

HART - HEATING & AC

HART 1356 EPA Recovery Certification Preparation 3 Credit Hours (2 Lec, 4 Lab)

Certification training for HVAC refrigerant recovery, recycle, and reclaim. Instruction will provide a review of EPA guidelines for refrigerant recovery and recycling during the installation, service, and repair of all HVAC and refrigeration systems.

Course Type: Technical/Vocational Course

HART 1391 Special Topics in Heating Air Conditioning and Refrigeration 3 Credit Hours (2 Lec, 4 Lab)

Topics address recently identified current events, skills, knowledge, and/or attitudes and behavior pertinent to the technology or occupation and relevant to the professional development of the student. This course was designed to be repeated multiple times to improve student proficiency.

Prerequisite: N/A

Course Type: Technical/Vocational Course

HART 1401 Basic Electricity for HVAC 4 Credit Hours (3 Lec, 4 Lab)

Principles of electricity as required by HVAC, including proper use of test equipment, electrical circuits, component theory and operation.

Course Type: Technical/Vocational Course

HART 1403 AC Control Principles 4 Credit Hours (3 Lec, 4 Lab)

A basic study of HVAC and refrigerant controls, troubleshooting of control components; emphasis on use of wiring diagrams to analyze high and low voltage circuits, a review of Ohm's law as applied to air conditioning controls and circuits. Prerequisites: HART 1401, HART 2431

Course Type: Technical/Vocational Course

HART 1407 Refrigeration Principles 4 Credit Hours (3 Lec, 2 Lab)

An introduction to the refrigerant cycle, heat transfer theory, temperature/pressure relationship, refrigerant handling, refrigeration components and safety.

Course Type: Technical/Vocational Course

HART 1441 Residential Air Conditioning 4 Credit Hours (3 Lec, 4 Lab)

A study of components, applications, and installation of mechanical air conditioning systems including operating conditioning, troubleshooting, repair, and charging of air conditioning systems.

Course Type: Technical/Vocational Course

HART 1445 Gas and Electricity Heating 4 Credit Hours (3 Lec, 4 Lab)

Study of the procedures and principles used in servicing heating systems including gas fired furnaces and electric heating systems.

Course Type: Technical/Vocational Course

HART 1451 Energy Management 4 Credit Hours (3 Lec, 4 Lab)

Study of basic heat transfer theory; sensible and latent heat loads; building envelope construction; insulation, lighting, and fenestration types; and conduct energy audit procedures. The course also develops energy audit recommendations based on local utility rates, building use, and construction. Laboratory activities include developing energy audit reports, installing energy saving devices, and measuring energy consumption.

Course Type: Technical/Vocational Course

HART 1491 Special Topics in Heating, Air Conditioning and Refrigeration 4 Credit Hours (2 Lec, 4 Lab)

Topics address recently identified current events, skills, knowledge, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the profession development of the student. This course was designed to be repeated multiple times to improve student proficiency.

Course Type: Technical/Vocational Course

HART 2280 Cooperative Education-Heating, Air Conditioning, and Refrigeration (Capstone) 2 Credit Hours (1 Lec, 8 Lab)

Career-related activities encountered in the students' area specialization offered through an individualized agreement among the college, employer, and student. Under the supervision of the college and the employer, the student combines classroom learning with work experience. Includes a lecture component. Prerequisite: HART 1356, HART 1401, HART 1407, HART 1441, HART 2331, HART 2349, HART 2436, HART 2438 AND MAIR 1449

Course Type: Cooperative Course, Technical/Vocational Course

HART 2281 Cooperative Education - Heating, Air Conditioning and Refrigeration Technology/Technician 2 Credit Hours (1 Lec, 8 Lab)

Career-related activities encountered in the student's area of specialization offered through an individualized agreement among the college, employer, and student. Under the supervision of the college and the employer, the student combines classroom learning with work experience. Includes a lecture component.

Course Type: Technical/Vocational Course

HART 2331 Advanced Electricity for HVAC 3 Credit Hours (2 Lec, 4 Lab)

Advanced electrical instruction and skill building in installation and servicing of air conditioning and refrigeration equipment including detailed instruction in motors and power distribution, motors, motor controls, and application of solid state devices. Prerequisite: HART 1401

Course Type: Technical/Vocational Course

HART 2341 Commercial Air Conditioning 3 Credit Hours (2 Lec, 4 Lab)

A study of components, applications, and installation of air conditioning systems with capacities of 25 tons or less.

Course Type: Technical/Vocational Course

HART 2349 Heat Pumps 3 Credit Hours (2 Lec, 4 Lab)

A study of heat pumps, heat pump control circuits, defrosts controls, auxiliary heat, airflow, and other topics related to heat pump systems.

Course Type: Technical/Vocational Course

HART 2431 Advanced Electricity 4 Credit Hours (3 Lec, 3 Lab)

Advanced electrical instruction and skill building in installation and servicing of air conditioning and refrigeration equipment including detailed instruction in motors and power distribution, motors, motor controls, and application of solid state devices. Prerequisite: HART 1401

Course Type: Technical/Vocational Course

HART 2436 Air Conditioning Troubleshooting 4 Credit Hours (3 Lec, 4 Lab)

An advanced course in application of troubleshooting principles and use of test instruments to diagnose air conditioning and refrigeration components and system problems including conducting performance tests.

Course Type: Technical/Vocational Course

HART 2438 Air Conditioning Installation and Startup 4 Credit Hours (3 Lec, 4 Lab)

A study of air conditioning system installation, refrigerant piping, condensate disposal, and air cleaning equipment with emphasis on startup and performance testing.

Course Type: Technical/Vocational Course

HART 2441 Commercial Air Conditioning 4 Credit Hours (2 Lec, 4 Lab)

A study of components, applications, and installation of air conditioning systems with capacities of 25 tons or less.

Course Type: Technical/Vocational Course

HART 2442 Commercial Refrigeration 4 Credit Hours (3 Lec, 4 Lab)

Theory and practical application in the maintenance of commercial refrigeration; medium and low temperature applications and ice machines.

Course Type: Technical/Vocational Course

HART 2449 Heat Pumps 4 Credit Hours (2 Lec, 4 Lab)

A study of heat pumps, heat pump control circuits, defrost controls, auxiliary heat, air flow, and other topics related to heat pump systems.

Course Type: Technical/Vocational Course