

HEATING, VENTILATION, AIR CONDITIONING, AND REFRIGERATION (ITC)

Interm Technical Certificate

Career-Technical Program

Interest Areas:

Manufacturing and Trades

This nine-month certificate program in Heating, Ventilation, Air Conditioning, and Refrigeration prepares students for entry-level positions in this challenging occupation. Entry-level HVACR technicians typically work on residential and light commercial HVACR systems performing equipment installations, preventative maintenance and service, and repair tasks.

Students will study basic HVACR systems, electricity, heating systems, local fuel codes, applied thermodynamics, refrigeration cycle, psychometrics, duct system design, and system diagnosis. These skills are taught in classroom theory and learned in hands-on lab exercises and cooperative work experiences. Successful completion of the first semester or permission of the instructor is required to continue into the second semester.

Successful completion of this program satisfies the four-year related training requirement for the Idaho State HVAC apprenticeship program.

Current industry professionals may enroll in a single course on a space available basis and with the instructor's permission.

Contact Information:

**Trades & Industry Division
Parker Technical Education Center
7064 West Lancaster Road
Rathdrum, ID 83858
Phone: (208) 769-3448**

Program Website (<https://www.nic.edu/hvac/>)

Program Requirements

Course	Title	Credits
Semester 1		
HVAC-161	HVACR Principles	3
HVAC-161L	HVACR Lab I	5
HVAC-165	HVACR Electrical	4
HVAC-167	HVACR Heating	4
Select one of the following:		3-5
MCTE-101	Technical Mathematics	
GEM 3 - A.A.S. Mathematical Ways of Knowing		
Credits		19-21
Semester 2		
ATEC-117	Occupational Relations and Job Search	2
HVAC-171L	HVACR Lab II	5
HVAC-175	HVACR Systems	4
HVAC-177	Refrigeration	4

HVAC-180	HVACR Codes and Licenses	3
ENGL-101 or ENGL-101P	Writing and Rhetoric I or Writing and Rhetoric I	3
Credits		21
Total Credits		40-42

Course Key



GEM



AAS
Institutionally
Designated



Gateway



Milestone

Program Outcomes

Upon completion of the program, students will be able to:

1. Recognize and apply proper safety techniques and procedures for troubleshooting and servicing HVACR systems.
2. Describe the sequence of operation and properly install and repair fossil fuel combustion systems found in residential and light commercial applications.
3. Describe the sequence of operation and properly install and repair oil combustion and electric furnace operations.
4. Demonstrate proficiency in safe refrigerant handling and recovery.
5. Troubleshoot and apply service knowledge to various refrigeration processes, including heat pumps, walk-in coolers and chillers.
6. Exhibit HVACR work and safety industry competencies by modeling teamwork, and clean and safe shop practices.
7. Demonstrate good work habits, communication practices and computation skills used in the HVACR industry.
8. Read and interpret electrical schematics and building blue prints.
9. Eligible to obtain a Universal Refrigerant Handling Card allowing work on any size refrigeration system.