

## CONTINUING EDUCATION PROGRAM

Course: Industrial Maintenance

Continuing Education Hours: 26

Textbook “Industrial Maintenance” Published by American Technical Press, Published 2010  
“Industrial Maintenance Student Workbook:” Published by American Technical Press.  
“CD-ROM” Published by American Technical Press. Third Edition

Assignment: **Follow student study guidelines.** Answer the questions at the end of each lesson in student’s workbook. **At the end of your course send in all of your assignments to your instructor for review.** You will be notified of where and when to appear for your final examination.

**Photo identification is required at final examination.**

**PUT YOUR NAME AND DATE ON EACH ASSIGNMENT**

**Course will concentrate on Industrial Maintenance as it applies to high pressure steam plants.**

### Lesson 1

#### **Maintenance Principles**

Maintenance principles, Maintenance Personnel, Unscheduled Maintenance, Preventive maintenance, Predictive Maintenance, Troubleshooting, Interpersonal Skills, Advancement in Maintenance Skills.

### Lesson 2

#### **Workplace Safety**

Safety Planning Safety, Codes and Standards, Personal Protective Equipment, Fire Safety, Electrical Safety, Lockouts & Tagouts, Confined Spaces, Hazardous Materials, First Aid, Incident Reports, Emergency Plans.

### Lesson 3

#### **Service and Repair Principles**

Equipment operation principles, service and repair documents, fastening methods, welding, tools, test tools, simple machines, horsepower, service and repair documents, hazardous material disposal, material identification, mechanical repairs.

### Lesson 4

#### **Electrical Systems**

Electrical Principles, Electrical Circuits, Drawings & Diagrams, Power Distribution, Electrical Test Equipment, Power Quality, Troubleshooting Electrical Systems, Preventative Maintenance.

### Lesson 5

#### **Electronics and Programmable Logic Controllers**

Electronics, Solid State Devices, Programmable Logic Controllers.

**Lesson 6**

**Refrigeration Systems**

Refrigeration, Mechanical Compression Refrigeration, Absorption Systems, Troubleshooting and Maintaining Refrigeration Systems, Refrigeration Regulations, Refrigerant Handling

**Lesson 7**

**Boiler Systems**

Boiler Applications, Boiler Operation Principles, Boilers, Fittings and Accessories, Combustion, Draft, Boiler Operation Procedures, Boiler Maintenance Procedures, Troubleshooting Boiler Systems, Boiler emergency, Preparation for Boiler Inspection, Boiler Lay-up.

**Lesson 8**

**Heating, Ventilating and Air Conditioning Systems**

HVAC System Operation, Pneumatic Control, Direct Digital Control Systems, Building Automation Systems, Troubleshooting and Maintaining HVAC Systems, Energy Auditing, Indoor Air Quality.

**Lesson 9**

**Mechanical Systems**

Lubricants, Bearings, Oil Seals, Mechanical Drive Systems, Couplings, Pullers, Shaft Alignment, Pulley And Sprocket Alignment, Predictive Maintenance, Preventative Maintenance, Troubleshooting Mechanical Systems.

**Lesson 10**

**Fluid Power Systems**

Hydraulic Principles, Hydraulic Systems, Hydraulic System Maintenance, Troubleshooting Hydraulic Systems, Hydraulic System Safety, Pneumatic Principles, Pneumatic Systems, Pneumatic System Maintenance, Troubleshooting Pneumatic Systems, Pneumatic System Safety

**Lesson 11**

**Troubleshooting**

Maintenance and Troubleshooting, Maintenance and Troubleshooting Resources, Troubleshooting Problems.

This course will offer 26 hours of credit for license renewal. An additional four-hour course on MGL Chapter 146 and 522CMR is required to receive a thirty-hour certificate for license renewal which is included the cost of this course.