

# Heating, Air Conditioning and Refrigeration (HVACR) Technology A.A.S. (HAC)

The HVACR Technology program offers hands-on experiences to complement the technical training in the areas of heating, air conditioning, and refrigeration, as well as piping skills, residential and commercial wiring, interpreting construction drawings, industrial maintenance, and motor control for residential, commercial, and light industrial settings. Typical operating sequences and troubleshooting are stressed. The program culminates with the entry-level certifications offered by the Air Conditioning and Refrigeration Institute (ARI) and the Environmental Protection Agency (EPA) certification for refrigerant handling.

Employment opportunities include installation and service technician for all facets of HVACR equipment, HVACR counter and outside salespersons, industrial maintenance mechanics, factory service representatives, estimators, and system designers.

## Upon successful completion of this program, graduates will be able to:

- identify and list the components and their functions for the basic refrigeration cycle.
- identify refrigerants by measuring temperature and pressure.
- pass EPA certifications for refrigerant recovery and use.
- demonstrate basic shop safety to operate and maintain tools and test equipment.
- use basic laws of physics.
- perform heat loss/heat gain calculations.
- size and lay out air distribution and hydronic piping systems.
- install and service typical residential and light commercial HVACR equipment.
- follow the National Electrical Code (NEC) to install residential and light commercial wiring as it relates to the HVACR industry.
- use basic math functions typical to a business environment.

First Semester		Credits
HAC 104	Basic Electricity	3
ENG 105	Research and Composition	3
HAC 119	Construction Print Reading	3
HAC 131	Air Conditioning and Refrigeration I	3
MAT 118	Business and Financial Mathematics	3
		15

Second Semester		Credits
ENG 107	Writing in the Workplace	3
HAC 140	Electrical Maintenance I	3
HAC 150	Heating Systems	3
HAC 132	Air Conditioning and Refrigeration II	3
ENG 111	Speech	3
		15

Third Semester		Credits
HAC 135	Domestic Oil Burners	3
HAC 145	Advanced Air Conditioning and Refrigeration	3
HAC 155	Electrical Maintenance II	3
HAC 160	Residential Wiring	3
PHY 101	Conceptual Physics	4
Elective	Social Science/Humanities	3
		19

Fourth Semester		Credits
HAC 125	Piping and Hydronic Heating	3
HAC 203	Heat Pumps	3
HAC 204	Gas Furnaces	3
HAC 210	HVACR Practicum	2
HAC 250	Commercial and Industrial Wiring	3
Elective	Social Science/Humanities	3
		17

**Credit Total** **66**

**Prior Learning Assessment:** Previous job training, certificates and work experience that may qualify for college credit (*see academic advisor*).

**Gateway Courses:** Based on placement testing in reading, writing and math, these prerequisite courses may have to be taken before placement in College English or Mathematics beginning the first semester and concurrently.

RSS 099	Basic Skills Reading	3
RSS 100	Critical Reading	3
ENG 099	Basic Skills Writing	3
ENG 100	Fundamentals of Writing	3
MAT 090	Mathematical Literacy	6
ESL 251	English for Academic Purpose	6
		(Required for ESL students only.)

Please note, taking gateway courses will increase your time for completion.