

# Minnesota North College-Mesabi, Eveleth Campus      Academic Year 2023-24

## Industrial Mechanical Technology    Diploma (60 credits)

<b>FIRST YEAR</b>		<b>CREDITS</b>	<b>HOURS LEC/LAB</b>
<b>FALL SEMESTER 2023 – 16 Credits</b>			
IMT 1231	Industrial Accident Prevention 1	1	1/0
IMT 1235	Basic Hydraulic Symbols and Components	2	2/0
IMT 1237	Elements of Mechanics – Equipment Operations	2	1/2
IMT 1238	Rigging	2	1/2
IMT 1241	Basic Blueprint Reading and Sketching 1	3	1/4
IMT 1251	Basic Maintenance Welding and Cutting 1	3	1/4
IMT 1257	Measuring Tools and Layout	1	0/2
MATH 1120	Technical Math	2	2/0
<b>SPRING SEMESTER 2024 – 16 Credits</b>			
IMT 1232	Industrial Accident Prevention 2	1	1/0
IMT 1242	Basic Blueprint Reading and Sketching 2	2	1/2
IMT 1245	Lubrication and Bearings	2	1/2
IMT 1247	Hydraulic Basics	3	1/4
IMT 1252	Basic Maintenance Welding and Cutting 2	3	1/4
IMT 1256	Drive Components and Troubleshooting	3	1/4
GENS 1171	Computer Applications – Word Processing	1	1/0
GENS 1172	Computer Applications – Spreadsheets	1	1/0
<b>SECOND YEAR</b>			
<b>FALL SEMESTER 2024 – 15 Credits</b>			
IMT 2225	Pumps	2	1/2
IMT 2231	Safety and Equipment Maintenance 1	3	0/6
IMT 2251	Advanced Maintenance Welding and Cutting	3	1/4
IMT 2261	Hydraulics and Schematics	3	1/4
IMT 2265	Alignment and Introduction to Conveyor Systems	2	1/2
PDEV 1130	Employment Strategies	1	0/2
ITSF 1486	MSHA New Miner	1	1/0
<b>SPRING SEMESTER 2025 – 13 Credits</b>			
IMT 2216	Electrical Safety	2	1/2
IMT 2232	Safety and Equipment Maintenance 2	4	0/8
IMT 2242	Advanced Blueprint Reading	3	1/4
IMT 2262	Pneumatics and Hydraulic Troubleshooting	3	1/4
ALHE 1100	Heart Saver First Aid with CPR and AED	1	1/0

### PROGRAM DESCRIPTION

Industrial Mechanical Technology, also known as millwright or maintenance mechanics, is a two-year program where students learn safety, measurements, troubleshooting, repair procedures and the use of hand and power tools. The program also covers hydraulics, pneumatics, lubrication systems, pumps, conveyors, bearings, and welding.

### PROGRAM OUTCOMES

The Industrial Mechanical Technology Program offers a wide variety of mechanical courses that will prepare our graduates for success in their future endeavors.

- Recognize the significance and severity of safety in the workplace
- Use all tools properly in a safe manner
- Express the importance of working well with others to complete a task
- Identify the value of pumps and their components in industry
- Produce and identify hydraulic schematics within a system

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- Recognize the aspect of safety around conveyor systems and their components
- Identify and understand blueprints used in industry
- Produce quality welds using E7018 and E6010 in all positions
- Show how to safely and effectively use an oxyacetylene cutting torch
- Describe and understand the proper use of bearings, gears, belts, sheaves, and pulleys

### PROGRAM NOTES

- Applicants are expected to have high school diplomas or GEDs. Courses in industrial arts, math, science, and mechanical drawing are helpful. Hard toed boots, hard hats (helmets), and safety glasses are required.
- Differential tuition is assessed for the IMT courses.

### EMPLOYMENT OPPORTUNITIES

Job placement for Industrial Mechanical Technology students has traditionally been very high, as industry cannot afford to be shut down for too long. Qualified mechanics/millwrights find work repairing both plant and weld equipment. A demand exists for mechanics/millwrights in a variety of manufacturing and processing facilities such as hardboard plants, paper companies, food processing plants, and mining companies. Graduates have also found employment with heavy equipment dealers, contractors, rail maintenance crews, and in specialty areas involving hydraulics, parts distribution, solar energy, logging, and sugar processing companies.

### PROGRAM FACULTY

- Schweiberger, John A [john.schweiberger@minnesotanorth.edu](mailto:john.schweiberger@minnesotanorth.edu)
- Bundermann, Keith A [keith.bundermann@minnesotanorth.edu](mailto:keith.bundermann@minnesotanorth.edu)
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