



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

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



I.A. Introduction to Refrigeration	
Knowledge	Textbook Chapter(s)
1. Explain the history of air-conditioning and refrigeration.	Chapters 4, 5, 6, 47
2. Define air-conditioning and refrigeration.	Chapters 27, 32, 47
3. Explain the differences between air-conditioning and refrigeration.	Chapters 6, 47
4. Determine career opportunities in the HVACR industry.	Chapter 1
5. Describe the role of trade associations.	Chapter 1
I.B. Introduction to Air-Conditioning	
Knowledge	Textbook Chapter(s)
1. Understand the historical development of air-conditioning.	Chapters 4, 5, 6
2. Define “air-conditioning” and relate to human comfort conditions.	Chapters 27, 35, 36
3. Discuss the differences between air-conditioning and heating.	Chapters 32, 37, 38

Correlation of *Modern Refrigeration and Air Conditioning* to AHRI Curriculum Guide:

I. Introduction to Heating—page 2

I.B. Introduction to Air-Conditioning (continued)	
Knowledge	Textbook Chapter(s)
4. Discuss the various systems of air-conditioning:	Chapters 31, 32, 33, 34
a. mechanical compression cycle	Chapters 6, 31, 32, 33
b. evaporative cooling	Chapters 33, 34, 46
c. desiccant dehumidification	Chapters 6, 23, 35
d. absorption cycle	Chapter 34
5. Explain why ventilation is often inadequate.	Chapters 27, 28, 29, 30, 31, 32, 33, 35, 37, 38
I.C. Introduction to Heating	
Knowledge	Textbook Chapter(s)
1. Understand the historical development of heating.	Chapter 38
2. Define <i>heating</i> .	Chapters 4, 38
3. Discuss the differences between air-conditioning and heating.	Chapters 32, 37, 38
4. Explain the various heating systems:	
a. gas	Chapter 41
b. oil	Chapter 42
c. heat pump	Chapter 40
d. electric resistance	Chapter 43
e. hydronics	Chapter 39
f. solar	Chapters 44, 46