Salt Lake Technical College
SALT LAKE COMMUNITY COLLEGE

Air Conditioning, Heating, and Refrigeration Program

TEAC 1445 Commercial Refrigeration Systems

Course Description:

Introduces the student to commercial refrigeration applications. Small scale refrigeration systems, ice machines and supermarket systems will be covered. Focus is on safe and efficient commercial food handling and storage and other miscellaneous applications. Troubleshooting skills will be discussed.

Required Materials:

- Commercial Refrigeration for Air Conditioning Technicians; Wirz; ISBN: 978-1-4283-3526-4
- Scientific Calculator
- Multi-Meter

Course Competencies/Objectives:

As a student you will be required to complete the following Competencies:

- Demonstrate, explain, and identify the refrigeration cycle and components as they apply to commercial refrigeration applications.
- Identify and explain the purpose of the special controls and accessories used on commercial refrigeration applications.
- Demonstrate ability to troubleshoot and service commercial refrigeration equipment, including identifying and wiring different compressor motor control circuits.
- Review and explain the proper process for commercial refrigeration system, retrofitting, recovery, evacuation and charging.
- Demonstrate understanding of refrigeration systems, components, and accessories as they apply to supermarket refrigeration applications.
- Demonstrate, explain, and identify the refrigeration cycle and components as they apply to ice machine applications.
- Explain the importance and process of product temperatures for preservation and health.

To accomplish these Competencies, you will be working to fulfill these Learning Objectives:

- Identify and explain the refrigeration cycle as it pertains to commercial refrigeration systems.
- Identify and explain the purpose of the 4 main components used in the refrigeration cycle as they pertains to commercial refrigeration systems.
- Identify, explain, and demonstrate the purpose of the special controls and accessories used in commercial refrigeration systems.
- Demonstrate and explain the steps need to troubleshoot commercial refrigeration equipment
- Identify, analyze, and wire different types of compressor motor controls.
- Describe the proper steps needed when retrofitting commercial refrigeration systems from one refrigerant to another.
- Review the proper steps in system recovery, evacuation and charging as it relates to commercial refrigeration systems.
- Demonstrate an understanding of the refrigeration system as it relates to supermarket systems.
- Demonstrate an understanding of the special controls and accessories used in supermarket refrigeration systems.
- Demonstrate an understanding of walk-in coolers and freezers used in supermarket refrigeration systems.
- Demonstrate ability to troubleshoot supermarket refrigeration systems.
- Demonstrate ability to install, service and inspect ice machine systems.
- Identify and explain the need for proper product temperatures for supermarket product integrity.

Attendance & Attendance Schedules:

This course is structured to allow students to work at their own pace. However, this course must be completed by the end of the semester the course was registered in. While substantial preparation work can be performed outside of the classroom and lab, most of the lab assignments are hands-on and require that students be in attendance for these assignments as well as for most quizzes and all exams. Students are expected to manage their schedules and complete all current (registered) coursework by the end of the current semester. Any course not completed by the end of the semester will receive a failing grade and the student will need to repeat the course before proceeding to other courses in the program.

Classroom and lab hours are Monday through Thursday 8:00AM—2:00PM and 6:00PM—10:00PM. However, if instructors have not had, or do not have, any students in the lab at 8:00PM, at their discretion, they may close the lab for the evening. Therefore, if you will be later than 7:30PM, please communicate with the instructor for that evening. The classroom and lab are located in room TAB-109 of the Technical Arts Building (TAB) on the Taylorsville campus, 1902 Community Blvd.

Parking permits are available via the SLCC website. There are some parking spaces with meters.

Grading and Evaluation:

Each assignment, quiz, and exam has an assigned point value. The course grade is determined by summing all of the assignments, quizzes, and exams and dividing the sum by the total possible points. A letter grade is determined using the percentage of points earned and the following grading standard:

Range	Grade		Range	Grade
100% to 94%	A		<84% to 80%	B-
<94% to 90%	A-		<80% to 77%	C+
<90% to 87%	B+		<77% to 74%	C
<87% to 84%	B+		<74% to 0%	E