



Mon Valley ICD Announces New Pre-Learner Maintenance Training Program

U.S. Steel/USW Pre-Learner Program

Per our 2008 Labor agreement and in an effort to facilitate testing to enter the Mechanical or Electrical maintenance training program, *U.S. Steel and the United Steelworkers* have chosen an online standardized *Pre-Learner Maintenance Training Program* to provide employees with the opportunity to acquire the necessary skills and knowledge to test at a higher level when entering into the Maintenance Training Program.

The Program will be administered through the local ICD Program located at the Mon Valley Training Hub.

Entrance Requirement

Eligible students...

- Must be an active **non-maintenance** Steelworker. (*Retirees and Maintenance Technician's are not eligible*).
- Must register with an ICD Coordinator for the *Pre-Learner Program* by calling **(412)460-0390**
- Must have a valid Email address.
- Must take the classes on their own time.
- Are advised that course completion **does not** guarantee them a *Maintenance Technician* position.
- All additional requirements necessary to become a *Learner* or *Maintenance Technician* must still be met.

Completion Requirements

- A passing score of (85%) and completion of all required classes, labs and tests.
- All classes must be taken in the order they are given and all coursework must be completed.
- Repeat individual courses a maximum of two times
- Certificate of completion from ICD and course transcript and performance will be provided to the Company upon "graduation".
- All class work can be completed online at the student's convenience.
- Any student who does not have access to a computer should contact the Career Development Center to make arrangements to use the Center computers.
- If a student needs training in computer basics, it can be provided through Career Development.



ICD Basic Core Courses

Communications

- Communication Cornerstones: Building Trust

Decision Making

- Basic Skills
- Literal Comprehension: Main Idea
- Relationships of Literal Comprehension
- Interference
- Study Skills

Critical Thinking

Problem Solving

- Conflict Resolution: A win-win approach
- Troubleshooting Procedures
- Electrical Troubleshooting Skills: Power Distribution and Lighting Systems
- Electrical Troubleshooting Skills: Motors and Motor Controls
- Mechanical Troubleshooting Skills: Pumps and Compressors
- Mechanical Troubleshooting Skills: Hydraulic Circuits and HVAC

Safety Basics

- Safety Orientation
- Arc Flash: Safety Awareness
- Lockout/Tagout
- Personal Protective Equipment

Safety Electrical

- Electrical Safety

Basic Math Including Algebra, Geometry, Trigonometry

- Whole Numbers
- Fractions
- Decimals
- Algebra

Industrial Math

Introduction to Hand Tools

- Give safety a hand
- Basic Machine Technology: Hand Tools & Their Use
- Basic Machine Technology: The Use of Measuring Tools

Introduction to Power Tools

- Working Safely with Power Tools

Blue Print Reading Overview

- Mechanical Print Reading: Orthographic Projection
- Mechanical Print Reading: Drawing Format & Dimensioning
- Mechanical Print Reading: Drawing Types & Symbols
- Mechanical Print Reading: Thread Specifications
- Mechanical Electrical Control Systems: Introduction to Control Schematics
- Mechanical Electrical Control Systems: Creating Schematics
- Mechanical Electrical Control Systems: Electrical Lockout
- Mechanical Electrical Control Systems: Design & Troubleshooting
- Mechanical Electrical Control Systems: Energy Management
- Mechanical Electrical Control Systems: Electronic Controls
- Mechanical Electrical Control Systems: Responsive Systems

Electrical Basics

- Applied DC Fundamentals: Voltage, Resistance & Current
- Applied DC Fundamentals: Ohm's Law & DC Circuits

Mechanical Basics

- See courses under specific MTM (basic course is the first one for each)
- Fastener & Equipment Structures Inspection

Rigging Overview

- Rigging: Equipment Basics
- Rigging: Operations

Basic Lubrication

- Machinery Lubrication: Lubrication Oil: Types, Properties, & Handling
- Machinery Lubrication: Lubricating Oil: Equipment & Procedures
- Machinery Lubrication: Lubricating Greases: Types, Applications & Equipment

Technical Skills Maintenance

Technician Electrical (MTE)

(consistent with curriculum maps)

Basic Electricity Electrical Theory

- AC/DC Theory: Current
- AC/DC Theory: Voltage
- AC/DC Theory: Resistance
- AC/DC Theory: Ohm's Law
- AC/DC Theory: Magnetism
- AC/DC Theory: DC Circuits
- AC/DC Theory: Inductance & Capacitance
- AC/DC Theory: Alternating Current
- AC/DC Theory: AC Measurement
- AC/DC Theory: Capacitive Circuits
- AC/DC Theory: Transformers
- AC/DC Theory: Tuned Circuits

Basic Electricity AC Circuits

- Electronic Circuits: Basic Principles
- Electronic Circuits: Characteristics & Operation
- Electronic Circuits: Logic Fundamentals, Types Application

Basic Electricity Motors Theory and Control

- Motor Controls: Basic Motor Controls & Relays
- Motor Controls: Overload Relays
- Motor Controls: Time Delay Relays
- Motor Controls: Schematic Symbols
- Motor Controls: Schematics & Wiring Diagrams
- Motor Controls: Starting Methods for Squirrel Cage Motors
- Motor Controls: Wye-Delta, Synchronous & Wound Rotor Controls
- Motor Controls: Installing & Troubleshooting Control Systems

Basic Electricity DC Motors

- Motor Controllers: Controller Function & Operation
- Motor Controllers: Maintenance & Troubleshooting
- Motors: Basics & Internal Parts
- DC Motors: Wiring Diagrams & Troubleshooting

Programmable Logic Controllers Basics

- Programmable Logic Controllers: Fundamentals
- Programmable Logic Controllers: Programming
- Programmable Logic Controllers: Inputs & Outputs
- Programmable Logic Controllers: Troubleshooting
- Programmable Logic Controllers: Communications & Advanced Programming

Introduction to National Electric Code (NEC)

- Industrial Electricity: Wiring

Industrial Wiring Introduction

- Industrial Electricity: Basic Principles
- Industrial Electricity: Alternating Current
- Industrial Electricity: Conductors
- Industrial Electricity: Installation, Distribution & Lighting
- Industrial Electricity: AC Motor Control & Current Measurement
- Industrial Electricity: Generators & Motors

Electrical Test Equipment

- Calibration & Test Equipment: Primary Calibration Standards
- Calibration & Test Equipment: Pneumatic Test Equipment
- Calibration & Test Equipment: Electronic Test Equipment
- Calibration & Test Equipment: Oscilloscopes
- Calibration & Test Equipment: Instrument Calibration
- Calibration & Test Equipment: Instrumentation Errors

Maintenance Technician Mechanical (MTM)

Shaft Alignment Fundamentals

- Shaft Joining & Coupling Devices

Bearings Fundamentals

- Industrial Bearings: Application & Technology
- Industrial Bearings: Maintenance & Installation
- Industrial Bearings: Troubleshooting

Power Transmission

- Industrial Drives: Belt Drives
- Industrial Drives: Chain Drives
- Industrial Drives: Complete Drive Packages
- Industrial Drives: Enclosed Drive Systems
- Industrial Drives: Gears & Gear Systems
- Clutches & Brakes: Types & Applications
- Clutches & Brakes: Troubleshooting
- Pumps Basics

Pump Basics

- Centrifugal Pumps: Design & Function
- Centrifugal Pumps: System Characteristics & Selection
- Centrifugal Pumps: Operation & Maintenance
- Centrifugal Pumps: Troubleshooting & Disassembly
- Centrifugal Pumps: Reassembly & Installation

Pipes and Valve Basics

- Valve Basics: Shutoff Valve Designs & Application Consideration
- Valve Basics: Selecting Shutoff Valves
- Valve Basics: Installing Shutoff Valves
- Valve Basics: Maintaining Shutoff Valves
- Pipefitting: Introduction to Pipefitting
- Pipefitting: Piping Systems, Standards and Drawings
- Pipe Fittings & Joints
- Pipefitting: Measuring Pipe
- Pipefitting: Offsets
- Pipefitting: Manual & Electric Threaded Pipe
- Pipefitting: Flanged Pipe
- Pipefitting: Plastic Pipe
- Pipefitting: Materials
- Pipefitting: Tubing
- Pipefitting: Hoses

Hydraulic Principles and Circuits

- Industrial Hydraulics: Basic Principles & Application
- Industrial Hydraulics: Types & Concepts
- Hydraulics: Harnessing Hydraulic Power
- Hydraulics: The Hydraulic Circuit
- Hydraulics: Pumps & Actuators
- Hydraulics: Control Valves
- Hydraulics: Hydraulic Fluid
- Hydraulics: Hydraulic Systems Safety & Maintenance
- Hydraulics: Hydraulic Systems Troubleshooting

Pneumatics and Steam

- Pneumatics: The Power of Compressed Air
- Pneumatics: The Pneumatic Circuit
- Pneumatics: Processing Air
- Pneumatics: Using Compressed Air
- Pneumatics: Working Safely with Pneumatic Systems
- Pneumatics: Pneumatic System Maintenance
- Pneumatics: Troubleshooting Pneumatic Systems
- Steam Traps: Types, Principles & Functions
- Steam Traps: Sizing, Installation & Monitoring
- Steam Traps: Diagnostics & Troubleshooting
- Boiler Operation & Control: Introduction to Boilers
- Boiler Operation & Control: Boiler Design & Construction
- Boiler Operation & Control: Boiler Feedwater & Steam
- Boiler Operation & Control: Boiler Fuel & Air
- Boiler Operation & Control: Boiler Operations