AIR CONDITIONING AND REFRIGERATION (ASC)

ASC 111. REFRIGERATION PRINCIPLES. 3 hrs.
This course emphasizes the fundamental principles for air conditioning and refrigeration. Instruction is provided in the theory and principles of refrigeration and heat transfer, HVAC/R system components, common and specialty tools for HVAC/R, and application of the concepts of basic compression refrigeration. Upon completion, students should identify system components and understand their functions, identify and use common and specialty HVAC/R tools, and maintain components of a basic compression refrigeration system.

ASC 112. HVACR SERVICE PROCEDURES. 3 hrs.
This course covers system performance checks and refrigerant cycle diagnosis. Emphasis is placed on the use of refrigerant recovery/recycle units, industry codes, refrigerant coils and correct methods of charging and recovering refrigerants. Upon completion, students should be able to properly recover/recycle refrigerants and demonstrate safe, correct service procedures which comply with the no-venting laws.

ASC 113. REFRIGERATION PIPING PRACTICES. 3 hrs.
This course introduces students to the proper installation procedures of refrigerant piping and tubing for the heating, ventilation, air conditioning and refrigeration industry. This course includes various methods of working with and joining tubing. Upon completion, students should comprehend related terminology and be able to fabricate pipe, tubing, and pipe fittings.

ASC 119. FUNDAMENTALS OF GAS HEATING SYSTEMS. 3 hrs.
This course provides instruction on general service and installation for common gas furnace system components. Upon completion, students will be able to install and service gas furnaces in a wide range of applications.

ASC 120. FUNDAMENTALS OF ELECTRIC HEATING SYSTEMS. 3 hrs.
This course covers the fundamentals of electric furnace systems. Emphasis is placed on components, general service procedures, and basic installation. Upon completion, students should be able to install and service electric furnaces, heat pumps, and solar and hydronics systems.

ASC 121. PRINCIPLES OF ELECTRICITY FOR HVAC. 3 hrs.
This course is designed to provide the student with the basic knowledge of electrical theory and circuitry as it pertains to air conditioning and refrigeration. This course emphasizes safety, definitions, symbols, laws, circuits, and electrical test instruments. Upon completion, students should understand and be able to apply the basic principles of HVAC/R circuits and circuit components.

ASC 122. HVACR ELECTRICAL CIRCUITS. 3 hrs.
This course introduces the student to electrical circuits and diagrams. Electrical symbols and basic wiring diagrams are constructed in this course. Upon completion, students should understand standard wiring diagrams and symbols and be able to construct various types of electrical circuits.

ASC 123. HVACR ELECTRICAL COMPONENTS. 3 hrs.
This course introduces students to electrical components and controls. Emphasis is placed on the operations of motors, relays, contactors, starters, and other HVAC electrical components. Upon completion, students should be able to install electrical components and determine their proper operation.

ASC 128. Load Calculations 3hrs. 3hrs
This course focuses on heat flow into and out of building structures. Emphasis is placed on determining heat gain/heat loss of a given structure. Upon completion, students should be able to calculate heat load and determine HVAC equipment size requirements.

ASC 132. RESIDENTIAL AIR CONDITIONING. 3 hrs.
This course introduces students to residential air conditioning systems. Emphasis is placed on the operation, service, and repair of residential air conditioning systems. Upon completion, students should be able to service and repair residential air conditioning systems.

ASC 134. ICE MACHINES. 3 hrs.
This course introduces students to commercial ice machines. Emphasis is placed on components, electrical and mechanical operation sequences, control adjustments procedures, preventive maintenance, repairs, and installation procedures. Upon completion, students should be able to install, service and repair commercial ice machines.

ASC 147. REFRIGERATION TRANSITION AND RECOVERY. 1-3 hrs.
PREREQUISITE: Permission of instructor.
This course is EPA-approved and covers material relating to the requirements necessary for type I, II, III and universal certification. Upon completion, students should be prepared to take the EPA 608 certification examination.

ASC 148. HEAT PUMP SYSTEMS I. 3 hrs.
Instruction received in this course centers around the basic theory and application of heat pump systems and components. Upon completion students will be able to install and service heat pumps in a wide variety of applications.

ASC 192. HVACR APPRENTICESHIP/INTERNSHIP, 3 hrs.
PREREQUISITE: Permission of instructor.
This course is designed to provide basic hands-on experiences in the work place. The student is provided with a training plan developed by the employer and instructor working together to guide the learning experience. Upon course completion, students should be able to work independently and apply related skills and knowledge. This course involves a minimum of 15 work hours per week.

ASC 203. COMMERCIAL REFRIGERATION. 3 hrs.
This course focuses on commercial refrigeration systems. Emphasis is placed on evaporators, condensers, compressors, expansion devices, special refrigeration components and application of refrigeration systems. Upon completion students should be able to service and repair commercial refrigeration systems.

ASC 210. TROUBLESHOOTING HVAC/R SYSTEMS. 3 hrs.
This course provides instruction in the use of various meters and gauges used in the HVAC/R industry. Emphasis is placed on general service procedures, system diagnosis, and corrective measure, methods of leak detection, and system evacuation, charging and performance checks. Upon completion, students should be able to perform basic troubleshooting of HVAC/R.