HYDRONIC HEATING SYSTEMS — HVAC 1210

A. Course Description
   - Credits: 2.00
   - Lecture Hours/Week: 2.00
   - Lab Hours/Week: 0.00
   - OJT Hours/Week: 0
   - Prerequisites: None
   - Corequisites: None
   - MnTC Goals: None

This course is designed to familiarize the student with boiler safety and operation. Properly operating boiler safety controls, operating controls, proper placement of shut off valves and water level check valves are all very important to boiler operation and customer safety. In addition fluid flow principles, piping design and applications, hot water and steam system operation and maintenance are important aspects for troubleshooting and repair of wet systems. Each is explained in detail with some practical applications during this course. The principles of hydronic heat are studied, starting with an introduction of hydronic heat, heat load calculations, heat sources, fluid flow, pumps and emitters, and controls.

B. Course Effective Dates: 8/24/15 – Present

C. Outline of Major Content Areas
   As noted on course syllabus

D. Learning Outcomes
   1. Analyze, describe, and compose various zone values, controls and their respective diagrams and operation.
   2. Demonstrate proper HVAC/R technician behavior and participate in the ride along days, as well as recognizing, defining and practicing safe work habits.
   3. Identify and analyze hydronic and steam heating system operating controls and safeties
   4. List hydronic and steam heating system safety components and safety precautions.
   5. Un-install, disassemble, reassemble and reinstall a Bell and Gossett circulator assembly

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

F. Learner Outcomes Assessment
   As noted on course syllabus
G. Special Information

None noted