to specifications.
6. Apply operational and troubleshooting principles to fluid power systems.
7. Layout an equipment installation plan.
8. Plan maintenance schedules for a given system.

### 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
- 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	*804-502	Math 1 for Apprentice	1.00	36
1	*421-515	Blueprint Reading I/Metal Trades	1.00	36
1	*462-503	Industrial Mechanic Fundamentals I	1.00	36
1	*462-504	Industrial Mechanic Fundamentals II	1.00	36
2	*442-510	Welding Fundamentals	1.00	36
2	*419-567	Basic Hydraulics Beginning	1.00	36
2	*419-551	Pneumatics Apprentice	1.00	36
2	*419-511	Hydraulic Pumps Apprenticeship	.75	24
2	*420-520	Precision Measurement	.50	12
3	*423-730	Bearings	.75	24
3	*423-565	Principles of Rigging	.50	18
3	*423-716	Metallurgy	1.00	36
3	*423-503	Packings, Seals, Gaskets	.50	16
3	*423-508	Fasteners	.25	8
3	*423-507	Vacuum Systems	.75	20
3	*423-504	Pipefitting and Valves	.75	24
4	*423-724	Preventative & Predictive Maintenance	1.00	36
4	*423-731	Couplings & Alignment	1.00	36
4	*423-501	Equipment Installation	.75	24
4	*423-502	Mechanical Power Transmission	.75	24
4	*423-506	Sheet Metal & Structural Steel Fab	.75	24

### Training at a Glance

- Time to complete – Approximately 4 years
- On the job time – 7424 Hours
- Related Instruction Time – 578 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.