

# Heating, Ventilation and Air Conditioning, Diploma

## School of Technology

The heating ventilation and air conditioning diploma is designed to prepare students for entry level positions in the HVAC &R field. In the classroom and through lab experiences the student learns the refrigerants used in the industry, the basic refrigeration cycle, to fabricate ductwork, and control circuitry. The students also learn the skills to install and service gas and oil furnaces. Students will install and service of water based heating and cooling systems, air conditioners and heat pumps, basic wiring, and learn refrigerant recovery techniques.

### Career Opportunities

Graduates of this program will obtain jobs as ductwork fabricators, service technicians, installers, maintenance technicians, or troubleshooters.

### Program Learning Outcomes

**This curriculum is designed to prepare students to:**

- Demonstrate the skills, professional values, and ethics necessary to be employed in the heating, ventilation, and air conditioning field.
- Demonstrate effective oral and written communication skills with customers, salesman, and fellow employees.
- Identify and demonstrate the proper use of HVAC hand tools, meters and gauges.
- Describe the general principles and terminology of HVAC systems.
- Design, install and maintain heating and cooling equipment.
- Design, install and maintain hydronic heating and cooling equipment.
- Demonstrate the ability to utilize direct digital controls.
- Understand and implement heating and air conditioning systems that utilize natural technologies.
- Demonstrate the ability to read blueprints for residential and commercial structures.
- Read and interpret electrical ladder and pictorial diagrams to understand basic electrical and control circuitry in HVAC systems.
- Demonstrate the ability to fabricate ductwork.

Seq #	Course	Course Title	Credits	Type	Term Offered	Pre-Req	Options Available
1	HAC 101	Introduction to Refrigeration/AC	4	Major	F		
2	HAC 175	Direct Digital Controls	2	Major	F		
3	HAC 240	HVAC Duct Fabrication	2	Major	F		
4	HAC 250	Gas and Oil Heating Technology	4	Major	F		
5	HAC 256	Geothermal and Solar Technology	3	Major	F		
6	HAC 105	Blueprint Reading for HVAC Technicians	2	Major	Sp		
7	HAC 170	HVACR Control Sys	2	Major	Sp		
8	HAC 255	Air Conditioning/Heat Pumps	4	Major	Sp		
9	HAC 260	Hydronics	4	Major	Sp		
10	HAC 290	EPA Refrigerant Exam Prep.	3	Major	Sp		

**Total Program Credits 30**

**Total Pathway Credits 30**