



Correlation of
Modern Refrigeration and Air Conditioning, by Althouse, Turnquist, Bracciano
(Goodheart-Willcox Publisher ©2021)
to
AHRI Curriculum Guide: III. Safety

The following chart correlates the *Modern Refrigeration and Air Conditioning* textbook (©2021) to a section of the Curriculum Guide developed by Air-Conditioning, Heating, and Refrigeration Institute (AHRI) and used for PAHRA accreditation.

The chart lists the Curriculum Guide’s knowledge and task competency objectives and the corresponding chapter numbers from *Modern Refrigeration and Air Conditioning*.

For more information on the Partnership for Air-Conditioning, Heating, Refrigeration Accreditation (PAHRA) and related accreditation, please visit: www.pahrahvacr.org



III.A. Personal Safety and Work Practices	
Knowledge	Textbook Chapter(s)
1. Explain clothing and safety equipment.	Chapters 2, 3, 7, 8, 9, 10, 11
2. Review OSHA standards.	Chapters 2, 7, 8, 9, 10, 11
3. Explain the effects of substance abuse on safety.	Chapter 2
4. Review safe driving practices.	Chapters 1, 2
5. Identify, handle, use, and dispose of hardware material.	Chapters 7, 8, 10, 11
Tasks	Textbook Chapter(s)
1. Wear appropriate clothing.	Chapters 2, 3, 8
2. Use safety equipment (e.g., footwear, hearing protection, hardhat, goggles, gloves).	Chapters 2, 3, 7, 8, 9, 10, 11
3. Demonstrate good housekeeping practices in the lab.	Chapters 3, 7

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III.A. Personal Safety and Work Practices (continued)	
Tasks	Textbook Chapter(s)
4. Demonstrate proper ladder safety:	
a. wooden	Chapters 2, 33
b. aluminum	Chapters 2, 33
c. fiberglass	Chapters 2, 33
d. scaffolding	Chapters 2, 33
5. Demonstrate proper lifting procedures	Chapters 2, 33
6. Pass safe driving course.	
7. Use appropriate fire extinguishers.	Chapter 2
8. Conduct routine safety inspections.	Chapter 2
III.B. Handling of Pressurized Fluids	
Knowledge	Textbook Chapter(s)
1. List safety requirements.	Chapters 2, 5, 8, 10, 11, 55
2. Explain application of pressure relief devices.	Chapters 2, 8, 10, 11, 52
3. Explain proper storage and handling of refrigerants.	Chapters 10, 11
4. Explain effect of temperature and hydraulic expansion.	Chapters 4, 5, 10, 11
5. Explain proper storage and handling of oxygen, nitrogen, and acetylene bottles.	Chapters 4, 7, 8
6. Explain the effects of mixing oxygen and oil.	Chapters 2, 11, 42
7. Follow procedures specified on the Material Safety Data Sheet (MSDS)	Chapter 2
8. Store and dispose of hazardous material according to EPA specifications.	Chapters 2, 8, 10, 11, Appendix
9. Explain ASHRAE Refrigerant Safety Classification of Refrigerants for Toxicity and Flammability.	Chapters 9, 10, 11
Tasks	Textbook Chapter(s)
1. Properly fill and label a refrigerant cylinder.	Chapters 9, 10, 11
2. Determine if a refrigerant cylinder needs retesting.	Chapters 9, 10, 11
III.C. Handling Hazardous Substances	
Knowledge	Textbook Chapter(s)
1. Explain use of Material Safety Data Sheets (MSDS).	Chapter 2
2. Define difference between hazardous materials, substances, and wastes.	Chapter 2
3. Explain use of hazardous material manifest.	Chapter 2

III.C. Handling Hazardous Substances (continued)	
Tasks	Textbook Chapter(s)
1. Locate MSDS and identify particular effect.	Chapter 2
2. Demonstrate use of proper clothing and equipment.	Chapter 2
3. Demonstrate basic first aid procedures.	Chapter 2
III.D. Electrical Safety	
Knowledge	Textbook Chapter(s)
1. Explain importance of ground fault circuit interrupters.	Chapter 13
2. Explain the use of power tools and accessories.	Chapters 7, 10, 11, 32, 33
3. Discuss work habits.	Chapters 1, 3
4. Explain environmental safety practices.	Chapters 3, 7, 8, 10, 11, 32, 33
5. Explain proper procedures when working with hands-on live equipment.	Chapters 13, 17, 32, 33, 52
Tasks	Textbook Chapter(s)
1. "Fault" a ground fault interrupter.	Chapter 13
2. Demonstrate the use of lockout/tagout equipment.	Chapters 16, 52, 53, 54