Hibbing Community College

HCT 1545: Radiant Heating Systems

A. COURSE DESCRIPTION

Credits: 3
Lecture Hours/Week: 1
Lab Hours/Week: 4
OJT Hours/Week: *.*

Prerequisites:
This course requires all three of these prerequisites
  - HCT 1500 - Introduction to Electricity
  - HCT 1535 - Gas Heating Systems
  - HCT 1540 - Oil Heating Systems

Corequisites: None
MnTC Goals: None

Radiant Heating Systems offers the student an opportunity to examine hydronic (water) boiler theory of operation and identify various types of radiant heating systems. The student will perform proper installation, troubleshooting, and maintenance procedures to radiant heating systems.

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

C. OUTLINE OF MAJOR CONTENT AREAS

  1. Mechanical
  2. Electrical
  3. Maintenance

D. LEARNING OUTCOMES (General)

  1. Students will identify the basic components in a hydronic heating system.
  2. Students will describe reasons why it is desirable for a hydronic system to have more than one zone.
  3. Students will list four heat sources commonly used in hydronic heating systems.
  4. Students will discuss the reasons why air should be eliminated from hydronic heating systems.
  5. Students will describe the function of the air cushion or expansion tank.
  6. Students will describe the purpose of limit controls and low water cutoff devices.
  7. Students will state the purpose of pressure relief valves.
  8. Students will state the purpose of zone valves/zone pumps.
  9. Students will list three common types of radiant heating system installations.

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

None
F. LEARNER OUTCOMES ASSESSMENT
   As noted on course syllabus

G. 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
   discussions, listen to and follow directions, 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.

   METHODS FOR EVALUATING STUDENT LEARNING:
   Exams, quizzes, outside assignments, class attendance/participation, group discussions, behavioral
   observations, simulations and other learning experiences will be translated to points earned. Letter grades
   A-F will be earned based on points earned.

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