

Virginia Western Community College
AIR 210
Air Conditioning and Refrigeration Analysis

Prerequisites

Complete HVACR Program or Equal Field Experience

Course Description

HVAC Control systems networking: Basic configurations and troubleshooting; provides an introduction to network devices and their communication systems, with a focus on networking. Topics also include client computers, servers, wireless networking, and diagnostic and troubleshooting tools.

Semester Credits: 3 Lecture Hours: 2 Lab/Clinical/Internship Hours: 2

Required Materials**Textbook:**

Modern Refrigeration and Air Conditioning 22nd Edition ISBN-979-8-88817-489-0

Other Required Materials:

Safety glasses will 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:

- Understand how system networking plays a major roll in the commercial HVAC field
- Understand how to navigate through the networking system
- Understand how to troubleshoot networking systems and to use the networking system to assist in troubleshooting.
- Understand and know the solutions for the 19 most common problems.

Topical Description

1. **Week 1 Syllabus and intro to class**
2. **Week 2 ch. 41 Overview of Commercial Refrigeration Systems**
3. **Weeks 3 ch. 42 Special Refrigeration Systems and Applications**
4. **Week 4 ch. 43 Commercial Compressors**
5. **Week 5 ch. 44 Commercial Evaporators, Condensers and other Heat Exchangers**
6. **Week 6 ch. 45 Commercial Metering Devices and Valves**

7. Week 7 ch.46 Commercial Refrigeration System Configurations
8. Week 8 ch. 47 Installing Commercial Systems
9. Week 9 Mid-term
10. Week 10 ch. 48 Troubleshooting Commercial Systems-System Diagnostics
11. Week 11 ch. 49 Troubleshooting Commercial Systems-Component Diagnosis
12. Week 12 ch. 50 Servicing Commercial Systems
13. Week 13 ch. 51 Understanding Heat Loads and System Thermodynamics
14. Week 14 ch. 52 Commercial Refrigeration Component Selection
15. Week 15 Course Review
16. Week 16 Final

Notes to Instructors



[ADA Statement](#) (PDF)

[Title IX Statement](#) (PDF)