

Course Syllabus

HVACR 23

Commercial Refrigeration Applications

Course Description: This course explores refrigeration theory, characteristics of refrigerants, temperature and pressure, tools and equipment, soldering, brazing, commercial refrigeration systems, system components, compressors, evaporators, and metering devices. Students will learn to charge commercial systems with new Environmental Protection Agency (EPA) refrigerants and evaluate the proper operation of systems. Troubleshooting techniques are explained with the use of wiring diagrams and electric meters.

Instructor: Timothy Muckey

Phone:

Email: Tmuckey@elcamino.edu

Office Hours: 9-11 AM M,W

Text: Refrigeration & Air Conditioning Technology

By: Whitman, Johnson, Tomczyk & Silberstein. 7th Edition

Lecture: 6:30-9:40 PM T **Lab:** 6:30-9:40 PM Th

Materials: Pen, Pencil, Paper

SLO Statement 1: After reading the textbook and participating in class discussions, students will apply their knowledge of appropriate lab practices, concepts and theories to an operating low temperature walk-in freezer. Students will check proper freezer temperatures, amperage draw on the operating compressor, subcooling and superheat temperatures.

SLO Statement 2: Students completing this course will apply their knowledge to the application, service and testing of special refrigeration system components.

SLO Statement 3: Students completing this course will apply their knowledge to service and troubleshooting using electrical diagrams and schematics specific to commercial refrigeration.

Course Syllabus

HVACR 23

Grading

| | |
|-----------------|-----|
| Attendance | 25% |
| Test & Quizzes | 25% |
| Lab Assignments | 25% |
| Final Exam | 25% |

*Notes: A

Note: If you choose to drop out of class, it will be your responsibility to drop the class or you will be give an "F" grade at the end of the semester

Course Outline

| Units# | Page | Description |
|--------|------|---|
| 21 | 476 | Evaporators and the Refrigeration System |
| 22 | 498 | Condensers |
| 23 | 532 | Compressors |
| 24 | 566 | Expansion Devices |
| 25 | 595 | Special Refrigeration's System Components |
| 26 | 640 | Applications of Refrigeration Systems |
| 27 | 684 | Commercial Ice Machines |
| 28 | 733 | Special Refrigeration Applications |
| 29 | 752 | Troubleshooting and typical operating conditions for commercial Refrigeration |

Note: Questions at the end of each unit must be completed, questions and answers written out. Notebooks may be used when taking quizzes and test, so it will be your responsibility to take notes during lecture.

Student Orientation

Course Syllabus

HVACR 23

Participate in Orientation with the Online Orientation through MyECC or in the Matriculation Group academic counseling sessions for students new to college. Students will meet with a counselor in the Matriculation Groups to prepare an Educational Plan for the semester. Students who complete Online Orientation must bring in the confirmation page to make a 30 minute counseling appointment for an Educational Plan.

ECC STUDENT SERVICES CENTER BUILDING

(Please see the Activities Center and Special Resource Center ECC web page for hours of operation and services offered)