HVA 106 - FUNDAMENTALS OF HEATING

Course Description

This course focuses on the variety of heating systems in the HVAC career field. Students are introduced to the principles of combustion and the importance of combustion analysis. Gas furnaces, heating controls, oil fired equipment, humidification and electric heating systems are also explored. Group 2 course.

Credit Hours

3

Contact Hours

4

Lecture Hours

2

Lab Hours

2

Course Learning Outcomes

Knowledge:

- Explain the importance of proper combustion for gas and oil-fired systems.
- Summarize the importance of preventing the creation of carbon monoxide during combustion and other hazards associated with this equipment.
- Describe the sequence of operation for the start-up and shut down of each type of heating system.

Application:

- Perform a combustion analysis and temperature rise test on a gas fired system.
- Assemble a fully operational gas furnace from materials supplied.
- Demonstrate the proper use of electrical and gas test equipment.

Integration:

- Associate basic course skills to the work requirements in the industry.
- Integrate concepts of reading electrical diagrams to troubleshoot and repair a faulty system.
- Troubleshoot electrical and mechanical faults in a furnace restoring the system back to normal operation.

Human Dimension:

- Communicate with others in class to develop teamwork concepts.

Caring - Civic Learning:

- Recognize the importance of observing combustion safety protocols.

Learning How to Learn:

- Test information learned in class on real life equipment.