

HEATING, AIR CONDITIONING, AND REFRIGERATION (HACR)

HACR 1150 – HVAC Introduction **3 credit hours**
Lecture Hours: 3; Lab Hours: 0 This course is an introduction to the HVAC industry.

Schedule type: Independent Study, Lecture, Web

HACR 1160 – Principles of Refrigeration I **3 credit hours**
Lecture Hours: 2; Lab Hours: 1 This course presents the proper and safe use of hand tools, including power tools and materials in the HVAC Industry. This course also provides for a review of HVAC and refrigeration processes and applications.

Flat Fee: 25

Schedule type: Independent Study

HACR 1170 – Principles of Refrigeration II **3 credit hours**
Lecture Hours: 2; Lab Hours: 1 This course provides students with the skills and knowledge to install, repair and service major components of a refrigeration system. Topics include compressors, evaporators, condensers, metering devices, service procedures, refrigeration systems, refrigeration cycle, enthalpy and safety.

Flat Fee: 50

HACR 1180 – Princip. of Refrigeration III **3 credit hours**
Lecture Hours: 2; Lab Hours: 1 This course provides students with the skills and knowledge to evacuate, charge, and leak check a sealed system according to EPA and Industry standards. Topics include Triple Evacuation, Burn-out cleanup of system, weigh-in charging, Superheat settings and Subcool adjustments and safety.

Flat Fee: 25

HACR 1210 – Electrical Fundamentals **3 credit hours**
Lecture Hours: 3; Lab Hours: 0 This course is an introduction to fundamental electrical concepts and theories as applied to the air conditioning industry. Topics include AC and DC theory, ohms law, electric meters, electric diagrams, distribution systems, electrical panels, voltage circuits, code requirements, and safety.

Flat Fee: 50

Schedule type: Lecture, Web

HACR 1220 – Electrical Components **3 credit hours**
Lecture Hours: 2; Lab Hours: 1 This course provides instruction in identifying, installing and testing commonly used components in an air conditioning system. Topics include pressure switches, overload devices, transformers, magnetic starters, other commonly used controls, diagnostic techniques, installation procedures, and safety.

Flat Fee: 50

HACR 1230 – Electric Motors **3 credit hours**
Lecture Hours: 2; Lab Hours: 1 This course continues the development of skills and knowledge necessary for application and service of electric motors commonly used by the refrigeration and air conditioning industry. Topics include diagnostic techniques, capacitors, installation procedures, types of electric motors, electric motor service, and safety.

Flat Fee: 50

HACR 1240 – Applied Electricity & Troubleshoot **3 credit hours**
Lecture Hours: 2; Lab Hours: 1 This course provides instruction on wiring various types of air conditioning systems. Topics include servicing procedures, troubleshooting procedures, solid state controls, system wiring, control circuits, and safety.

Flat Fee: 25

HACR 1410 – Domestic Refrigeration **2 credit hours**
Lecture Hours: 1; Lab Hours: 1 This course presents the proper procedures to diagnose and repair domestic refrigerators and freezers.
Flat Fee: 50

HACR 1420 – Room Air Conditioners **2 credit hours**
Lecture Hours: 1; Lab Hours: 1 This course includes the operation, diagnosis, and science of room air conditioning, with emphasis on how to diagnosis and repair.
Flat Fee: 50

HACR 2510 – Residential Central A/C **3 credit hours**
Lecture Hours: 2; Lab Hours: 1 This course presents the study and theory of the major components and functions of central air conditioning systems. Topics include the study of different air conditioning systems types and the proper and safe use of instruments and safety.
Flat Fee: 50

HACR 2520 – Residential Central A/C II **3 credit hours**
Lecture Hours: 3; Lab Hours: 1 This course presents the operation, diagnosis and service of central air conditioning systems and the care of associated instruments. Topics include the various types of A/C systems and safety principles.
Flat Fee: 50

HACR 2530 – Residential System Design **3 credit hours**
Lecture Hours: 2; Lab Hours: 1 This course presents theory and practice of different types of residential air conditioning systems heat loads. Topics include calculations, duct design, air filtration, and safety practices.
Flat Fee: 50

HACR 2540 – Residential Heating **3 credit hours**
Lecture Hours: 2; Lab Hours: 1 This course covers theory and study of the principles and practices for the operation, diagnosis and service of residential and small commercial heating systems. Topics covered will include electrical controls, gas valves, piping, venting, code requirements, and principles of combustion and safety for gas and electrical heating.
Flat Fee: 30

HACR 2560 – Residential Heat Pumps **3 credit hours**
Lecture Hours: 2; Lab Hours: 1 This course presents the theory and study of heat pumps and related systems, providing information for the fundamentals of heat pump operation and diagnosis techniques. Installation procedures, diagnosis, servicing procedures, valves, electrical components and geothermal ground source applications, dual fuel systems, and safety are topics included.
Flat Fee: 0