A. COURSE DESCRIPTION

Credits: 4
Lecture Hours/Week: 3
Lab Hours/Week: 2
OJT Hours/Week: *
Prerequisites: None
Corequisites: None
MnTC Goals: None

This course will provide learners with hands-on knowledge and understanding of programmable logic control devices and systems.

B. COURSE EFFECTIVE DATES: 01/28/2022 - Present

C. OUTLINE OF MAJOR CONTENT AREAS

1. Discuss the basics of Programmable Logic Control (PLC).
2. Recognize various forms of Input/Output (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. Perform basic programming meeting IEC standards.
9. Program basic logic and data operations.

D. LEARNING OUTCOMES (General)

1. 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. 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 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