Student Syllabus

Course Title: HVAC Technician Training
Course Code: HART 1005
Course Length: 120 hours

Course Description: Course designed for entry into the workforce with skills and knowledge for increased productivity in the commercial or residential markets. This course includes Residential, Commercial and Industrial refrigeration and Building Management Systems, trade mathematics, theory and troubleshooting.

Learning Outcomes:

Given lecture, handouts and discussion, the student will be able to:

Define alternating current. Identify and demonstrate measuring equipment
Explain troubleshooting for electronic and conventional thermostats and common electrical and pneumatic circuits.
Explain troubleshooting of gas heating appliances, include isolating and correcting faults
Explain troubleshooting cooling equipment; analyze system temperatures and pressures to isolate faults
Explain the principles of reverse cycle heating; identify types of heat pumps
Describe characteristics and application of refrigerants and oils used in HVAC
Identify product refrigeration components and systems used in markets
Explain troubleshooting and demonstrate analyzing circuit diagrams for electronic and microprocessor based controls in heating and cooling systems
Define heat pump operation and control circuits, include isolating and correction of faults in heating, cooling, auxiliary heat and defrost functions
Identify tools, instruments and methods in balancing an air distribution system
Define and demonstrate heat recovery/reclaim devices and energy recovery equipment used to reduce energy consumption
Pre-requisites: HART 1038

Course Structure: Content: 120.0 hours
- Chimneys, Bents, Flues
- Leak Detection, Evacuation, Recovery and Charging
- Refrigerants/EPA
- Control Circuits
- Troubleshooting Gas Heat and Cooling
- Heat Pumps
- Installation and Energy Conservation
- Duct Systems

Schedule: Tri-Weekly 6:00 PM - 9:00 PM

Evaluation: Student Assessments, Passing 70%

Books: Handouts will be supplied

Reference: NCCER Core and HVAC Level 1-4 Trainee Guides
Course Outline

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Delivery Method: Classroom / Lecture/ Lab
Small group discussions

Audience: General

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Evaluation: Student Assessments

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