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**Online Industrial Maintenance Mechanical**

**Training Program Summary**

 The following is a list of core courses included in the Maintenance Technician Mechanical (IMM) Training Program.

**INTRODUCTION & BASIC MATH -** $140, 13 hrs

* Rea5 – Study Skills
* MPR1 - Maintenance Principles
* TRB1 – Maintenance Troubleshooting Procedures
* MAT1 – Whole Numbers
* MAT2 – Fractions
* MAT3 – Decimals
* MAT4 – Algebra

**PRINT READING** - $230, 28 hrs

* PRT1 – Print Reading: Orthographic Projection
* PRT2 – Print Reading: Format & Dimension
* PRT3 – Print Reading: Types & Symbols
* PRT4 – Thread Specifications
* TPC102 – Reading Schematics & Symbols

**SAFETY & HEALTH** *-* $410, 46hrs

* PPE7 - Personal Protective Equipment: Don’t Start Work Without It
* LOT9 - Lockout/Tagout: Lightening In A Bottle
* ELE5 - Electrical Safety: Beware the Bite
* MAC0 - Machine Guarding: Safeguarding Your Future
* HAZ2 - HazCom: In Sync with GHS
* CHE5 - Chemical Handling: Basic Principles
* TPC109 – Industrial Safety & Health
* OSHA 10 HR General Industry

**RIGGING**- $40, 4 hrs

* RIG1 - Rigging: Equipment Basics
* RIG2 - Rigging: Operations

**LUBRICATION** - $80, 8 hrs

* MLU1 – Lube Oil: Types, Properties & Handling
* MLU2 – Lube Oil: Equipment & Procedures
* MLU3 – Lube Grease: Types, Application & Equip.
* INS9 – Lubrication System Inspection

**DRIVE COMPONENTS** - $200, 20 hrs

* MDR1-Industrial Drives: Belt Drives
* MDR2-Industrial Drives: Chain Drives
* CDP1-Industrial Drives: Complete Drive Package
* INS7- Operator Inspection: Belt drive, chain drive & gear box inspection
* EDS1 – Industrial Drives: Enclosed Drive System
* CBR1 – Clutches & Brakes: Types, Principles & Functions
* CBR2 – Clutches &Brakes Troubleshooting
* INS8 – Operator Inspection: Clutch & Brake Inspection
* GGS1 – Industrial Drives: Gears and Gear Systems
* SJC1 – Industrial Drives: Shaft and Coupling Devices

**SEALS** - $60, 6 hrs

* MPS1 – Industrial Seals: Types, Materials & Properties
* MPS2 – Gaskets & Packing: Inspection & Installation
* MPS3 – Mechanical Face Seals: Troubleshooting

**PUMPS** - $120, 12 hrs

* PUM1 – Centrifugal: Pumps: Design & Function
* PUM2 – Centrifugal: System Characteristics / Selection
* PUM3 – Centrifugal: Operation & Maintenance
* PUM4 – Centrifugal: Troubleshooting & Disassembly
* PUM5 – Centrifugal: Reassembly & Installation
* TRB4 – Maintenance Troubleshooting: Pumps & Compressors

**BEARINGS** - $60, 6 hrs

* BRG1 – Industrial Bearings: Application & Technology
* BRG2 –Bearings: Maintenance & Installation
* BRG3 – Industrial Bearings: Troubleshooting

**PIPING SYSTEMS** - $150, 20 hrs

* TPC306 Piping Systems

**VALVES** - $240, 16 hrs

* FVB1 – Shutoff Valve Designs and Applications
* FVB2 – Selecting Shutoff Valves & Accessories
* FVB3 – Installing Shutoff Valves
* FVB4 – Maintaining Shutoff Valves
* CVA1 - Control Valves & Actuators: Basics & Functions\*
* CVA2 - Control Valves: Types and Designs\*
* CVA3 - Control Valves: Fundamentals & Selection\*
* CVA4 - Control Valves: Sizing & Installation\*

**PNEUMATICS** - $180, 18 hrs

* PNM1 – The Power of Compressed Air
* PNM2 – The Pneumatic Circuit
* PNM3 – Processing Air
* PNM4 – Using Compressed Air
* PNM5 – Pneumatic Control Valves
* PNM6 – Working Safely w/ Pneumatic Systems
* PNM7 – Pneumatic System Maintenance
* PNM8 – System troubleshooting
* INS1 – Pneumatic System Inspection

**HYDRAULICS** - $260, 26 hrs

* IDH1 – Ind. Hydraulics: Principles & Application
* IDH2 – Ind. Hydraulics: Types & Concepts
* IDH3 – Hydraulics: Functions & Operating Principles
* IDH4 – Hydraulics: Maintenance & Troubleshooting
* HDL1 - Harnessing Hydraulic Power
* HDL2 – The Hydraulic Circuit
* HDL3 – Hydraulic Pumps & Actuators
* HDL4 – Hydraulic Control Valves
* HDL5 – Hydraulic Fluid
* HDL6 – Hydraulic System Safety and Maintenance
* HDL7 – Hydraulic Systems Troubleshooting
* HPS1 – Hydraulic Power Systems: Identification & Operation
* HPS2 – Hydraulic Power Systems Troubleshooting

**WELDING** - $150, 12 hrs

* TPC417 Welding Principles

**BASIC ELECTRICITY** - $160, 16 hrs

* ELS1 – Industrial Electricity Basic Principles
* ACDC1 – Current
* ACDC2 – Voltage
* ACDC3 – Resistance
* ACDC4 – Ohm’s Law
* ACDC5 – Magnetism
* ACDC6 – Electrical Measurements
* ACDC7 – DC Circuits

**MEASUREMENT/INSTRUMENTATION**  - $80, 8 hrs

* PME1 – Temperature Measurement: thermometers and thermocouples\*
* PME3 – Pressure Measurement: manometers and gages\*
* PME5 – Level Measurement: measurement & gages\*
* PME7 – Flow Measurement\*

**\* = Premium courses**

**Total Hours: 259**

**Total Cost: $2560** (does not include text / reference materials)

**OPTIONAL Text / Reference Materials:** *To supplement online training.*

1. Technical Print Reading, Schoolcraft
2. Millwright & Mechanics Guide, Audel
3. Industrial Hydraulic Manual, Vickers
4. Additional titles available as appropriate

<https://www.amazon.com/Audel-Millwrights-Mechanics-Guide-Thomas/dp/0764541714>

<https://www.amazon.com/Troubleshooting-Electrical-Electronic-Systems-Mazur/dp/0826917917>

[https://www.amazon.com/Industrial-Hydraulics-Manual-5th-Printing/dp/0978802209/ref=pd\_lpo\_sbs\_14\_img\_0?\_encoding=UTF8&psc=1&refRID=GR6J1B1KF0JMJ06HJF8K](https://www.amazon.com/Industrial-Hydraulics-Manual-5th-Printing/dp/0978802209/ref%3Dpd_lpo_sbs_14_img_0?_encoding=UTF8&psc=1&refRID=GR6J1B1KF0JMJ06HJF8K)

**\*Student/Company will order materials directly
\*Prices are subject to change with 30-day notice**

**Kent State University Regional Workforce Development**

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