South Central College

HVAC 2440  Advance Refrigeration Lab I

Course Outcome Summary

Course Information

Description  This course cover all aspects of today s refrigeration systems. This course is designed for students who want more hands-on training. The students will repair, replace and troubleshoot different types of refrigeration systems. EPA regulations will be followed. To be successful in this course, you must be knowledgeable in the following areas; electrical circuits, refrigeration theory, controls, and sealed systems.

Total Credits  1
Total Hours  32

Types of Instruction

Instruction Type  Credits/Hours
Lab

Pre/Corequisites

None

Institutional Core Competencies

Civic Engagement and Social Responsibility - Students will be able to demonstrate the ability to engage in the social responsibilities expected of a community member.

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. Prepare customer work orders
   Learning Objectives
   Complete all information on the customer's work order
   Demonstrate good hand writing skills

2. Handle customer complaints professionally
Learning Objectives
Listen to the customer
Discuss with the customer what you plan to do to solve the problem
Explain to the customer what you did and why
Ask them what can we do to fix this problem

3. **Manage the parts-room supplies and order replacement supplies when needed**

Learning Objectives
Estimate the cost of repairs and call the customer
Assist in the process of ordering parts
Adjust pricing and inventory all incoming parts

4. **Diagnose electrical system failures**

Learning Objectives
Locate and use the wiring schematic to troubleshoot the customer's unit
Demonstrate the proper usage of test equipment
Describe on the work order what they found and what they did to fix the problem
Repair the electrical failure in a timely manner

5. **Diagnose refrigeration sealed system failures**

Learning Objectives
Follow EPA regulations when handling refrigerants
Demonstrate proper safety by wearing all necessary safety equipment while working with refrigerants
Repair sealed system failures in a timely manner
Review what caused the system failure and take corrective measures to ensure it doesn't happen again

6. **Ensure that the lab is clean and the equipment is in good working order**

Learning Objectives
Clean job site and surrounding area after each job
Test or repair equipment before you use it
Replace equipment that is unsafe

**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.