

OET022 – PROGRAMMABLE LOGIC CONTROLLERS

Credit Hours: 3 Semester Hours
Prerequisite: None
Related TAG: Electrical Engineering Technology
General Course Description: This course includes the principles and application of Programmable Logic Controllers including ladder logic, program control, data manipulation, math instructions, sequencers, shift registers, networking, PLC-mechanism interfacing and human-machine interfacing. Students will install, program, and document PLCs used in a variety of applications. The course will include advanced control circuits, advanced design of ladder and wiring diagrams to meet a given set of criteria, PLC programming, development of a human-machine interface, and data transfer in PLC networks. Must include hands-on labs.
Student Learning Outcomes marked with an asterisk (*) are essential and must be met.
Students will be able to:
1. Recall the history of control systems and programmable logic controllers (PLCs).*
2. Explain and describe the use of number systems.*
3. Demonstrate the use of ladder logic programming devices.*
4. Employ ladder logic in control circuit design.*
5. Use addressing to control Input/Output (I/O) modules.*
6. Demonstrate the use of relays, contacts, coils, and timers.*
7. Demonstrate counters and sequencers.*
8. Demonstrate fundamental PLC programming (e.g., comparators, block transfers, I/O forcing).*
9. Demonstrate data transfer in PLC networks.*

**ELECTRICAL ENGINEERING TECHNOLOGY TAG: PROGRAMMABLE LOGIC
CONTROLS TAG COURSE
FACULTY PARTICIPANTS**

November 2016 – May 2017

Name	Institution
Rob Speckert (Review/Revision Panel Lead)	Miami University
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