

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

HART-1300. HVAC Duct Fabrication. (3 Credits)

This course is taken for academic credit. Students will earn an A, B, C, D, F, or W. Layout and fabrication of HVAC duct systems using common tools and equipment of the trade. Lab Fee.

HART-1301. Basic Electricity for Hvac. (3 Credits)

(3-2-2) This course is taken for academic credit. Students will earn an A, B, C, D, F, or W. Principles of electricity as required by HVAC, including proper use of test equipment, electrical circuits, and component theory and operation. Lab Fee.

HART-1303. Air Conditioning Control Principles. (3 Credits)

(3-2-2) This course is taken for academic credit. Students will earn an A, B, C, D, F, or W. A basic study of HVAC and refrigeration 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. Lab Fee.

HART-1307. Refrigeration Principles. (3 Credits)

(3-2-2) This course is taken for academic credit. Students will earn an A, B, C, D, F, or W. An introduction to the refrigeration cycle, heat transfer theory, temperature/pressure relationship, refrigerant handling, refrigeration components and safety. Lab Fee.

HART-1341. Residential Air Conditioning. (3 Credits)

(3-2-2) This course is taken for academic credit. Students will earn an A, B, C, D, F, or W. A study of components, applications, and installation of mechanical air conditioning systems including operating conditions, troubleshooting, repair and charging of air conditioning systems. Lab Fee.

HART-1345. Gas and Electric Heating. (3 Credits)

(3-2-2) This course is taken for academic credit. Students will earn an A, B, C, D, F, or W. Study of the procedures and principles used in servicing heating systems including gas fired furnaces and electric heating systems. Lab Fee.

HART-1394. Special Topics/Test Prep. (3 Credits)

(3-3-0) This course is taken for academic credit. Students will earn an A, B, C, D, F, or W. Topics address recently identified current events, skills, knowledge, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student.

HART-1401. Basic Electricity for Hvac. (4 Credits)

This course is taken for academic credit. Students will earn an A, B, C, D, F, or W. Principles of electricity as required by HVAC, including proper use of test equipment, electrical circuits, and component theory and operation.

HART-1403. Air Conditioning Control Principles. (4 Credits)

This course is taken for academic credit. Students will earn an A, B, C, D, F, or W. A basic study of HVAC and refrigeration 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.

HART-1407. Refrigeration Principles. (4 Credits)

This course is taken for academic credit. Students will earn an A, B, C, D, F, or W. An introduction to the refrigeration cycle, heat transfer theory, temperature/pressure relationship, refrigerant handling, refrigeration components, and safety.

HART-1441. Residential Air Conditioning. (4 Credits)

This course is taken for academic credit. Students will earn an A, B, C, D, F, or W. A study of components, applications, and installation of mechanical air conditioning systems including operating conditions, troubleshooting, repair, and charging of air conditioning systems.

HART-1445. Gas and Electric Heating. (4 Credits)

This course is taken for academic credit. Students will earn an A, B, C, D, F, or W. A study of the procedures and principles used in servicing heating systems including gas fired and electric furnaces.

HART-2336. Air Conditioning Troubleshooting. (3 Credits)

(3-2-2) This course is taken for academic credit. Students will earn an A, B, C, D, F, or W. 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. Lab Fee.

HART-2338. Air Conditioning Installation and Startup. (3 Credits)

(3-2-2) This course is taken for academic credit. Students will earn an A, B, C, D, F, or W. A study of air conditioning system installation, refrigerant piping, condensate disposal, and air cleaning equipment with emphasis on startup and performance testing. Lab Fee.

HART-2345. Residential Air & Conditioning Systems Design. (3 Credits)

(3-2-2) This course is taken for academic credit. Students will earn an A, B, C, D, F, or W. Study of the properties of air and results of cooling, heating, humidifying or dehumidifying; heat gain and heat loss calculations including equipment selection and balancing the air system. Lab Fee.

HART-2449. Heat Pumps. (4 Credits)

This course is taken for academic credit. Students will earn an A, B, C, D, F, or W. A study of heat pumps, heat pump control circuits, defrost controls, auxiliary heat, air flow and other topics related to heat pump systems.