AIR CONDITIONING (ACR)

ACR 0022 Domestic Refrigeration
Clock Hours: 90
This course outlines refrigerator construction, refrigerator/freezer combinations, evaporator, condenser, and compressor operation. Students will receive hands-on instruction including diagnosing electrical problems, analyzing components, and repairing refrigeration systems.

ACR 0060 Residential Load Calculations
Clock Hours: 90
This course is the study of calculating heat gain and heat loss of a structure, air distribution and balance, and house drawings to scale. Students will receive hands-on training in duct fabrication and perform load calculations using manual J.

ACR 0061 Psychrometrics Calculations
Clock Hours: 90
In this course students will study the composition of air and its properties using psychrometric charts. Students will plot dry-bulb and wet-bulb temperature, dew point temperature, enthalpy, absolute and relative humidity, calculate heat index, and learn to use a sling psychrometer.

ACR 0106 Electricity for HVAC Single Phase
Clock Hours: 150
This is a theoretical and practical course covering single phase electrical systems and their relationship to the HVAC industry. Electrical safety alternating and direct current, parallel circuits, series circuits, and Ohm's Law will be introduced. Students will participate in hands-on instruction in the use of multiple electrical meter and the practical uses of Ohm's Law.

ACR 0107 Electrical Circuitry for HVAC
Clock Hours: 90
This is a theoretical and practical course analyzing basic controls, troubleshooting complex circuits, identifying electrical components, and using electrical motors. Students will receive hands-on instruction to include wiring electrical circuit boards, low voltage circuits, air conditioning and heating equipment, and electric motors.

ACR 0122 Refrigeration and Air Conditioning Components
Clock Hours: 150
This is a theoretical and practical course explaining and identifying the major components of air-conditioning and refrigeration systems. Included in this course is application of refrigeration system charging and instrument calibration. Students will receive hands-on instruction including disassembling and re-assembling of various refrigeration and air-conditioning compressors.

ACR 0602 Heat Pump Technology
Clock Hours: 150
This is a theoretical and practical course introducing heat pump concepts including air source heat pumps, geothermal heat pumps, heat pump controls, heat pump components, and heat pump installations. Students will participate in computer simulations and hands-on instruction on troubleshooting and servicing heat pump systems.

ACR 0608 Residential Heating Systems
Clock Hours: 120
This is a theoretical and practical course concerning residential heating systems. Electric, natural gas, propane/butane, oil, and hydronic heating systems will be introduced. Students will receive hands-on instruction, as well as computerized simulation labs.

ACR 0701 HVAC Troubleshooting and Repair
Clock Hours: 150
This is a theoretical and practical course covering troubleshooting, typical operating conditions for commercial refrigeration, operation, maintenance and troubleshooting of chilled water air-conditioning systems, and commercial package rooftop units. Students will receive intensive training on environmental protection agency (EPA) certification and industry competency (ICE) exam certification. Students will receive hands-on instruction in troubleshooting, air-conditioning system, and computer simulation labs.

ACR 0704 Introduction to Heating, Ventilation, Air Conditioning, and Refrigeration
Clock Hours: 150
Lab Fee: Yes
This is a theoretical and practical course outlining how environmental conditions are related to heating and air-conditioning technology. Refrigeration systems, general safety, tools and equipment, piping and tubing, and employability skills are introduced. Students will receive hands-on instruction including soldering and brazing techniques.

ACR 0705 Mechanical Systems
Clock Hours: 120
Lab Fee: Yes
This theoretical and practical course covers the application of refrigeration systems, including commercial ice machines, freezers, absorption chill water systems, and cooling towers and pumps. Students will receive hands-on instruction on ice machine and refrigeration equipment maintenance as well as instruction using computer simulators.