

When and where	Lecture PL 3120 2:30-3:50 T,R	Lab 002- NE 2390 T 3:55-5:25 pm NE 2390 and NE 2350
		Lab 003- NE 2390 R 3:55-5:25 pm NE 2390 and NE 2350
Instructor	Prof. Wm Ted Evans, PhD, PE (Ohio)-Office: NE 1607, Phone 419-530-3349, cell 419-343-3681 Email: william.evans@utoledo.edu , web: www.eng.utoledo.edu/~wevans	
Office Hours	9:30-12:00 M, W	
Prerequisite	Prerequisites: Undergraduate level EET 2210 Minimum Grade of D-	
Textbook	Provided free on above website under Hybrid Text (ch. 1-13, 15, 16)	
Useful References	Other texts from website	
Grading	Quizzes 10 %, Projects 40 % Midterm exam 25 %, Final Exam 25 % (A >= 90, B >= 80, C >= 70, D >= 60)	
Class rules and regulations	<p>1. No eating, drinking, or smoking in classrooms.</p> <p>2. There are no make-up exams for this course. If you have a problem or conflict and cannot attend an exam, let me know beforehand and we will try to work something out. No credit will be given for a missed exam that we haven't made arrangements about beforehand unless you have a really excusable emergency. Cell phone use will not be allowed. If you do not have a calculator, buy one and bring it to class.</p> <p>Cheating is not allowed and will be punished by rules of U of Toledo Student Handbook.</p> <p>Read the restart text at: https://www.utoledo.edu/rocket-restart/signage/pdf/rocket-restart-manual.pdf</p>	
Catalog descriptions	A study of programmable controllers emphasizing program development, logic development and troubleshooting. Emphasis on relays, timers, counters, integer math and scan-dependent programming. Factory floor control concepts are stressed.	
Topics and reading assignments (subject to change, any changes will be notified in the class beforehand)	<ol style="list-style-type: none"> 1. Introduction to Relay Logic including the history of PLCs 2. Introduction to PLC programming on the PC 3. Allen-Bradley Instruction Set – Memory Circuit Construction 4. Siemens Instruction Set – Memory Circuit Construction 5. Hardware considerations 6. PLC Addressing 7. Timer and Counter applications 8. Math and Numeric Applications including number systems 9. Control Panel Planning, Safety, and Sensor Selection 10. State Diagram and sequential program design 11. Special Instructions, batch programming and use of Specifications 12. Introduction to HMI Concepts 13. Introduce data transfer concepts in PLC networks 	
Class dates (Exam dates are subject to change.)	Fall Session 2021 10 labs = 40% (Projects) See PLC Labs tab on eng.utoledo.edu/~wevans website	
	Quizzes may occur any day at the end of the class period.	