

Fort Scott Community College

Certificate Requirements

Heating, Ventilation, Air Conditioning & Refrigeration (HVAC)

At the end of the certificate program, students will be prepared as warranty and service technicians for the air conditioning and refrigeration industry. Graduates will be able to install, diagnose and repair residential, commercial and industrial systems. Employment opportunities are found in air conditioning dealerships, institutional maintenance, grocery chains, manufacturing, and small business ownership. Today, one out of every seven individuals is self-employed. Students are given the opportunity to gain certification for the EPA's universal refrigerant handling. This hands-on educational program also includes detailed instruction on:

1. How to evaluate and determine the amount of heating, air conditioning or refrigeration capacity to accomplish a particular task
2. Air conditioning, heating and refrigeration devices, techniques and systems
3. Maintenance and operation of a system that meets the requirements for the task

Students enrolling in the HVAC program must score at the 9th grade reading level on the Nelson-Denny test prior to acceptance in the program.

A student must be making satisfactory progress in or have successfully completed 1st semester program course work to continue in the program or enroll for the spring semester.

Suggested Curriculum:

FIRST SEMESTER	
EDU 1211 College Orientation	1
HVC 1414 HVAC Fundamentals.....	4
HVC 1424 HVAC Fundamentals Lab.....	4
HVC 1434 Electrical Fundamentals.....	4
HVC 1533 Electrical Fundamentals Lab.....	3
HVC 1211 EPA 608	1
HVC 1221 Workplace Skills.....	1
HVC 1231 Safety Orientation	1
HVC 2423 A/C Design	3
Total Hours	22
SECOND SEMESTER	
HVC 2382 Motors & Controls	2
HVC 2463 A/C Equipment Analysis.....	3
HVC 2473 A/C Equipment Analysis Lab.....	3
HVC 2433 Residential Controls	3
HVC 2443 Residential Controls Lab	3
HVC 2413 Heating.....	3
HVC 2513 Heating Lab.....	3
HVC 1481 Special Project	1
Total Hours.....	21

Required Tool List for HVAC

- Safety glasses
- Tool box
- Flaring block & yolk
- 1/4" x 1 1/2" Phillips screwdriver
- 1/4" x 6" Phillips screwdriver
- 6" needle nose pliers
- 7" diagonal cutting pliers
- Flat blade screwdriver set
- 8" adjustable wrench
- 12" adjustable wrench
- Tubing cutter and imp tubing cutter
- Swaging tool
- Pocket knife (no blade longer than 3")
- Utility hammer
- Claw hammer
- Multi-meter (Volts/Ohms/microfarads)
- Clamp-on amp meter
- Thermometer (0 to 24F) - Digital recommended
- Micron vacuum gauge
- Vacuum pump 3-5 CFM
- Refrigerant scale
- Channel locks
- Hacksaw
- Refrigeration ratchet wrench
- 3/8" drive socket set
- Flashlight
- Inspection mirror