



Program Planning Guide

Air Conditioning, Heating, and Refrigeration Tech Certificate (C35100C)

Program Length: 2 semesters

Program Sites: Center for Workforce Innovation/Howard James Industrial Training Center

Career Pathway Options: Associate in Applied Science Degree in Air Conditioning, Heating, and Refrigeration; Diploma in Air Conditioning, Heating, and Refrigeration; Certificate in Air Conditioning, Heat, and Refrigeration Core

Suggested Course Schedule		Class	Lab	Work	Credits	Notes:
1st Semester (fall)						
AHR 110	Intro to Refrigeration	2	6	0	5	
AHR 111	HVACR Electricity	2	2	0	3	
	Total Semester Hours	4	8	0	8	
2nd Semester (spring)						
AHR 112	Heating Technology	2	4	0	4	
AHR 113	Comfort Cooling	2	4	0	4	
	Total Semester Hours	4	8	0	8	
Total Semester Hours Required for Graduation: 16						



Course Descriptions

AHR 110 Intro to Refrigeration

This course introduces the basic refrigeration process used in mechanical refrigeration and air conditioning systems. Topics include terminology, safety, and identification and function of components; refrigeration cycle; and tools and instrumentation used in mechanical refrigeration systems. Upon completion, students should be able to identify refrigeration systems and components, explain the refrigeration process, and use the tools and instrumentation of the trade.

AHR 111 HVACR Electricity

This course introduces electricity as it applies to HVACR equipment. Emphasis is placed on power sources, interaction of electrical components, wiring of simple circuits, and the use of electrical test equipment. Upon completion, students should be able to demonstrate good wiring practices and the ability to read simple wiring diagrams.

AHR 112 Heating Technology

This course covers the fundamentals of heating systems. Topics include safety, instrumentation, system operating, efficiency testing, electrical power, and control systems. Upon completion, students should be able to perform maintenance, service, and testing for major components of a heating system.

AHR 113 Comfort Cooling

This course covers the installation procedures, system operations, and maintenance of residential and light commercial comfort cooling systems. Topics include terminology, component operation, and testing and repair of equipment used to control and produce assured comfort levels. Upon completion, students should be able to use psychrometrics, manufacturer specifications, and test instruments to determine proper system operation.