HEATING AND AC TECHNICIAN
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 A.A.S. 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. A.A.S. degree graduates should be able to demonstrate an understanding of system selection and balance and advanced systems.

COURSE REQUIREMENTS

Richmond Community College provides day and evening course sequences for selected programs to enable students to better plan what courses to take to reach their educational goals. However, given the continued increase in the use of technology in instruction and increasing student demand for distance learning courses, the College may offer hybrid, online, web-based and information highway courses in place of traditional courses in any course sequence that is listed. Therefore, students should be aware of this possibility and prepare themselves to successfully function in a hybrid, online, web-based, or information highway course.

				Class	Lab	Work/ Clinical	Credit
A. General Education Courses							
1. Required Courses							
COM	231	Public Speaking		3	0	0	3
ENG	111	Writing and Inquiry		3	0	0	3
MAT	110	Math Measurement and Literacy		2	2	0	3
or							
MAT	143	Quantitative Literacy		2	2	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.

			Class	Lab	Work/ 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	113	Comfort Cooling	2	4	0	4
AHR	114	Heat Pump Technology	2	4	0	4
AHR	130	HVAC Controls	2	2	0	3
AHR	211	Residential Systems Design	2	2	0	3
AHR	212	Advanced Comfort Systems	2	6	0	4

			Class	Lab	Work/Clinical	Credit
AHR	213	HVACR Building Code	1	2	0	2

2. Other Major Courses

			Class	Lab	Work/Clinical	Credit
AHR	115	Refrigeration Systems	1	3	0	2
AHR	120	HVACR Maintenance	1	3	0	2
or						
WBL	111	Work-Based Learning I	0	0	10	1
and						
WBL	115	Work-Based Learning Seminar I	1	0	0	1
AHR	151	HVAC Duct Systems I	1	3	0	2
AHR	160	Refrigerant Certification	1	0	0	1
AHR	180	HVACR Customer Relations	1	0	0	1
AHR	235	Refrigeration Design	2	2	0	3
BUS	110	Introduction to Business	3	0	0	3
or						
BUS	230	Small Business Management	3	0	0	3
CIS	110	Introduction to Computers	2	2	0	3

C. Other Required Courses

			Class	Lab	Work/Clinical	Credit
ACA	122	College Transfer Success	0	2	0	1

Total Credit Hours   **65**

*Approved Electives are listed on the page before the Course Descriptions.

SEMESTER SCHEDULE
AIR CONDITIONING, HEATING, AND REFRIGERATION TECHNOLOGY

			Class	Lab	Work/Clinical	Credit
First Year – Fall Semester						
ACA	122	College Transfer Success	0	2	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	180	HVACR Customer Relations	1	0	0	1
CIS	110	Introduction to Computers	2	2	0	3
			9	16	0	17
First Year – Spring Semester						
AHR	112	Heating Technology	2	4	0	4
AHR	114	Heat Pump Technology	2	4	0	4
AHR	151	HVAC Duct Systems I	1	3	0	2
AHR	160	Refrigerant Certification	1	0	0	1
BUS	110	Introduction to Business	3	0	0	3
or						
BUS	230	Small Business Management	3	0	0	3
ENG	111	Writing and Inquiry	3	0	0	3

			12	11	0	17

Second Year – Fall Semester

			Class	Lab	Work/Clinical	Credit
AHR	115	Refrigeration Systems	1	3	0	2
AHR	211	Residential System Design	2	2	0	3
AHR	213	HVACR Building Code	1	2	0	2
COM	231	Public Speaking	3	0	0	3
MAT	110	Math Measurement and Literacy	2	2	0	3
or						
MAT	143	Quantitative Literacy	2	2	0	3
		Humanities Fine Arts Elective*	3	0	0	3
			12	9	0	16

Second Year – Spring Semester

			Class	Lab	Work/Clinical	Credit
AHR	120	HVACR Maintenance	1	3	0	2
or						
WBL	111	Work-Based Learning I	0	0	10	1
and						
WBL	115	Work-Based Learning Seminar I	1	0	0	1
AHR	130	HVAC Controls	2	2	0	3
AHR	212	Advanced Comfort Systems	2	6	0	4
AHR	235	Refrigeration Design	2	2	0	3
		Social /Behavioral Sciences Elective*	3	0	0	3
			10	10-13	0-10	15

Total Credit Hours   **65**

*Approved Electives are listed on the page before the Course Descriptions.

SEMESTER SCHEDULE
AIR CONDITIONING, HEATING, AND REFRIGERATION TECHNOLOGY
(DIPLOMA) (D35100)

			Class	Lab	Work/Clinical	Credit
		First Year – Fall Semester				
ACA	122	College Transfer Success	0	2	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	180	HVACR Customer Relations	1	0	0	1
CIS	110	Introduction to Computers	2	2	0	3
			9	16	0	17
		First Year – Spring Semester				
AHR	112	Heating Technology	2	4	0	4

			Class	Lab	Work/ Clinical	Credit
AHR	114	Heat Pump Technology	2	4	0	4
AHR	151	HVAC Duct Systems I	1	3	0	2
AHR	160	Refrigerant Certification	1	0	0	1
BUS	110	Introduction to Business	3	0	0	3
or						
BUS	230	Small Business Management	3	0	0	3
ENG	102	Applied Communications II	3	0	0	3
MAT	110	Math Measurement and Literacy	2	2	0	3
or						
MAT	143	Quantitative Literacy	2	2	0	3
			14	13	0	20

Total Credit Hours **37**

AHRT: AIR CONDITIONING (CERTIFICATE) (C35100C)
COURSE REQUIREMENTS

			Class	Lab	Work/ 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

Total Credit Hours **13**

AHRT: HEATING (CERTIFICATE) (C35100H)
COURSE REQUIREMENTS

			Class	Lab	Work/ 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

Total Credit Hours **17**