

# HVA 120 - INTERMEDIATE HVAC/R I

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## Course Description

This course will continue to develop students' knowledge of the HVAC field through exploring intermediate heating, ventilation, and air conditioning concepts and reinforce concepts and skills learned in previous courses. Concepts include chimneys, vents, and flues, sheet metal duct systems, fiberglass and fabric duct systems, commercial airside systems, air quality equipment, an introduction to hydronic systems, and fasteners, hardware and wiring terminations. Completion of this course will result in a Level 2 National Center for Construction Education Research Credential. Group 2 course.

## Credit Hours

3

## Contact Hours

4

## Lecture Hours

2

## Lab Hours

2

## Required Prerequisites

CART00, HVA 101, HVA 104

## Course Learning Outcomes

### Knowledge:

- Describe the principles of combustion.
- Identify the basic requirements and components of a furnace venting system.
- Explain the importance of indoor air quality and the factors to be controlled.
- Describe the processes and equipment used to control humidity levels.
- Describe the hydronic systems and the principles of closed-system water flow.

### Application:

- Examine the equipment used to provide and control the introduction of fresh air into buildings.
- Examine common low- and line-voltage electrical termination hardware and explain how to properly terminate wiring connections.

### Integration:

- Disassemble a hydronic circulating pump and identify its internal components.
- Torque threaded hardware to a specific torque value.
- Terminate line- and low-voltage wiring on a compressor contractor.

### 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.