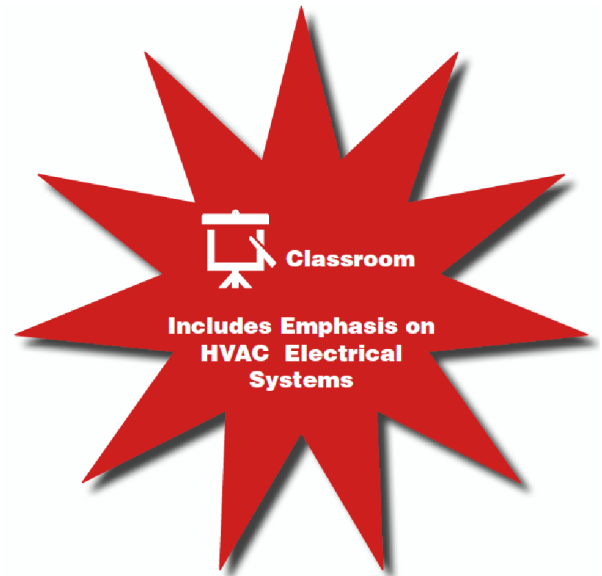


Air Conditioning, Refrigeration and Heating Applications



Two Day Classroom

- Principles, maintenance, and fundamentals of air conditioning, refrigeration, and comfort control systems
- Refrigerant blends—including R-410a
- Refrigeration system operation
- Heating system wiring and troubleshooting
- Energy conservation measures
- Legally recover, recycle and reclaim refrigerants
- Troubleshoot air conditioning system electrical and mechanical problems



Learn how to maintain the peak efficiencies of your systems which will minimize the downtime spent on maintenance and maximize your energy efficiency.

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Air Conditioning, Refrigeration and Heating Applications

Air Conditioning and Refrigeration Overview Tools and Test Equipment

- Gauge manifold assembly
- Electronic leak detector
- Multimeter

Refrigerants and Refrigerant Oils

- Characteristics of refrigerants
- Section 608 of the Clean Air Act
- Regulatory requirements

Compressors

Evaporators

- Types of evaporators
- Operation in a refrigeration or A/C system

Metering Devices

- Effects of capillary tube length and size
- Thermostatic expansion valves

Condensers

- Types of condensers
- In a refrigeration or A/C system

Piping and Accessories

- Tubing
- Liquid receivers
- Sight glass

Heat Pump Theory and Components

- Compressor
- Evaporator
- Condenser

Hands-On Lab Exercises

- Installing and removing a manifold gauge set
- Recovering refrigerant Evacuating (pulling a vacuum)
- Charging a system by weight and by superheat
- Working with service valves and Schraeder cores
- Troubleshooting

Gas Fired Heating Systems: Design and Operation

- Gas fuels and combustion theory
- Gas regulators, valves, burners
- Pilot safety controls
- Glow-coil ignition, hot surface ignition
- Safety devices and controls

Controls & Control Systems

- Thermostats
- Anticipators

Gas Fired Heating Systems: Maintenance and Troubleshooting

- Troubleshooting ignition problems
- Preventive maintenance procedures

Electrical Components of HVAC Systems

- Fundamentals, safety and diagrams
- Electrical test equipment
- Fundamentals of electrical troubleshooting
- Electrical system components

Maintenance and Troubleshooting of Furnaces and Rooftop Units

- Fault occurrence
- Troubleshooting techniques

Hands-On Lab Exercises

- Reading schematic drawings
- Furnace wiring exercises
- Troubleshooting burner systems
- Troubleshooting wiring problems
- Motor terminal identification
- Capacitor testing & replacement
- Measuring ampere draw, voltage, resistance

Your House

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