

Virginia Western Community College

AIR 112

Air Conditioning and Refrigeration Controls II

Prerequisites

AIR 111.

Course Description

Presents electron theory, magnetism, Ohm's Law, resistance, current flow, instruments for electrical measurement, A.C. motors, power distribution controls and their application. Part II of II. Lecture 2 hours. Laboratory 2 hours. Total 4 hours per week.

Semester Credits: 3

Lecture Hours: 2

Lab/Clinical/Internship Hours: 2

Required Materials

Textbook: Essential Skills for HVACR, Theory & Labs, 2nd edition, ISBN 979-8-88817-488-3

Other Required Materials:

Safety glasses must be provided by the student and are required to be worn at all times while in the lab.

Course Outcomes

At the completion of this course, the student should be able to: Have a general working knowledge of common faults and common remedies for several types of HVAC systems, including air conditioning and heating including electric, gas, and heat pumps.

This will include the following:

- Theory and sequence of operation.
- Identification, nomenclature and location or recognition of basic components.
- Typical system construction or layout.
- Use of associated tools and test equipment.
- Measurement and/or calculation of operating conditions.
- Recognition and troubleshooting of common faults.

Topical Description

Week 1- Introduction to class, go over syllabus, get to know the students and let them get to know you, assign chapter 10 and review questions for homework.

Week 2- Go over chapter 10 homework, do power point and lecture, go to lab and do lab worksheet, assign chapter 11 and review questions for homework.

Week 3- Go over chapter 11 homework, do power point and lecture, go to lab and do lab worksheet, assign chapter 12 and review questions for homework.

Week4- Go over chapter 12 homework, do power point and lecture, go to lab and do lab worksheet

Week5- More lecture on electronic control devices, then more lab, assign chapter13 and review questions for homework.

Week6- Go over chapter 13 homework, do power point and lecture, go to lab and do lab worksheet, assign chapter 14 and review questions for homework.

Week7- Go over chapter 14 homework, do power point and lecture, go to lab and do lab worksheet, assign chapter 15 and review questions

Week8- Go over chapter 15 homework, do power point and lecture, go to lab and do lab worksheet

Week9- Chapter 15 continued with more lecture and lab, assign chapter 16 and review questions for homework

Week10- Go over chapter 16 homework, do power point and lecture, go to lab and do lab worksheet.

Week11- Chapter 16 continued with more lecture and lab, assign chapter 17 and review questions for homework

Week12- Go over chapter 17 homework, do power point and lecture, go to lab and do lab worksheet

Week13- chapter 17 continued with more lecture and lab, assign chapter 18 and review questions for homework

Week14- Go over chapter 18 homework, do power point and lecture, go to lab and do lab worksheet

Week15- Chapter 18 continued with more lecture and lab, review for final

Week 16- Final

Notes to Instructors

[ADA Statement](#) (PDF)

[Title IX Statement](#) (PDF)