

The HVAC program prepares individuals to apply technical knowledge and skills to repair, install, service and maintain the operating condition of heating, air conditioning and refrigeration systems. Individuals receive instruction in diagnostic techniques, the use of testing equipment and the principles of mechanics, electricity and electronics. They will receive instruction in the following topics:

Introduction to HVAC

- Introduction to HVAC
- Trade Math
- Introduction to Heating
- Introduction to Cooling
- Introduction to Air Distribution Systems

HVAC Piping Practices

- Basic Copper & Plastic Piping Practices
- Soldering and Brazing
- Basic Carbon Steel Piping Practices

HVAC Electrical Systems

- Basic Electricity
- Alternating Current
- Fasteners, Hardware and Wiring Terminations
- Control Circuit & Motor Troubleshooting

Hybrid EPA Certification

HVAC Compressors & Refrigerants

- Compressors
- Refrigerants & Oils
- Leak Detection, Evacuation, Recovery & Charging

HVAC Metering Devices, Heat Pumps & Basic Maintenance

- Metering Devices
- Heat Pumps
- Basic Maintenance

HVAC Flues & Ducts

- Chimneys, Vents & Flues
- Sheet Metal Duct Systems & Sealing
- Fiberglass & Fabric Duct Systems & Sealing

HVAC Commercial Applications

- Commercial Airside Systems
- Air Quality Equipment
- Introduction to Hydronic Systems

HVAC Troubleshooting

- Troubleshooting Cooling
- Troubleshooting Heat Pumps
- Troubleshooting Gas Heating
- Troubleshooting Oil Heating
- Troubleshooting Accessories
- Zoning, Ductless & Variable Refrigerant Flow Systems

Additional Commercial HVAC Systems

- Commercial Hydronic Systems
- Steam Systems
- Retail Refrigeration Systems
- Alternative & Specialized Heating & Cooling Systems
- Commercial/Industrial Refrigeration Systems

Building Automation Control Systems

- Indoor Air Quality
- Energy Conservation Equipment
- Building Management Systems
- System Air Balancing
- System Startup & Shutdown
- Construction Drawings & Specifications
- Heating & Cooling System Design

HVAC Management Topics

- Customer Relations
- Fundamentals of Crew Leadership

HVAC trainees who successfully complete these topics will receive their EPA Certification and the following NCCER Certifications:

Core, Level 1, Level 2 & Level 3