Alexandria Technical and Community College

MFGT 2552: Programmable Logic Controls

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