

# HVA 130 - ADVANCED HVAC/R I

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## Learning How to Learn:

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

## Course Description

This course will continue to develop students' of the HVAC field through exploring advanced heating, ventilation, and air conditioning concepts and reinforce concepts and skills learned in previous courses. Concepts include retail refrigeration systems, customer relations, water treatment, indoor air quality, energy conservation equipment, building management systems, system air balancing, and system startup and shutdown. Completion of this course will result in a Level 3 National Center for Construction Education Research Credential. Group 2 course.

## Credit Hours

3

## Contact Hours

4

## Lecture Hours

2

## Lab Hours

2

## Required Prerequisites

HVA 124

## Course Learning Outcomes

### Knowledge:

- Describe retail refrigeration applications and the related refrigeration cycle.
- Explain the service technician's role in customer relations.
- Describe problems that the properties of water can cause in HVAC systems.
- Define the concept of interoperability and describe the various related protocols.
- Describe the properties of air and the laws related to its temperature, pressure, and volume.

### Application:

- Examine types of mechanical water treatment devices and equipment.

### Integration:

- Isolate a fault in refrigeration equipment or an ice machine.
- Clean an ice machine.
- Make air measurements using a CO<sub>2</sub> and/or CO detector/sensor.

### 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.