MFGT 2550: Programmable Logic Controls

A. COURSE DESCRIPTION
   Credits: 3
   Lecture Hours/Week: 3
   Lab Hours/Week: *.*
   OJT Hours/Week: *.*
   Prerequisites: None
   Corequisites: None
   MnTC Goals: None
   This course is provides learners with hands-on knowledge and understanding of programmable logic control devices and systems.

B. COURSE EFFECTIVE DATES: 12/22/1997 - Present

C. OUTLINE OF MAJOR CONTENT AREAS
   1. Discuss the basics of Programmable Logic Control (PLC).
   2. Recognize various forms of I/O modules and devices.
   3. Perform basic numbering systems operations.
   4. Discuss PLC memory architecture.
   5. Recognize basic PLC instructions.
   6. Utilize PLC timers and counters.
   7. Program basic logic and data operations.
   8. Discuss basic data visualization options.
   9. Recognize various industrial network protocols.

D. LEARNING OUTCOMES (General)
   1. The learner will gain knowledge of general programmable logic controller principles including: basic PLC hardware and software, numbering systems used in data manipulation and addressing, and the logical cycle of a PLC and its importance in the determinism of control.
   2. The learner will gain knowledge of general programmable logic controller programming and data manipulation methods including writing and interpreting control logic using the Ladder Diagram (LD) programming language and communication with other devices.
   3. The learner will gain knowledge of design and implementation of advanced programmable logic controller configuration and programming.

E. Minnesota Transfer Curriculum Goal Area(s) and Competencies
   None

F. LEARNER OUTCOMES ASSESSMENT
   As noted on course syllabus

G. SPECIAL INFORMATION
   None noted