Print Date: 7/10/14

Course Objectives/Course Outline
Spokane Community College

Course Title: Fundamentals of Refrigeration 1
Prefix and Course Number: AIRC 109

Students will explore the physics and theory governing the vapor-compression refrigeration cycle, human comfort and psychrometrics, and practical applications of refrigeration systems . Practical applications will include basic regrigeration troubleshooting and the use of test equipment and tools. Lab exercises focus on developing ladder diagrams and troubleshooting electrical components.

Course Learning Outcomes:
By the end of this course, a student should be able to:

- Define the basic of structure of matter
- Identify basic components of refrigeration cycle
- List three types of energy
- Calculate the amount of sensible and latent heat added to a solid, liquid, and a gas
- State the basic law of heat flow
- Using a simple refrigeration system, identify and explain the functions of the four major components in the system
- State the basic gas laws
- Use basic temperature relationships
- Explain the compression Refrigeration Cycle

Course Outline:

I. Introduction to Air conditioning
  A. Intro to refrigeration
    1. Basic Physics for Refrigeration
    2. Major components Functions
II. Gas Laws
  A. Boyle's Law
  B. Charles' Law
  C. Dalton's Law
III. Pressure/Temperature Relations
  A. Pressure
  B. Psig and psia
  C. Saturation Super Heat and Sub cooling
  D. Compression refrigeration cycle
  E. Refrigerant Tables
  F. Refrigerant Properties
  G. Refrigerant designations
  H. Safe Practices and Public relations