

# HVA 122 - REFRIGERATION FUNDAMENTALS

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- Recognize the applications of refrigeration.

## Learning How to Learn:

- Assess the value of information learned in class to real life applications.

## Course Description

This course introduces students to the relationship between matter and energy as it relates to refrigeration process and discusses the Laws of Thermodynamics and effects of pressures and vacuums on a system. A thorough coverage of the basic refrigeration cycle is discussed along with types of refrigerants and system components they will encounter. Students will also learn basic servicing and testing techniques on refrigeration systems. Group 2 course.

## Credit Hours

3

## Contact Hours

4

## Lecture Hours

2

## Lab Hours

2

## Required Prerequisites

HVA 101

## Recommended Prerequisites or Skills Competencies

Placement in ENG 111 and MTH 111.

## Course Learning Outcomes

### Knowledge:

- Describe the effects of pressure and temperature on a refrigeration system.
- Identify major components and accessories used in refrigeration systems.
- Explain what state the refrigerant is in at various points in an operating system.

### Application:

- Calculate superheat and sub-cooling on an operating system.
- Demonstrate how to correctly connect test equipment to a refrigeration system.
- Compute the temperatures at which the refrigerant changes state within an operating system.
- Analyze an operating air conditioning system to determine electrical and mechanical faults.

### Integration:

- Compare basic skills learned in this course to the work requirements in the industry.
- Evaluate the importance of the basic refrigeration cycle in reference to troubleshooting an air conditioning or refrigeration system.

### Human Dimension:

- Reflect on the value refrigeration has on society.

### Caring - Civic Learning: