



Online/Classroom Core & Specific Competencies Courses

Below you will find a comprehensive list of over 140 Technical Skills and Safety related courses to address your training needs. Our courses cover core competencies but focus on 100+ specific competencies for all aspects of your maintenance functions for the plant floor and facilities.

We offer a variety of mediums to facilitate how training is delivered to your students, including instructor lead, online courseware, course manuals, computer-based training, video training formats, and more. In addition, we offer online assessments for each of the course subjects that range from 20-50 questions each.

CORE COMPETENCIES

Fundamentals

- Reading Blueprints
- Reading Schematics & Symbols
- Mathematics in the Plant
- Making Measurements
- Metals in the Plant
- Non-Metals in the Plant
- Hand Tools
- Portable Power Tools
- Industrial Safety & Health
- Troubleshooting Skills

Electrical Systems

- Basic Electricity & Electronics
- Batteries & DC Circuits
- Transformers & AC Circuits
- Electrical Measuring Instruments
- Electrical Safety & Protection
- DC Equipment & Controls
- Single-Phase Motors
- Three-Phase Systems
- AC Control Equipment
- Electrical Troubleshooting

Mechanical Systems

- Basic Mechanics
- Lubricants & Lubrication
- Power Transmission Equipment
- Bearings
- Pumps
- Piping Systems
- Basic Hydraulics
- Hydraulic Troubleshooting
- Basic Pneumatics
- Pneumatic Troubleshooting

SPECIFIC COMPETENCIES

Air Conditioning & Refrigeration

- The Refrigeration Cycle
- Refrigerants & Refrigerant Oils
- Compressors
- Evaporators & Metering Devices
- Condensers & Cooling Towers
- Piping
- Control Systems
- Air-Handling Systems

- System Troubleshooting
- Absorption Chillers
- Heat Pumps
- Heating System Basics
- Heating System Equipment

Ammonia Refrigeration

- Ammonia Refrigeration Basics
- Positive-Displacement Compressors
- Evaporators, Condensers and Controls
- Purging, Piping, & Safety

Building & Grounds Maintenance

- Introduction to Carpentry
- Constructing the Building Shell
- Finishing the Building Interior
- Structural Painting
- Flat Roof Maintenance
- Plumbing System Maintenance
- Locks & Key Systems
- Landscaping Maintenance

Custodial Maintenance

- Cleaning Chemicals
- Floor & Floor Care Equipment
- Maintaining Floors & Other Surfaces
- Restroom Care
- Carpet & Upholstery Care

Electronics

- Semiconductors
- Power Supplies
- Amplifiers
- Oscillators
- Digital Logic Systems

Energy Conservation

- Energy Conservation Basics
- Energy Losses in Buildings
- Heating/Cooling System Efficiency
- Mechanical Energy Conservation
- Electrical Energy Conservation

Foundations of Technology

- Force & Motion

Industrial Hazard Control

- Chemical Hazards

Machine Shop Practices

- Machine Shop Practices
- Machine Shop Turning Operations
- Machine Shop Shaping Operations
- Machine Shop Job Analysis
- Lathe-Turning Work Between Centers
- Machine Work in a Chuck
- Basic Milling Procedures
- Indexed Milling Procedures
- Multiple-Machine Procedures

Machine Tool Series

- Measurements
- Basic Hand Tools
- Work Planning & Setup
- Metal Cutting Fundamentals
- Cutting Tools I&II

Materials Handling Systems

- Bulk-Handling Conveyors

Mechanical Maintenance Applications

- Mechanical Drives Maintenance
- Mechanical & Fluid Drive Systems
- Bearings & Shaft Seal Maintenance
- Pump Installation & Maintenance
- Maintenance Pipefitting
- Tubing & Hose System Maintenance
- Valve Maintenance & Piping System Protection

Microprocessors

- Introduction to Computers (for users)
- Input/Output Devices I (for users)
- How Computers Function (for technicians)
- Input/Output Devices II (for technicians)
- Maintaining/Troubleshooting Computer Systems (for technicians)

Packaging Machinery

- Introduction to Packaging
- Packaging Machinery
- Casing Machinery

Power Plant Operations

- How Power Plants Work
- Generating Steam in the Power Plant
- Using Steam in the Power Plant
- Waste-to-Energy Fundamentals

Process Control Instrumentation

- Introduction to Process Control
- Foundations of Measurement Instrumentation
- Pressure Management
- Force, Weight & Motion Measurement
- Flow Measurement
- Level Measurement
- Temperature Measurement
- Analytical Instrumentation
- Final Control Elements
- Safety, Calibration & Testing Procedures
- Working with Controllers
- How Control Loops Operate
- Data Transmission
- Computers in Process Control

Programmable Logic Controllers

- Programmable Logic Controllers

Rigging/Equipment Installation

- Industrial Rigging Principles & Practices
- Equipment Installation

Robotics

- Introduction to Robotics

Water/Wastewater Treatment

- Introduction to Water Technology
- Wastewater Treatment Processes
- Maintaining Wastewater Equipment

Welding


- Welding Principles
- Oxyfuel Operations
- Arc Welding Operations

Maintenance Management

- The Maintenance Supervisor's Role
- Work Authorization Techniques
- Implementing Preventive Maintenance
- Controlling Maintenance Resources
- Performance Improvement Strategies
- Effective Spoken Communication
- Effective Written Communication
- Improving Labor Relations
- Corrective Action with Employees
- Managing a Training Program

Safety (we have a range of courses within each subject below)

- Regulatory Compliance (OSHA, HAZMAT, etc.)
- General Safety & Health (spills, fires, accidents, etc.)
- Laboratory Safety (materials handling, contamination, etc.)
- HAZWOPER (hazardous materials issues, procedures, etc.)



In addition to our regular courses, we have the flexibility to develop custom training programs and classes to meet individual customer's specific needs. We can teach the classes at our NC training facility or at a convenient location to your facility. See our website for further information (full listing, detailed course descriptions, delivery options, etc.).



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