

HEATING, VENTILATION, AND AIR CONDITION (HVAC)

Courses

HVAC 102 Basic Refrigeration 4 Credits

Introduction to the theory of refrigeration, components, charging, recycling, and evacuation of refrigeration units. On completion of the course, students will be prepared for successful completion of the EPA-608 TYPE 2 certification exam. The student will be responsible to pay a fee to sit for the EPA-608 TYPE 2 exam.

Terms Typically Offered: Fall.

Fees: Yes.

HVAC 103 Basic Electricity 3 Credits

Introduction to the basic electrical AC theory, including the study of Ohm's Law to explain the operation of electrical devices. Overview of motors, electrical controls, and wiring diagrams also discussed.

Terms Typically Offered: Fall.

Fees: Yes.

HVAC 106 Introduction to Service Technician Training 1 Credit

Introduction to basic HVAC service from which the student will build their knowledge and understanding of this great career. Studies include class and school policies, safety for the service tech, first aid, and basic physics as it applies to heat, matter, and energy.

Terms Typically Offered: Fall.

Fees: Yes.

HVAC 110 Fundamentals of Gas Heating 4 Credits

Introduction to the fundamentals of gas heating. Topics include: the basics of gas heating systems, operation of gas valves and burners, gas pipe system design, gas piping system code requirements, and basic code requirements for heating systems.

Terms Typically Offered: Fall.

Fees: Yes.

HVAC 111 Piping Skills for HVAC 4 Credits

Introduction to the different types of tubing and piping materials used in HVAC applications, including, the proper tubing and piping installation methods, proper cutting and bending procedures, pipe math, and piping offsets. Common piping joints will be discussed, including swaging, flaring, soldering, brazing, cutting, and threading of steel pipe and other alternatives. Shop projects include bench projects and mock-up installations.

Terms Typically Offered: Spring.

Fees: Yes.

HVAC 113 Refrigerant Recovery Training 1 Credit

Introduction to the laws regarding refrigerant recovery. The course includes hands-on use of recovery equipment.

Prerequisites: HVAC 102 and an EPA 608 Type I and Type II License.

Terms Typically Offered: Spring.

Fees: Yes.

HVAC 117 OSHA Ten-Hour Voluntary Compliance 1 Credit

Introduction to a 10-Hour OSHA certification course for general industry. Participants will review the current OSHA standards contained in 29 CFR 1910. Participants will have the skills necessary to sit for the certificate of completion from the United States Department of Labor, Occupational Safety and Health Administration.

Terms Typically Offered: Fall.

HVAC 122 Commercial Refrigeration 4 Credits

Introduction to commercial ice makers, walk-in coolers, walk-in freezers, and self-contained refrigeration units.

Prerequisites: HVAC 102.

Terms Typically Offered: Fall.

Fees: Yes.

HVAC 146 Residential Duct Design 2 Credits

Introduction to the importance of equipment sizing. Focus on properly performing heating and cooling load calculations on residential houses. After determining proper equipment sizing, participants will demonstrate how to design the duct-work system sizing for proper airflow throughout the house.

Terms Typically Offered: Fall.

Fees: Yes.

HVAC 195 Independent Study 1-4 Credits

Course may be taken multiple times up to maximum of 6 credit hours.

HVAC 202 Troubleshooting and Customer Service 3 Credits

Introduction to field analysis of malfunctions on actual, in-house, heating, ventilation, refrigeration, and air conditioning equipment. Customer interaction and diagnosis efficiency stressed.

Prerequisites: HVAC 103, HVAC 110, HVAC 117, and HVAC 240.

Terms Typically Offered: Spring.

Fees: Yes.

HVAC 204 Direct Digital Controls 4 Credits

Introduction to the field of direct digital controls in HVAC systems.

Terms Typically Offered: Fall.

HVAC 210 Fundamentals of Hydronic Heating 4 Credits

Introduction to the fundamentals of hydronic heating.

Prerequisites: HVAC 110.

Terms Typically Offered: Spring.

HVAC 222 Heating, Ventilation, Air Conditioning, and Refrigeration Systems Troubleshooting 5 Credits

Introduction to troubleshooting industrial and commercial heating, ventilating, air conditioning, and refrigeration systems.

Prerequisites: HVAC 202.

Terms Typically Offered: Fall.

Fees: Yes.

HVAC 240 Servicing Forced Air Systems 4 Credits

Operation, repair, and maintenance of forced air heating systems. Introduction to the different types of furnaces, code requirements, common controls, and mechanical problems. This course also explores the A.G.A. (American Gas Association) approved method of testing furnace heat exchangers. Customer relations and workplace behavior are discussed.

Terms Typically Offered: Fall.

Fees: Yes.

HVAC 261 Air Conditioning Systems Service and Repair 4 Credits

Introduction to the service and repair of HVAC systems. Troubleshooting techniques and equipment repair will be practiced.

Terms Typically Offered: Spring.

Fees: Yes.

HVAC 295 Independent Study 1-4 Credits

Course may be taken multiple times up to maximum of 6 credit hours.

HVAC 296 Topics 1-4 Credits

Course may be taken multiple times up to maximum of 15 credit hours.

HVAC 299 Internship 1-4 Credits

Course may be taken multiple times up to maximum of 6 credit hours.