

# **HVAC-R**





## **Curriculum Highlights:**

An instructional program that prepares individuals to apply technical knowledge and skills to install, repair and maintain commercial and domestic heating, air conditioning and refrigeration systems. Instruction includes theory and application of basic principles involved in conditioning of air (cooling and heating); filtering and controlling humidity; operating characteristics of various units and parts; blueprint reading; use of technical reference manuals; the diagnosis of malfunctions; overhaul, repair and adjustment of units and parts such as pumps, compressors, valves, springs and connections; and repair of electric/electronic and pneumatic control systems..

### **GAIN REAL LIFE EXPERIENCE:**

- Cut and assemble various piping materials, including ACR copper tubing, CSST and PVC pipe
- Wire series, parallel and series-parallel circuits; install electric disconnects, circuit breakers and fuses
- Install and service a variety of cooling, heating and refrigeration systems, as well as their components
- Fabricate air ducts; evaluate ventilation systems' performance by measuring air velocity, volume, etc.

### **Career Opportunities:**

HVAC Technician
AC Technician
Systems Mechanic
Refrigeration Mechanic
Plumber
Sheet Metal Worker
Pipe Fitter & Steamfitter

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## First Year:

- Wire thermostats
- Add ductwork to an existing ventilation system
- Install condensate, gas and refrigerant lines
- Safety, tools, residential work, blueprints, basic HVAC systems, and basic plumbing skills

### 2nd & 3rd Years:

- Build a sealed HVAC system
- Troubleshoot an ice machine and install a geothermal unit
- Upperclassmen are encouraged to further develop their skills by securing internship or co-op positions with local companies.

### **Additional Benefits:**

- Job Shadow with local companies
- Participate in Co-Op program with the potential to earn money while in school.

Campus Location	5 Guttman Ave. Charleroi, PA
Grade Levels	Sophomores, Juniors and Seniors
Fees (subject to change) / Uniform	Certification testing paid for by MVCTC
	Class shirt, jeans, steel toe boots
Organizations, Affiliations or CTSO	SkillsUSA
College Connections	NTHS
Industry Certifications	Rosedale Technical College
	Various NCCER® certifications
	Various Air Conditioning & Refrigeration
	Institute certifications
	OSHA Certification via CareerSafe®
	EPA Certification

# **Instructor:** Brian McCrory

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