

HVA 136 - EPA CERTIFICATION

Course Description

This course will continue to develop students' knowledge of the HVAC field through exploring advanced heating, ventilation, and air conditioning concepts and by reinforcing concepts and skills learned in previous courses. Concepts include construction drawings and specifications, heating and cooling system design, commercial/industrial refrigeration systems, alternative and specialized heating and cooling systems, and fundamentals of crew leadership. Completion of this course will result in a Level 4 National Center for Construction Education Research Credential. This course will also examine the impact of refrigerants on the environment and will focus on federal regulations regarding their use, recovery, and disposal methods. Students will participate in Environmental Protection Agency Certification Exams and will have an opportunity to earn an EPA Type I, Type II, Type III, or universal certification. Group 2 course.

Credit Hours

3

Contact Hours

3

Lecture Hours

3

Required Prerequisites

HVA 124

Recommended Prerequisites or Skills Competencies

Placement in ENG 111 and MTH 111

General Education Outcomes supported by this course

Quantitative Reasoning

Course Learning Outcomes

Knowledge:

- Describe methods used to freeze, store, and transport food products.
- Identify and describe various commercial and industrial refrigeration system components.
- Identify and describe various types of defrost systems.
- Identify and describe various unique heating and cooling systems and equipment.
- Identify the laws and regulations governing the recovery, recycling, and disposal of refrigerants.
- Describe the impact of the CFC and HCFC type refrigerants on the environment.
- Explain hazards, leak rate limits, and repair techniques associated with units containing refrigerants.

Application:

- Differentiate between each level of refrigerant certification.
- Demonstrate how to properly leak check, evacuate, and charge a refrigeration system according to federal laws and manufacturer's requirements.

- Adjust a system's charge using proper charging and recovery methods.
- Determine the type of refrigerant in a system by reading pressures, temperatures, PT chart, and the data plate.

Integration:

- Interpret HVAC-related shop drawings.
- Install or make repairs to a packaged refrigeration condensing unit.
- Develop an estimate for a given work activity.

Human Dimension:

- Feel confident about your ability to successfully interact with a client.
- Collaborate with a multidisciplinary team to provide the best service for the end user.

Caring - Civic Learning:

- Commit to the safety and wellbeing of everyone on the job site and the end user.
- Value the importance of HVAC/R and how it impacts everyday life.

Learning How to Learn:

- Recognize when more information is needed and seek help and resources.
- Identify personal learning preferences with HVAC/R course content.