

HVA 126 - RESIDENTIAL AND COMMERCIAL A/C

Course Description

This course focuses on different types of air conditioning systems, ventilation and de-humidification equipment used in residential and light commercial applications. Students will learn about air source and geothermal heat pumps, mechanical and electrical troubleshooting techniques for air conditioning systems and explore indoor air quality and planned maintenance issues for all types of equipment. Group 2 course.

Credit Hours

3

Contact Hours

4

Lecture Hours

2

Lab Hours

2

Required Prerequisites

HVA 122 - may be taken concurrently

Course Learning Outcomes

Knowledge:

- Identify the different types of air conditioning systems.
- Explain the differences in operating principles between an air source and ground source heat pump system.
- Describe how a heat pump is able to change its operation during the heating and cooling cycle.

Application:

- Analyze an operating A/C system to determine electrical and mechanical faults using learned skills.
- Demonstrate how to determine proper refrigerant charge in a system.

Integration:

- Compare basic skills in this course to the work requirements in the industry.
- Integrate troubleshooting and schematic reading skills on an actual operating system.
- Apply problem solving strategies to equipment faults.

Human Dimension:

- Recognize the value of temperature control in the human environment.

Caring - Civic Learning:

- Propose ways to more efficiently produce heating and cooling.

Learning How to Learn:

- Evaluate system function theory and how it relates to real life applications.