INDUSTRIAL MAINTENANCE TECHNOLOGY (IMT)

For additional information, contact the Industrial Technology Department at 503-594-3318.

IMT-104 Reading Schematics and Symbols
2 credits, Not Offered Every Term
A basic course of study that will develop the student's understanding of reading schematics and symbols through lectures and hands-on examples.

IMT-108 Rigging and Lifting
2 credits, Fall
This course provides instruction in rigging and lifting techniques including usage and inspection of rigging equipment, developing lift plans, anchoring to concrete, and heavy machinery installation. Students will be expected to perform lifts independently and in groups.
Prerequisites: MTH-050

IMT-110 Preventative Maintenance
2 credits, Spring
This Course will introduce students to the basics of preventative maintenance programs in an industrial environment. Students will learn about how maintenance departments are organized, how projects and tasks are defined and delegated. Topics will include Maintenance organization, work order systems, maintenance planning, Scheduling, Quality control, Controlling parts and materials costs.
Prerequisites: MTH-050

IMT-120 Industrial Machinery I
3 credits, Winter
This course will introduce students to industrial machinery and power equipment with respect to industrial maintenance. Students will learn the fundamentals of electro-mechanical machinery repair, assembly and disassembly and how to work safely around mechanical equipment and power tools. Topics discussed will include hand and power tools, preventative maintenance, power transmission systems, fasteners and torque.
Recommended: MTH-050 or higher

IMT-139 Principles of Troubleshooting I
2 credits, Winter
Emphasizes theories and practices useful in troubleshooting failures in electrical applications. Focuses on the overall philosophy and strategy of troubleshooting, drawing applications from residential and varied industrial situations. Includes laboratory projects.
Recommended: EET-112 or EET-137 or MFG-130

IMT-215 Electromechanical Systems I
2 credits, Fall
This course emphasizes applied electromechanical principles. The theory and application of force, work, torque, energy power and force transformers are explored. Covers motion control systems, basic relay circuits and sensors, stepper and servo motors and power transmission systems. Introductory mechanics areas also covered, including simple machines and an introduction to static and dynamic forces.
Prerequisite or Corequisite: EET-137 or MFG-130

IMT-220 Industrial Machinery II
3 credits, Fall
This second course in industrial machinery will focus on advanced concepts in machinery trouble shooting, repair and maintenance. Students will learn about the integration of mechanical, fluid power and electrical systems, their characteristics and repair. Additionally, mechanical concepts of laser shaft alignment, vibration analysis and thermal diagnosis will be covered. Other topics will include electromechanical systems, lock-out tag-out, advanced mechanical diagnosis, motors and motor controls.
Prerequisites: IMT-120 and MFG-130

IMT-223 Instrumentation & Controls
3 credits, Spring
Introduction to control systems and instrumentation. Includes open and closed loop systems. Focuses on the use of switches, sensors, and relays to control processes.
Prerequisites: EET-137 or MFG-130
Recommended: EET-141 or MFG-131

IMT-225 Electromechanical Systems II
2 credits, Spring
This course in renewable systems will provide in-depth understanding of the technology, economics and policies relevant to each type of energy source. Analysis techniques to evaluate renewable energy applications from a systems design and selection perspective will be presented. Topics include physical operating principles, theoretical vs. actual system output, energy storage, efficiency and cost analysis. Includes hands-on lab exercises.
Prerequisites: IMT-215

IMT-239 Principles of Troubleshooting II
2 credits, Fall
Covers advanced applications of diagnosis, maintenance and repair of systems. Also includes preventative maintenance, applied statistical process control and RF power generation.
Recommended: EET-139