INDUSTRIAL MECHANIC/ MILLWRIGHT (ITC)

Interm Technical Certificate

Career-Technical Program
Interest Areas:
Manufacturing and Trades

This 11-month program prepares students for employment as industrial plant maintenance mechanics or millwrights. Students learn the basics of maintenance, fabrication, installation and alignment of equipment used in modern industrial and manufacturing plants.

Theory classes provide technical information pertaining to welding, hydraulics, electricity, rigging, pipe fitting, mechanical drive/transmission systems, pumps and equipment installation and alignment.

Laboratory classes teach students to skillfully perform welding and fabrication tasks as well as the maintenance of hydraulic, electro/mechanical systems. The well-equipped lab includes the latest technology in laser alignment of rotating equipment. Blueprint reading and shop math are taught and used in all areas of training. A general education component of English, occupational relations and math is integrated into the program. Successful completion of the first semester or instructor permission is required to continue into the second semester and summer session.

Interested students should possess basic math skills (knowledge of basic Algebra and Geometry), Reading skills, and have a keen interest in mechanics. Placement in specific English and math classes is determined by the college assessment test.

Contact Information:
Trades & Industry Division
Parker Technical Education Center
7064 West Lancaster Road
Rathdrum, ID 83858
Phone: (208) 769-3448
Program Website (https://www.nic.edu/programs/industrial-mechanicmillwright/)

Program Requirements

Course	Title	Credits
Semester 1		
MM-150	Industrial Mechanics I	8
MM-151L	Industrial Mechanics Lab I	5
MM-155	Industrial Blueprints	2
MCTE-106	Technical Mathematics for Industrial Mechanic/ Millwright; HVAC; Welding	3
	Credits	**18**
Semester 2		
ATEC-117	Occupational Relations and Job Search	2
MM-152	Industrial Mechanics II	7
MM-152L	Industrial Mechanics Lab II	5
MM-156	Industrial Hydraulics	3
ENGL-101 or ENGL-101P	Writing and Rhetoric I or Writing and Rhetoric I	3
	Credits	**20**
Summer 1		
MM-153	Industrial Mechanics III	2
MM-153L	Industrial Mechanics Lab III	4
	Credits	**6**
	Total Credits	**44**

Course Key

GEM | AAS Institutionally Designated | Gateway | Milestone

Program Outcomes

Upon completion of the program, students will be able to:

1. Demonstrate safe work habits based on industry standards.
2. Recognize, maintain, and safely use hand, power, and precision measuring tools common to the industrial plant maintenance mechanic.
3. Identify and select appropriate fasteners used in common assembly and disassembly of mechanical devices.
4. Analyze, select, and demonstrate the use of proper rigging to safely lift and move heavy equipment.
5. Install, level, and align equipment and machinery according to industry standards.
6. Identify pipes and associated fittings and valves, and demonstrate the ability to thread, fit, and repair piping systems.
7. Install, maintain, and troubleshoot belt-, chain-, and gear-driven equipment.
8. Identify, install, and precision align couplings and shafts.
9. Identify, fit, and maintain bearings.
10. Install, maintain, and troubleshoot centrifugal pumps.
11. Understand general maintenance and repair of compressors.
12. Demonstrate the ability to safely maintain and troubleshoot simple electric motor and control circuits.
13. Demonstrate competent skills using cutting and welding processes to repair and maintain industry equipment.
14. Install, maintain, and troubleshoot hydraulic systems.
15. Visualize and interpret industry blueprints.
16. Demonstrate the ability to solve problems using basic math, algebra, geometry, and trigonometry concepts.
17. Identify and demonstrate basic skills needed to function effectively in the workplace.
18. Develop interactive workplace communications and apply to relationships appropriate to procedures in an industrial plant work environment.