

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

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 be able to :

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 the refrigeration cycle explaining the major components and the physical state of the refrigerant in the system.
4. Identify, troubleshoot, and repair electrical systems.



Partnership: Level Three Instructional Service Agreement between College of The Albemarle and Beaufort County Community College

C 35 10 0 I Air Conditioning, Heating, and Refrigeration Technology Certificate I

| 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-Requisites: None | 2 | 6 | | 8 | 5 |
| AHR 111 HVAC Electricity | Pre-Requisites: None | 2 | 2 | | 4 | 3 |
| AHR 112 Heating Technology | Pre-Requisites: None | 2 | 4 | | 6 | 4 |
| AHR 113 Comfort Cooling | Pre-Requisites: None | 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

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

| 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 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-Requisites: None | 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 |