

AIR CONDITIONING, HEATING, AND REFRIGERATION TECHNOLOGY (A35100)

The Air Conditioning, Heating, and Refrigeration Technology curriculum provides the basic knowledge to develop skills necessary to work with residential and light commercial systems.

Topics include mechanical refrigeration, heating and cooling theory, electricity, controls, and safety. The diploma program covers air conditioning, furnaces, heat pumps, tools and instruments. In addition, the AAS degree covers residential building codes, residential system sizing, and advanced comfort systems.

Diploma graduates should be able to assist in the start up, preventive maintenance, service, repair, and/or installation of residential and light commercial systems. AAS degree graduates should be able to demonstrate an understanding of system selection and balance and advanced systems.

COURSE REQUIREMENTS

		Work Exp/ Class Lab Clinical Credit			
A. General Education Courses					
1. Required Courses					
ENG 111	Expository Writing	3	0	0	3
ENG 112	Argument-Based Research	3	0	0	3
MAT 140	Survey of Mathematics	3	0	0	3
	Humanities/Fine Arts Elective*	3	0	0	3
	Social/Behavioral Sciences Elective*	3	0	0	3
B. Major Courses					
1. Core Courses					
To receive a degree, diploma or certificate from RCC, a student must have a grade of "C" or better in all core courses for the program of study.					
AHR 110	Intro to Refrigeration	2	6	0	5
AHR 111	HVACR Electricity	2	2	0	3
AHR 112	Heating Technology	2	4	0	4
AHR 113	Comfort Cooling	2	4	0	4
AHR 114	Heat Pump Technology	2	4	0	4
AHR 210	Residential Building Code	1	2	0	2
AHR 211	Residential Systems Design	2	2	0	3
AHR 212	Advanced Comfort Systems	2	6	0	4
2. Other Major Courses					
AHR 115	Refrigeration Systems	1	3	0	2
AHR 130	HVAC Controls	2	2	0	3
AHR 151	HVAC Duct Systems I	1	3	0	2
AHR 160	Refrigerant Certification	1	0	0	1

Second Year – Fall Semester

AHR 115	Refrigeration Systems	1	3	0	2
AHR 210	Residential Building Code	1	2	0	2
AHR 211	Residential System Design	2	2	0	3
AHR 255	Indoor Air Quality	1	2	0	2
PHY 110	Conceptual Physics	3	0	0	3
PHY 110A	Conceptual Physics Lab	0	2	0	1
	Humanities Fine Arts Elective*	<u>3</u>	<u>0</u>	<u>0</u>	<u>3</u>
		11	11	0	16

Second Year – Spring Semester

AHR 212	Advanced Comfort Systems	2	6	0	4
AHR 235	Refrigeration Design	2	2	0	3
AHR 250	HVAC System Diagnostics	0	4	0	2
CIS 110	Introduction to Computers	2	2	0	3
ENG 112	Argument-Based Research	3	0	0	3
	Social /Behavioral Sciences Elective *	<u>3</u>	<u>0</u>	<u>0</u>	<u>3</u>
		12	14	0	18

Total Credit Hours **71**

SEMESTER SCHEDULE
AIR CONDITIONING, HEATING, AND REFRIGERATION TECHNOLOGY (DIPLOMA)

**Work Exp/
Class Lab Clinical Credit**

First Year – Fall Semester

ACA 111	College Student Success	1	0	0	1
AHR 110	Intro to Refrigeration	2	6	0	5
AHR 111	HVACR Electricity	2	2	0	3
AHR 113	Comfort Cooling	2	4	0	4
AHR 160	Refrigerant Certification	1	0	0	1
MAT 140	Survey of Mathematics	3	0	0	3
WLD 112	Basic Welding Processes	1	3	0	2
		—	—	—	—
		12	15	0	19

First Year – Spring Semester

AHR 112	Heating Technology	2	4	0	4
AHR 114	Heat Pump Technology	2	4	0	4
AHR 130	HVAC Controls	2	2	0	3
AHR 151	HVAC Duct Systems I	1	3	0	2
BPR 130	Blueprint Reading-Construction	1	2	2	2
ENG 111	Expository Writing	3	0	0	3
		—	—	—	—
		11	15	2	18

Total Credit Hours **37**

SEMESTER SCHEDULE
 AIR CONDITIONING, HEATING, AND REFRIGERATION TECHNOLOGY
 AIR CONDITIONING CERTIFICATE (C35100C)

		Work Exp/ Class Lab Clinical Credit			
AHR 110	Intro to Refrigeration	2	6	0	5
AHR 111	HVACR Electricity	2	2	0	3
AHR 113	Comfort Cooling	2	4	0	4
AHR 160	Refrigerant Certification	1	0	0	1
		—	—	—	—
		7	12	0	13
Total Credit Hours					13

SEMESTER SCHEDULE
 AIR CONDITIONING, HEATING, AND REFRIGERATION TECHNOLOGY
 HEATING CERTIFICATE (C35100H)

		Work Exp/ Class Lab Clinical Credit			
AHR 110	Intro to Refrigeration	2	6	0	5
AHR 111	HVACR Electricity	2	2	0	3
AHR 112	Heating Technology	2	4	0	4
AHR 114	Heat Pump Technology	2	4	0	4
AHR 160	Refrigerant Certification	1	0	0	1
		—	—	—	—
		9	16	0	17
Total Credit Hours					17

Approved 10/26/10 by RCC Curriculum Committee