

EE 518- Automated Industrial Systems (2)

CREDIT HOURS

3 Hours

CONTACT HOURS (Hours/week)

Lecture: 2; Tutorial/ Lab: 2

COURSE COORDINATOR

Dr Hassan Ibrahim

TEXT BOOK:

K C.R. Ashahl, "Robots and Manufacturing Automation", John Wiley

COURSE DESCRIPTION:

Building blocks of automation. Automatic production and assembly. Additional topics regarding programmable logic controllers (PLC's). Analog signals processing. Integral blocks. Communications capabilities: Data interchange, local area network (LAN), communication protocols, Different communications. Industrial application examples.

PREREQUISITE:

EE 512

RELATION OF COURSE TO PROGRAM:

Elective

COURSE INSTRUCTION OUTCOMES:

The student is introduced to additional principles and capabilities of programmable systems. He/ She are capable to select and implement equipment to meet the practical requirements encountered in industrial systems.

TOPICS COVERED:

- Additional topics regarding PLCs.
- Data interchange and communication.
- Industrial networking using PLCs.

CONTRIBUTION OF COURSE TO MEET THE REQUIREMENTS OF CRITERION 5:

Professional Component Content			
Math and Basic Sciences	Engineering Topics	General Education	Engineering Design
	√	√	√

RELATIONSHIP OF COURSE TO STUDENT OUTCOMES:

Student Outcomes		Course Outcomes
a.	An ability to apply knowledge of mathematics, science, and engineering.	
b.	An ability to design and conduct experiments, analyze and interpret data.	
c.	An ability to design a system, component, or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability.	√
d.	An ability to function on multi-disciplinary teams.	
e.	An ability to identify, formulate, and solve engineering problems.	√
f.	An understanding of professional and ethical responsibility.	
g.	An ability to communicate effectively.	
h.	The broad education necessary to understand the impact of engineering solutions in a global, economic, environmental, and societal content	
i.	A recognition of the need for, and an ability to engage in life-long learning.	
j.	A knowledge of contemporary issues within and outside the electrical engineering profession.	
k.	An ability to use the techniques, skills, and modern engineering tools necessary for electrical engineering practice.	√