HVC - Heating, Ventilation, and Refrigeration

HVC 110 Introduction to HVAC-R: 3 Credits (2 Lec, 1 Lab)
Introduction to HVAC-R exposes students to theories and concepts of the HVAC-R industry. Core concepts of applied physics as it pertains to the HVAC/R will be discussed as well as industry specific terms and practices. Students will build a fundamental understanding of heating and cooling systems as well as their proper operation and common malfunctions and their symptoms.

HVC 115 Trade Tools and Test Equipment: 2 Credits (1 Lec, 1 Lab)
COREQUISITE: OSH 110. HVC 115 introduces students to the function, application and maintenance of specialty hand tools, power equipment, and electrical test instruments utilized in the HVACR and electrical fields. Students will determine appropriate applications and safely demonstrate tool and equipment use.

HVC 125 Environmental Protection Agency 608 Certification: 1 Credit (1 Lec)
PREREQUISITE: HVC 110 or consent of instructor. HVC 125 teaches students how to properly handle and manage ozone-depleting refrigerant according to Environmental Protection Agency regulations and Section 608 of the Federal Clean Air Act. Successful students will be prepared to take the EPA 608 Universal Certification exam.

HVC 130 HVAC-R Electrical: 3 Credits (2 Lec, 1 Lab)
PREREQUISITE: ELCT 100, M111
COREQUISITE: HVC 140. HVC 130 teaches electrical safety and theory for the HVAC-R industry. Topics include DC and AC circuits utilized in HVAC-R; magnetism and AC power generation; the effects of capacitive, inductive, and resistive circuits; and an overview of transformers.

HVC 140 HVAC Systems I: 3 Credits (2 Lec, 1 Lab)
PREREQUISITE: HVC 110
COREQUISITE: HVC 130. Building upon HVAC 110, this course covers heat load and psychometric calculations, determining air flow, and selecting appropriate heating or cooling systems for residential environments. Students will also be introduced to common residential HVAC industry equipment and troubleshooting processes.

HVC 145 HVAC-R Welding, Brazing and Pipe Joining: 2 Credits (1 Lec, 1 Lab)
HVC 145 introduces students to applied joining processes used in the HVAC-R field. The course combines lectures and labs to provide students with basic competency in brazing, soldering, welding, and additional joining and coupling processes found in modern HVAC-R systems.

HVC 150 HVAC Installation and Sheet Metal Fabrication: 4 Credits (1 Lec, 3 Lab)
PREREQUISITE: HVC 110, HVC 115
COREQUISITE: HVC 140, HVC 145. HVC 150 students will develop fundamental skills for fabricating and installing ductwork for forced air systems. Students will be introduced to and develop proficiency with specialty fabrication and installation tools while learning about the importance of proper duct design.

HVC 155 Blueprint Reading and Wiring Schematics: 3 Credits (3 Lec)
PREREQUISITE: ELCT 100, HVC 110. HVC 155 students will learn how to interpret mechanical building plans and identify HVAC system requirements from an architectural drawing; create an accurate materials list and model house; draw pictorial and ladder wiring diagrams; and read a wiring schematic legend.

HVC 191 Special Topics: 1-4 Credits

HVC 240 HVAC Systems II: 3 Credits (1 Lec, 2 Lab)
PREREQUISITE: HVC 140. Building upon HVC 140, course topics will include air load distribution sizing, zoning, and interpreting charts and measurements for residential HVAC systems. Students will diagnose and troubleshoot electrical and mechanical systems in preparation for careers as HVAC service technicians.

HVC 291 Special Topics: 1-4 Credits