

EE 512 Automated Industrial Systems (1)

COURSE INFORMATION

Prerequisites	Academic Year & Level		Teaching Methods			Credit Hrs.
	Year	Semester	Lecture	Tutorial	Laboratory	
EE 312 -	5	9	2	2	2	3

COURSE AIM

To investigate the different structures of automated systems
 To provide the basics of programmable logic controllers
 To study behavior of PLC in industrial applications

COURSE WEEKLY CONTENTS

- 1 Introduction to Automation
- 2 Building Blocks and Components of Automated systems
- 3 Motor Control Center (MCC)
- 4 Relay logic
- 5 Programmable Logic Controller (PLC) Hardware
- 6 PLC Programming Language
- 7 Programming with Logic Functions + Midterm Exam
- 8 Timer Operations
- 9 Counters Operation
- 10 Advanced Programming Techniques
- 11 Control Application-Examples
- 12 Industrial Applications-Examples
- 13 Practical Case Studies such as Automatic Transfer Switch and Motor Pumping Station
- 14 Application Project
- 15 Advanced PLC and Automated Systems

STUDENT GRADING & ASSESSMENT

Weeks	Exams	Assign.	Quizzes	Reports	Present.	Lab.	Total
1 to 7	20 Midterm	←	10	MARKS		→	30
To be freely distributed among possible assessments							
8 to 12	←		20	MARKS		→	20
13 to 15	←		10	MARKS		→	10
16 or 17	40 Final						40
Total	Exams	Assign.	Quizzes	Reports	Present.	Lab.	100

REFERENCES

- Textbook** John W. Webb, "Programmable logic controllers, Principles and applications", 3rd Edition, 2012
- Other** E.A. Parr, "Programmable Controllers – An Engineer's Guide", Newness

Heinman Butterworth