



South Central College

HVAC 2110 Refrigeration Controls

Course Outcome Summary

Course Information

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| 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

| Instruction Type | Credits/Hours |
|------------------|---------------|
| Lecture | |
| Lab | |

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

Study the different types of relays
Examine the differences between a run and start capacitor

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

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