

**NOVA COLLEGE-WIDE COURSE CONTENT SUMMARY
AIR 122 – PRINCIPLES OF REFRIGERATION II (4 CR.)**

Course Description

Studies refrigeration theory, characteristics of refrigerants, temperature, and pressure, tools and equipment, soldering, brazing, refrigeration systems, system components, compressors, evaporators, metering devices. Presents charging and evaluation of systems and leak detection. Explores servicing the basic system. Explains use and care of oils and additives and troubleshooting of small commercial systems. Part II of II. Lecture 3 hours. Laboratory 3 hours.

General Course Purpose

By first learning about commercial refrigeration systems in AIR 122, the student will be well prepared for the second year air conditioning and heat pump courses.

Course Prerequisite/ Corequisite

Prerequisite or Corequisite: AIR 121

Course Objectives

Upon completion of this course, the student should be able to:

- Install and perform basic service on refrigeration units
- Diagnose and troubleshoot small commercial systems
- Locate and repair leaks with standard leak detection devices
- Adjust or replace temperature and pressure controls
- Know how to handle and dispose of used refrigerants

Major Topics To Be Included

- Diagnosing the system and malfunctions
 - mechanical
 - electrical
- System service techniques
 - servicing procedure
 - adjustment possibility
 - change out procedure
 - water related troubles
- Water servicing
 - safety
 - parts replacement procedure
 - cleaning

Extra Topics (Optional)