South Central College

HVAC 2110  Refrigeration Controls

Course Outcome Summary

Course Information

Description  
This course covers controls found in both household and commercial refrigeration systems. The functions and operation of these controls will be discussed along with proper troubleshooting procedures. This course will be offered concurrently with refrigeration theory and electrical circuits.

Total Credits  2
Total Hours  48

Types of Instruction

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Pre/Corequisites

None

Institutional Core Competencies

Communication - Students will be able to demonstrate appropriate and effective interactions with others to achieve their personal, academic, and professional objectives.

Critical and Creative Thinking - Students will be able to demonstrate purposeful thinking with the goal of using a creative process for developing and building upon ideas and/or the goal of using a critical process for the analyzing and evaluating of ideas.

Course Competencies

1. **Explore the different controls used on today's refrigeration systems**
   
   Learning Objectives
   
   List and examine typical household controls
   
   List and examine controls found on commercial systems
   
   Identify if the control is a power passing or power consuming device

2. **Identify the controls that pertain to the compressor circuit**
   
   Learning Objectives
   
   Examine the types of overloads and their function in the compressor circuit
3. **Discuss the controls that deal with the defrost circuit**

   **Learning Objectives**
   - Name the controls that make-up the defrost circuit
   - Identify the controls on an electrical schematic
   - Explain the operation of each control
   - Locate the defrost controls on a working system

4. **Examine the controls that control the flow of refrigerant in a sealed system**

   **Learning Objectives**
   - Study the types of solenoids
   - Examine the pressure switch function in the sealed system
   - Identify the types of metering devices used in household and commercial equipment
   - Analyze the operation and location of a CPR valve
   - Analyze the operation and location of a EPR valve

5. **Discuss controls found on remote units**

   **Learning Objectives**
   - Describe the function of the headmaster control
   - Trace the refrigerant flow of an remote condensing unit that uses a headmaster control
   - Locate the headmaster control
   - Discuss why a fan cycle control might be used over a headmaster control

6. **Discuss troubleshooting procedures**

   **Learning Objectives**
   - Identify some of the dangers while working on live circuits
   - List some questions that would help in the troubleshooting procedure
   - Participate in classroom service calls

**SCC Accessibility Statement**

South Central College strives to make all learning experiences as accessible as possible. If you have a disability and need accommodations for access to this class, contact the Academic Support Center to request and discuss accommodations. North Mankato: Room B-132, (507) 389-7222; Faribault: Room A-116, (507) 332-7222.

Additional information and forms can be found at: [www.southcentral.edu/disability](http://www.southcentral.edu/disability)

This material can be made available in alternative formats by contacting the Academic Support Center at 507-389-7222.