Career and Technical Education

Associate of Applied Science— Industrial Millwright Technology

Student Learning Outcomes

Industrial Millwright Technology is a complex field and demands highly skilled technicians. Graduation from the program prepares students with specialized training in the repairing, maintaining, troubleshooting, reconditioning and rebuilding of industrial equipment. The Associate of Applied Science in Industrial Millwright Technology not only prepares students for employment, it also improves their position for advancement in the future. A graduate with an Associate of Applied Science in Industrial Millwright Technology will be equipped to advance to positions of management throughout industry. GBC's program includes extensive classroom lecture and laboratory training on state of the art equipment while working with industry to achieve all work place standards. Safety is strongly emphasized in all courses. Upon successful completion of the Industrial Millwright Technology program, the student will have the skills to:

- Think critically to solve workplace problems.
- Communicate clearly and effectively both in writing and orally.
- Read and Interpret standard blueprints and drawings of industrial equipment.
- Align shafts using laser and dial indicator methods of alignment.
- Perform troubleshooting and maintenance of fluid handling pumps, industrial gear trains and drives, and material handling systems.
- Rebuild and replace components in liquid and air handling systems.
- Replace bearings and seals in a non-destructive manner.
- Understand and apply basic electrical theory and safety on single and three phase power equipment.
- Identify failure causes in industrial equipment using vibration analysis and the root cause analysis tree.
- Identify metals according to standard metallurgical tests.
- Fabrication and layout of equipment in industrial settings.
- Perform safely in the work environment, meeting and obeying all workplace safety requirements.

Formal admission to this program is required, for details see your advisor. This program is a rigorous 42 week accelerated program, and can be completed in that time. The Industrial Millwright Technology Program prepares a student for an exciting entry-level career as an Industrial Technician in manufacturing, mining, construction, and the service industry. Associate of Applied Science degree allows the graduate the opportunity for faster advancement in the management areas of industry such as planner, scheduler (both short term and long range), supervisors, project leaders, project superintendent, and crew leader.

We use the National Center for Construction and Education Research (NCCER) curriculum which was developed and is recognized nationally by industry as a training standard is the curriculum. Students graduate with an Associate of Applied Science and the opportunity to receive a nationally recognized certification of completed training to find employment in this field.

Technical training is taught in mechanical operations, fluid power, industrial pumps, preventive predictive maintenance, precision shaft alignment, electrical theory, welding processes, and all safety standards for tools and equipment in the work place. Upon successful completion of the program, the student will possess the skills necessary to be able to diagnose and repair mechanical, electrical, and liquid and air handling systems. These are common systems found in most industrial, agricultural, mining, construction, and service industries that use machinery to produce a product or service. Other employment opportunities for graduates of this program can include steel mills, paper mills, mining operations, gravel quarries, universities, schools, textile mills, food processing plants, automotive plants, ship yards, power plants, hospitals, aerospace industry facilities, and office complexes.

General Education Requirements	Credits
English/Communications	6
Mathematics	3
MATH 116, 120, 126 or higher, or STAT 152	
Science—PHYS 107 (recommended)	3
Social Science—PSC 101	3
Humanities or Fine Arts	3
ART 107 or MUS 125 (recommended)	
Technology—IT 210 (required)	(3)
Human Relations—Embedded in Millwright	
Curriculum (IT 106)	

List of courses fulfilling general education requirements is on page 81.

Program Requirements Credits			
IT	102	Pipefitting Principles2	
IT	103	Industrial Pump Technology	
IT	105	Mechanical Power Transmission	
IT	106	Millwright and Process Terminology 2	
IT	201	Blueprint Reading and Measurement	
		Fundamentals5	
IT	207	Boiler, Conveyor, and Pneumatic	
		Systems3	
IT	208	Fluid Power1	
IT	209	Rigging Principles2	
IT	210	Failure Analysis and Predictive/	
		Preventive Maintenance	
IT	214	Basic Electrical Theory for Industrial	
		Technicians	
IT	216	Basic Metallurgy4	
IT	220	Alignment Principles5.5	
TA	100	Shop Practices	
WELD	136	Welding for the	
		Maintenance Technician I3	
WELD	235	Welding for the	
		Maintenance Technician II	

SUGGESTED COURSE SEQUENCE AAS—Industrial Millwright Technology

FALL—1st Semester Credits			
ENGLISH	I*	3	
IT	102	2	
IT	106	3	
IT	201	5	
IT	209	2	
IT	216	4	
TA	100	3	
MATHEN	IATICS*	3	
HUMANI	TIES/FINE ARTS*	3	
PSC	101	3	
WELD	136	3	
TOTAL		34	
SPRING—2nd Semester Credits			
IT	103	3	
IT	105	4	
IT	207	3	
IT	208	2	
IT	210	4	
IT	214	3	
IT	220	5.5	
ENGLISH	I*	3	
SCIENCE	*	3	
WELD	235	3	
TOTAL		33.5	
Refer to page 81. Minimum Credits: 67.5 *Choose with advisor.			

After the AAS in Industrial Millwright Technology, the next step could be the Bachelor of Applied Science in Management and Supervision Emphasis. See page 105.