

HVA 124 - INTERMEDIATE HVAC/R II

Course Description

This course will continue to develop students' knowledge of the HVAC field by exploring intermediate heating, ventilation, and air conditioning concepts and reinforce concepts and skills learned in previous courses. Concepts include troubleshooting for control circuits and motors, cooling, heat pumps, gas heating, oil heating, and accessories. Other concepts include zoning, ductless, and variable refrigerant flow systems, commercial hydronic systems, and steam systems. Group 2 course.

Credit Hours

3

Contact Hours

4

Lecture Hours

2

Lab Hours

2

Required Prerequisites

HVA 120

Course Learning Outcomes

Knowledge:

- Identify and describe the operation of common HVAC/R control circuit devices.
- Describe the operation, installation and testing of various thermostats and temperature controls.
- Describe the operation of the refrigeration cycle and identify problems that can occur.
- Describe the sequence of operation for the common operating modes.
- Describe how to troubleshoot the HVAC systems.

Application:

- Troubleshoot various functions and components of heat pump systems.
- Troubleshoot various functions and components of ductless and variable refrigerant flow systems.

Integration:

- Perform electrical tests and/or troubleshooting procedures on power sources, fuses and circuit breakers, resistive loads, relays and contactors, motor windings, start and run capacitors, and start relays and thermistors.
- Troubleshoot and repair a typical ductless or variable refrigerant flow system.
- Program the controller for a ductless or variable refrigerant flow system.

Human Dimension:

- Feel confident about your ability to successfully interact with a client.
- Collaborate with a multidisciplinary team to provide the best service for the end user.

Caring - Civic Learning:

- Commit to the safety and wellbeing of everyone on the job site and the end user.
- Value the importance of HVAC/R and how it impacts everyday life.

Learning How to Learn:

- Recognize when more information is needed and seek help and resources.
- Identify personal learning preferences with HVAC/R course content.