



Course Description

ACR0012 | HVAC/R Service Practices | 8.33 credits

This course equips students with skills to handle mechanical components, understand solid-state electronics in HVAC/R systems, and interpret construction documents. Participants will learn to assist in installing residential systems, perform start-up and check-out procedures, and use combustion servicing equipment. They will also gain expertise in troubleshooting gas valves and regulators and understanding system design. The course emphasizes the importance of employability skills, soft skills, entrepreneurship, and career planning, preparing students for successful careers in the HVAC/R industry.

Course Competencies

Competency 1: The student will demonstrate the ability to handle mechanical components and understand solid-state electronics within HVAC/R systems, ensuring effective service practices by:

1. Identifying and handling various mechanical components used in HVAC/R systems to ensure proper installation and maintenance
2. Understanding the principles of solid-state electronics and their applications in HVAC/R systems to enhance troubleshooting and repair skills
3. Analyzing the interactions between mechanical components and electronic systems to improve overall system performance

Competency 2: The student will acquire the skills necessary to assist in the installation of residential HVAC/R systems and perform essential start-up and check-out procedures by:

1. Assisting in installing residential HVAC/R systems to ensure compliance with industry standards and safety regulations
2. Performing start-up and check-out procedures for HVAC/R systems to verify proper functionality and efficiency before operation
3. Utilizing combustion servicing equipment effectively to maintain and optimize the performance of HVAC/R systems

Competency 3: The student will develop expertise in troubleshooting gas valves and regulators and gain a comprehensive understanding of HVAC/R system design by:

1. Troubleshooting gas valves and regulators to identify malfunctions and implement effective repair strategies
2. Understanding HVAC/R system design principles to ensure installations meet performance and efficiency standards
3. Applying system design knowledge to evaluate and propose improvements for HVAC/R systems, enhancing service delivery and customer satisfaction

Learning Outcomes:

1. Communicate effectively using listening, speaking, reading, and writing skills
2. Solve problems using critical and creative thinking and scientific reasoning
3. Formulate strategies to locate, evaluate, and apply information