COMMON COURSE OUTLINE: Course discipline/number/title: BU2518: Commercial Refrigeration Lab

A. CATALOG DESCRIPTION
   1. Credits: 2
   2. Hours/Week: 2
   3. Prerequisites (if any): BU 2500
   4. Co-requisites (if any): None
   5. MnTC Goals (if any): NA

   This course covers lab experience in commercial refrigeration. Students will operate and troubleshoot refrigeration equipment including compressors, flow controls, and heat exchangers. Recommended Entry Skills/Knowledge: High School Diploma or GED.

B. DATE LAST REVISED (use current date): April, 1997

C. OUTLINE OF MAJOR CONTENT AREAS:
   2. Troubleshooting and Typical Operating Conditions.

D. LEARNING OUTCOMES (GENERAL): The student will be able to:
   1. Apply safety when operating refrigeration equipment.
   2. Install a hot gas defrost system.
   3. Operate a commercial refrigeration electric defrost system.
   4. Remove, replace, and operate solenoid valve.
   5. Remove, replace, and operate water-regulating valve.
   6. Remove, replace, and operate two temperature valves.
   7. Operate evaporative condenser installation.
   8. Operate a walk-in cooler.
  10. Operate water cooler.
  11. Operate a commercial icemaker.
  12. Service a water-cooled condenser.
  13. Analyze the data of commercial cooling unit.
  14. Perform absorption system experiment.
  15. Operate cascade system.
  16. Operate a residential air conditioning system.
  17. Operate window air conditioning unit.
  18. Operate a combination heating/cooling system.
  19. Check a residential central air conditioning system.
  20. Locate trouble in a heat pump.
  21. Operate a thermostat control.
  22. Evacuate and charge an auto air conditioning system.
  23. Troubleshoot commercial ice machine.
  24. Troubleshoot walk-in cooler.
  25. Troubleshoot walk-in freezer.
  26. Troubleshoot window air conditioner.
  27. Adjust thermostatic expansion valve.
  28. Adjust automatic expansion valve.
  29. Estimate the refrigeration load for a walk-in cooler.
  30. Troubleshoot commercial air conditioning unit.
  31. Operate commercial water chiller.
  32. Operate commercial modulating system.
  33. Troubleshoot commercial modulating system.
  34. Troubleshoot cascade refrigeration system.

E. LEARNING OUTCOMES (MNTC): NA
F. METHODS FOR EVALUATION OF STUDENT LEARNING:
   1. Lab Activities
   2. Identification of Components

G. SPECIAL INFORMATION (if any): None