

Course Description**ACR0013 | HVAC/R Intermediate Service Practices | 8.33 credits**

The HVAC/R Intermediate Service Practices course is designed to enhance technical skills in commercial HVAC/R systems. Students learn to select and assess commercial compressors and evaporative condensers, alongside maintaining and troubleshooting commercial evaporators. The curriculum covers the basics of HVAC/R system piping sizing and the maintenance, diagnosis, and repair of commercial heating systems. Additionally, the course introduces new HVAC/R technologies, equips students with the ability to interpret and amend construction drawings and specifications, and develops advanced troubleshooting skills for repairing commercial heating and air-conditioning systems, ensuring a comprehensive understanding of HVAC/R service practices.

Course Competencies

Competency 1: The student will demonstrate the ability to select, assess, and maintain critical components of commercial HVAC/R systems, including compressors and evaporative condensers by:

1. Evaluating different types of commercial compressors and evaporative condensers to determine their suitability for specific HVAC/R applications
2. Maintaining and troubleshooting commercial evaporators to ensure optimal performance and energy efficiency
3. Selecting appropriate components based on system requirements and performance metrics to enhance overall HVAC/R system functionality

Competency 2: The student will gain the skills necessary to size piping systems and maintain, diagnose, and repair commercial heating systems by:

1. Calculating and sizing HVAC/R system piping to ensure proper flow and efficiency in commercial applications
2. Diagnosing and repairing commercial heating systems to maintain operational reliability and compliance with industry standards
3. Implementing maintenance procedures for commercial HVAC/R systems to prolong equipment lifespan and improve service delivery

Competency 3: The student will develop advanced troubleshooting skills for commercial heating and air-conditioning systems and become familiar with emerging HVAC/R technologies by:

1. Troubleshooting complex issues in commercial heating and air-conditioning systems to effectively diagnose and resolve operational failures
2. Interpreting and amending construction drawings and specifications to ensure accurate installation and compliance with project requirements
3. Exploring new HVAC/R technologies and their applications to enhance service practices and improve system performance in modern commercial settings

Learning Outcomes:

1. Use quantitative analytical skills to evaluate and process numerical data
2. Solve problems using critical and creative thinking and scientific reasoning
3. Formulate strategies to locate, evaluate, and apply information