Hibbing Community College

HCT 1505: Refrigeration Theory

A. COURSE DESCRIPTION

Credits: 3
Lecture Hours/Week: 2
Lab Hours/Week: 2
OJT Hours/Week: *.*
Prerequisites: None
Corequisites: HCT 1515
MnTC Goals: None

In refrigeration theory the student will study the theory of refrigeration involving temperature/pressure relationship, heat transfer, sensible and latent heat, and laws of refrigeration. Students will study the mechanical refrigeration cycle, including compressors, metering devices, evaporators and condensers. Students will demonstrate and become proficient in the use of specialty hand tools and power equipment used to service, install and maintain refrigeration equipment. CREDITS: 3 (2 Lec / 1 Lab)

B. COURSE EFFECTIVE DATES: 08/26/2013 - Present

C. OUTLINE OF MAJOR CONTENT AREAS

1. Safety
2. Terminology
3. Temperature/Pressure Relationship
4. Component Identification & Function
5. Basic Refrigeration Circuit
6. Piping Fabrication Methods

D. LEARNING OUTCOMES (General)

1. Students will identify and demonstrate proper safety practices.
2. Students will communicate using the correct terminology relating to refrigeration/air conditioning principles.
3. Students will list the components for a mechanical refrigeration system.
4. Students will explain orally the refrigeration cycle.
5. Students will explain orally the function of each component in a refrigeration system.
6. Students will demonstrate the ability to braze copper piping and verify that there are no leaks.
7. Students will demonstrate the ability to join copper by the means of a flare fitting so that there are no leaks.

E. Minnesota Transfer Curriculum Goal Area(s) and Competencies

None
F. LEARNER OUTCOMES ASSESSMENT

As noted on course syllabus

SPECIAL INFORMATION:

HCC COMPETENCIES MET:
Working Productively and Cooperatively
Thinking Creatively and Critically

STUDENT CONTRIBUTIONS:
The student is expected to attend all lectures and working sessions, participate in activities and discussion, listen to and follow direction, complete assignments on time and request assistance when needed. Each student is expected to spend the necessary time to become adept at the procedures and their applications. At all times the student is expected to demonstrate and exercise safety skills and procedures.

STUDENT ASSESSMENT SHALL TAKE PLACE USING INSTRUMENTS SELECTED/DEVELOPED BY THE COURSE INSTRUCTOR.

AASC APPROVAL DATE: January 17, 2018
REVIEW DATE: January 2023