

THE TROUBLESHOOTER

Industrial Machine Repair Boot Camp

Gateway Technical College in collaboration with Workforce Development partners in the tri-county district, and employer's high demand for skilled industrial maintenance workers, developed the Industrial Machine Repair (IMR) Boot Camp. This 19-week Boot Camp trains students and prepares them to take their place in the workforce. The students have the opportunity to earn MSSC Safety Certification, obtain a Critical Core Manufacturing Skills certificate, and complete the pre- and post-Boot Camp NOCTI Machine Repair assessment. Entry level positions include:

- Machine Repair Technician
- Maintenance Mechanic
- Field Service Technician
- Equipment Assembler
- Machine Builder
- Maintenance Millwright
- Maintenance Technician

Set up for success

Many prospective students have submitted applications to each of the three workforce development centers (Racine, Kenosha and Walworth Counties), but not everyone gets in to the program. There is an 11-step screening and application process which includes; testing, workshops, writing an essay, attending an orientation session and more. **Our attendees want to be here.** Our facilitators work hand-in-hand with the students, and support them in any way possible to ensure their success. In the process of training students in machine repair, they are also taught **the soft skills necessary** to thrive in the workplace.

During the Boot Camp, students receive assistance by practicing interviewing skills in mock interviews with human resources individuals from local companies. Workforce development personnel in all three counties send out resumes and portfolios of the graduates to over 90 local businesses. Once in a job, the graduates are offered support to help them adapt and grow into their new position. The success of graduates from Gateway's other Boot Camp programs in CNC Operator and Welding have provided a template for success that includes a variety of people, programs and processes. Students are held accountable, but the available resources are always at hand to help them succeed.

Meet the Instructor – Bill Meier

Bill Meier began his career as a Maintenance Mechanic Apprentice in 1975 completing his Journeyman status in 1978. After spending two years at International Harvester, he then took a position at Waukesha County Technical College as an Industrial Maintenance Instructor and also taught in the Material Handling/Robotics program. In 1991 he left education, working in a variety of related positions such as a Welding Robot programmer, Project Engineer, Field Service Technician, and Automated Machine Builder.

In 2002 Bill returned to education, finding a home in the Business and Industries Service Division of Gateway Technical College. Bill provided customized training and technical assistance to many employers throughout the Gateway District. With an opportunity to re-start the Maintenance Mechanic program, he joined the Racine campus of Gateway in January 2009.

Bill is extremely excited for this Boot Camp to get on its way. His passion for educating and helping others succeed is something to be admired. His strive for excellence is so great that he said the most challenging part of getting this program started was putting together the curriculum. "We need to make sure this program is efficient, effective, and that it is done right."

Along with Bill: Craig Maeschen, Saad Yousuf, Randy Reusser, and Merlin Cayemberg are the Gateway instructors for the program.

Classes will begin March 23rd and run until July 31, 2009. The program requires attending class full time: 8-hours a day, 5 days a week. The attendance policy is strictly enforced. **This is a fast paced, hands-on program focusing on the essentials of industrial mechanical maintenance.** For a sample of the weekly schedule, go to <http://www.gtc.edu/machinerepairclasses>

The IMR Boot Camp will be held in a custom-built lab constructed on the 1st floor of the Technical Building on the Racine campus. This amazing new facility has new equipment including lathes, machine tools, industrial trainers, hydraulic trainers, and laser alignment trainers. The lab is also using the superior quality of Allen Bradley and Snap-on Tools, making this facility top notch. Also included in the remodel is a new classroom and a spacious computer lab.



The Curriculum

Blueprint Reading/Schematics 36 hours

This course will focus on providing the knowledge needed by maintenance professionals to extract information from blueprints and schematics. Sketching parts and drawing schematic circuits will also be explored.

Pneumatics/Hydraulics, Intro 72 hours

The fundamental principles and physical laws governing fluid power and pneumatics are studied. The operation of the various control valves and actuators will be explored through a combination of theory and practical lab exercises.

Mechanical Skills 90 hours

This course covers the basic mechanical skills needed by a technician. Skills covered include the use and care of hand tools and small power tools, drilling, tapping, removal of broken bolts, studs, and Heli-Coil insertion. Basic measuring tools and techniques are also covered. Other topics include type and use of fasteners, lubricants and adhesives used in repair, and assembly of automated machines.

Applied Math 72 hours

Reviews the four basic mathematical operations on whole numbers, fractions and decimals. Also covers basic algebra and trigonometry related to technical fields.

Machine & Equipment Installation 90 hours

Machine and Equipment Installation will cover the installation and setup of complex machinery and equipment. Precision machine leveling, alignment, laser alignment, and scraping fundamentals will be included in this course.

Machine Machining 108 hours

Students will learn the operation of machine tools necessary for industrial machine repair. The operation of a lathe, mill, drill press, and band saw will be incorporated in the manufacturing of repair parts and fabrications. Skills using precision measuring tools will also be advanced.

Fundamentals of Electricity 90 hours

This course studies the behavior of electricity in terms of voltage, amperage, resistance, and impedance in various circuits. Lab instruction will include the application and usage of measuring and troubleshooting equipment.

Mechanical Power Transmission 90 hours

Students will learn bearing design and application, bearing failure and analysis, properties of lubrication and correct lubrication procedures, gear drives, belt drives, gear reduction units, and chain and shaft drives. Troubleshooting and maintenance of these types of power transmissions will be emphasized.

Intro to Industrial Controls 108 hours

Industrial electrical hardware such as motors and controls are studied. Industrial electrical control circuits are developed and wired. Troubleshooting techniques are used to correct problems in wiring or controls. Motor starters, industrial control relays, timers, proximity switches, and electric eyes are studied, including proper selection and wiring techniques. Ladder logic and wiring diagrams are examined and drawn. This course is for an individual that already has a basic understanding of electricity.

Workplace Safety MSSC 36 hours

This course introduces the student to safety and loss prevention in the workplace with an emphasis on the workers awareness for maintaining a safe, productive environment. The student will study safety concepts, hazards controls, developing safety and health programs and Federal and State mandated regulations. This course will also focus on specific content in the MSSC Safety module.

Making it possible...



The Industrial Machine Repair Boot Camp is funded in part by the Department of Labor Employment and Training WIRED grant. The grant encourages local cooperation among public and private entities to develop a skilled workforce that will attract new economic development and jobs. Together, the Racine County Workforce Development Center, Kenosha Job Center and Walworth Job Center have joined forces to play an important role in the development and implementation of this program.

More information

EMPLOYERS: Contact Ed Knudson
Executive Director, Workforce & Economic Development Division
262-564-2990 or knudsone@gtc.edu

STUDENTS: Please contact your county Job Center:
Kenosha County: Rich Salisbury, 262-697-4527
Racine County: Mark Leemkuil, 638-6676
Walworth County: Marilyn Putz, 262-741-5274