

Technical and Vocational Programs

D 35 10 0 Air Conditioning, Heating and Refrigeration (HVAC) Technology – Diploma

C 35 10 0 I Air Conditioning, Heating and Refrigeration (HVAC) Technology – Certificate I

C 35 10 0 II Air Conditioning, Heating and Refrigeration (HVAC) Technology – Certificate II

(Diploma offered only at the Edenton-Chowan Campus)

(Certificate campus location may vary)

CONCENTRATION OVERVIEW

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.

Upon completion of this concentration, graduates will be able to assist in the startup, preventive maintenance, service, repair, and/or installation of residential and light commercial systems.

Student Learning Outcomes – Upon completion of the program, students will:

1. Complete layout drawings for HVAC systems using approved engineering methods.
2. Demonstrate competency on the concepts and theory for the Federal 608 CFC certification test.
3. Demonstrate knowledge about refrigeration system operations.
4. Troubleshoot and repair electrical and digital control systems.

Partnership: N/A



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D 35 10 0 Air Conditioning, Heating and Refrigeration (HVAC) Technology - Diploma (Offered only at the Edenton-Chowan Campus)

First Year Fall Semester Course Number and Title	Pre-Requisites and Co-Requisites	Class Hours	Lab Hours	Clinical Hours	Total Contact Hours	Total Credit Hours
AHR 110 Intro to Refrigeration	Pre-Requisite: Appropriate placement above a Basic Skills level.	2	6		8	5
AHR 111 HVAC Electricity	Pre-Requisite: Appropriate placement above a Basic Skills level.	2	2		4	3
AHR 112 Heating Technology	Pre-Requisite: Appropriate placement above a Basic Skills level.	2	4		6	4
CIS 111 Basic PC Literacy		1	2		3	2
AHR 113 Comfort Cooling	Pre-Requisite: Appropriate placement above a Basic Skills level.	2	4		6	4
ENG 102 Appl Comm II Or ENG 111 Or MAT 110	ENG 102 Pre-Requisite: None ENG 111 Pre-Requisites: ENG 090 and RED 090, or ENG 095, or DRE 098, or appropriate placement MAT 110 Pre-Requisites: DMA 010-030	2-3	0-2		3-4	3
TOTAL SEMESTER HOURS		11-12	18-20		30-31	21
First Year Spring Semester Course Number and Title	Pre-Requisites and Co-Requisites	Class Hours	Lab Hours	Clinical Hours	Total Contact Hours	Total Credit Hours
AHR 114 Heat Pump Technology	Pre-Requisites: AHR 110 or 113	2	4		6	4
AHR 130 HVAC Controls	Pre-Requisites: AHR 111 or ELC 111 or ELC 112	2	2		4	3
AHR 213 HVACR Building Code	Pre-Requisites: AHR 110 or AHR 113	1	2		3	2
AHR 160 Refrigerant Certification	Pre-Requisite: Appropriate placement above a Basic Skills level.	1			1	1
WBL 110 World of Work, WBL 111 or WBL 112 Work-Based Learning I		0-1		0-20	1-20	1-2
AHR 255 Indoor Air Quality	Pre-Requisites: AHR 110 or AHR 113	1	2		3	2
COM 101 Workplace Communication		3	0		3	3
TOTAL SEMESTER HOURS		10-11	10	0-20	21-40	16-17
TOTAL SEMESTER HOURS REQUIRED FOR DIPLOMA						37-38

“General education courses may be offered during different semesters based on campus location.”

C 35 10 0 I Air Conditioning, Heating, and Refrigeration Technology Certificate I (Campus location may vary)

Certificate Course Number and Title	Pre-Requisites and Co-Requisites	Class Hours	Lab Hours	Clinical Hours	Total Contact Hours	Total Credit Hours
AHR 110 Intro to Refrigeration	Pre-Requisite: Appropriate placement above a Basic Skills level.	2	6		8	5
AHR 111 HVAC Electricity	Pre-Requisite: Appropriate placement above a Basic Skills level.	2	2		4	3
AHR 112 Heating Technology	Pre-Requisite: Appropriate placement above a Basic Skills level.	2	4		6	4
AHR 113 Comfort Cooling	Pre-Requisite: Appropriate placement above a Basic Skills level.	2	4		6	4
TOTAL SEMESTER HOURS		8	16		24	16
TOTAL SEMESTER HOURS REQUIRED FOR CERTIFICATE						16

C 35 10 0 II Air Conditioning, Heating, and Refrigeration Technology Certificate II (Campus location may vary)

To complete higher level certificates, students may be required to complete coursework offered in the previous certificate to meet all required course prerequisites.

Certificate Course Number and Title	Pre-Requisites and Co-Requisites	Class Hours	Lab Hours	Clinical Hours	Total Contact Hours	Total Credit Hours
AHR 114 Heat Pump Technology	Pre-Requisites: AHR 110 or AHR 113	2	4		6	4
AHR 130 HVAC Controls	Pre-Requisites: AHR 111 or ELC 111 or ELC 112	2	2		4	3
AHR 160 Refrigerant Certification	Pre-Requisite: Appropriate placement above a Basic Skills level.	1			1	1
AHR 255 Indoor Air Quality	Pre-Requisites: AHR 110 or AHR 113	1	2		3	2
AHR 213 HVACR Building Code	Pre-Requisites: AHR 110 or AHR 113	1	2		3	2
TOTAL SEMESTER HOURS		7	10		17	12
TOTAL SEMESTER HOURS REQUIRED FOR CERTIFICATE						12