

Course Syllabus

HVACR 5

Electrical Applications

Course Description: The course focuses on basic electrical theory and training in installing, servicing, trouble-shooting and operating electrical control systems and air conditioning. Single phase and three phase air conditioning and refrigeration systems are covered in classroom discussions and laboratory assignments

Instructor: Timothy Muckey

Phone:

Email: Tmuckey@elcamino.edu

Office Hours: 9-11 AM M,W

Text: Electricity for HVAR

By: Moravek

Lecture: 8:00-11:10 AM T Th

Lab: 11:20-2:30 PM T TTh

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 by troubleshooting a faulty air conditioning unit with the use of a wiring schematic and voltmeter. After finding the problem they will run the unit and make sure it is operating at the manufactures specifications.

SLO Statement 2: After completion of this course students will have the basic skills necessary to read and interpret simple wiring diagrams in order to effectively troubleshoot and repair simple HVACR control and power related problems.

SLO Statement 3: Upon completion of this course students will apply knowledge gained on diagrams and component operation to identify HVACR systems and components sequencing and operating conditions.

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Grading:

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

***Notes:** *No late testing*

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
1	1	What you need to know to understand electricity
3	26	Safe use of electrical instruments
5	59	Power distribution
7	101	Electrical Installation of HVACR
9	136	Relays, Contactors, and motor starters
10	154	Capacitors
11	164	Thermostats
12	192	Pressure Switches
13	214	Miscellaneous Electrical Components
14	230	How a motor works
16	285	ECM
17	308	Understanding Diagrams
19	347	Solid-State Circuits
28	542	Practical Troubleshooting

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.

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Student Orientation

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)