

Department of Electrical Engineering			
Programmable Logic Controllers PLC (63428)			
Total Credits	3		
major elective			
Prerequisites	-		
Course Contents			
PLC architecture, PLC programming procedures, selecting suitable PLC, basic PLC programming, ladder diagrams, basic PLC functions (register. timers. counter), PLC arithmetic functions, data handling functions, Engineering applications, PLC installation and troubleshooting and maintenance.			
Intended Learning Outcomes (ILO's)		Student Outcomes (SO's)	Contribution
1	Install the PLC, edit and troubleshooting it.	A	10 %
2	Develop ladder program to control different physical systems.	C	70 %
3	Install and wire PLC with different input and output device	E	20 %
Textbook and/ or References			
Frank D.Petrezulla. Programmable logic controller , fourth Edition, Mc Graw Hill 2011.			
Assessment Criteria		Percent (%)	
Mid. Term Exam		20 %	
Quizzes		10 %	
Projects		20 %	
Final Exam		50 %	
Course Plan			
Week	Topic		
1,2	PLC overview; PLC hardware components, Number systems and codes; Fundamentals of logic		
3,4	Basic of PLC programming; Developing fundamental PLC wiring diagrams and ladder logic		
5,6	programming timers; programming counters Midterm Exam		
7,8	programming control instructions; data manipulation instructions, math instructions		
9,10	sequencer and shift register instructions -PROJECT		
11,12	PLC installation practices, editing, and troubleshooting		
13,14	process control and data acquisition system; computer controlled machine. sensors analogue and digital		
15	Final Exam		