MINNESOTA WEST COMMUNITY & TECHNICAL COLLEGE
COURSE OUTLINE

DEPT. ELEC   **COURSE NUMBER: 2230**

NUMBER OF CREDITS: 4   **Lecture: 1 Lab: 3 OJT: 0**

Course Title:
Programmable Logic Controllers

Catalog Description:
Programmable Logic Controllers describes how PLC's work and provide practical information about installing, programming and maintaining a PLC system. Students will be given a wide range of generic programming assignments and exercises for practice with the PLC.

Prerequisites or Necessary Entry Skills/Knowledge:
ELEC 2205

FULFILLS MN TRANSFER CURRICULUM AREA(S)

☐Goal 1: Communication: By meeting the following competencies:

☐Goal 2: Critical Thinking: By meeting the following competencies:

☐Goal 3: Natural Sciences: By meeting the following competencies:

☐Goal 4: Mathematics/Logical Reasoning: By meeting the following competencies:

☐Goal 5: History and the Social and Behavioral Sciences: By meeting the following competencies:

☐Goal 6: The Humanities and Fine Arts: By meeting the following competencies:

☐Goal 7: Human Diversity: By meeting the following competencies:

☐Goal 8: Global Perspective: By meeting the following competencies:

☐Goal 9: Ethical and Civic Responsibility: By meeting the following competencies:

☐Goal 10: People and the Environment: By meeting the following competencies:

Topics to be Covered
Purpose, function and operation of programmable logic controllers
Ladder Logic and basic programming
Tag-based addressing
Timing and counting functions

Student Learning Outcomes
Describe function of a Programmable logic controller
Describe parts of a programmable logic controller
Describe I/O configuration

Describe discrete and analog I/O	
Describe programming languages	
Explain timing and counting functions	
Program basic control circuits	
Program on-delay and off-delay timers	
Program counters	
Program circuits using tag-based addressing	
Troubleshoot programmable logic control circuits	

Is this course part of a transfer pathway: Yes ☐   No ☒

Revised Date: 02/14/2020