

At the conclusion of this course, successful students will be able to perform the following:

- Demonstrate the importance of health, safety and environmental management systems in organizations and their importance to organizational performance and regulatory compliance.
- Identify, use and maintain the tools and tool accessories used in the heating, air-conditioning and refrigeration industry.
- Read construction documents.
- Explain the properties of matter and heat behavior.
- Describe the history and concepts of heating, air-conditioning and refrigeration.
- Demonstrate a practical knowledge of basic electricity and of the electrical components of heating, air-conditioning and refrigeration equipment.
- Demonstrate knowledge of electrical wiring in air-conditioning and refrigeration.
- Troubleshoot heating, air-conditioning and refrigeration electrical control systems and their components.
- Select and test electrical generation and distribution components for commercial heating and air conditioning systems.
- Analyze fluids, pressures, refrigerants and related codes.
- Evaluate heating, air-conditioning and refrigeration system components and accessories.
- Fabricate and service the piping, tubing and fittings used in the heating, air-conditioning and refrigeration industry.
- Maintain, test and troubleshoot electrical motors and their components for commercial heating and air-conditioning systems.

- Utilize mechanical components of heating air-conditioning and refrigeration systems.
- Operate solid-state electronics as used in heating, air-conditioning and refrigeration systems.
- Utilize and operate mechanical refrigeration servicing and testing equipment.
- Assist in the installation of a residential heating and air-conditioning system and determine start-up procedures.
- Conduct start-up and check-out procedures for mechanical heating and air-conditioning systems.
- Use combustion-type heating servicing and testing equipment.
- Troubleshoot combustion gas valves and regulators as used in heating, air-conditioning, refrigeration and ventilation systems.
- Understand the design of heating and cooling systems.