



COURSE / MODULE / BLOCK DETAILS

ACADEMIC YEAR / SEMESTER

<b>Offered by:</b> Endüstri Mühendisliği			
<b>Course Title:</b> CONTROL SYSTEMS TECHNOLOGY		<b>Course Org. Title:</b> KONTROL SİSTEMİ TEKNOLOJİLERİ	
<b>Course Level:</b> Lisans		<b>Course Code:</b> END 3933	
<b>Language of Instruction:</b> Türkçe		<b>Form Submitting/Renewal Date</b> 23/05/2014	
<b>Weekly Course Hours:</b> 3		<b>Course Coordinator:</b> YRD.DOÇENT GÖKALP YILDIZ	
<b>Theory</b>	<b>Application</b>	<b>Laboratory</b>	<b>National Credit:</b> 3
3	0	0	<b>ECTS Credit:</b> 4



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FACULTY OF ENGINEERING OFFICE OF THE DEAN



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Offered to:	Course Status: Compulsory/Elective
Name of the Department:	
Industrial Engineering	Elective Course

Wire: 0 232 301 72 15

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Instructor/s:

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Access: <http://www.eng.deu.edu.tr>

Address: Dokuz Eylül Üniversitesi Tınaztepe Yerleşkesi 35160 Buca/İZMİR E-mail: [muhendislik@deu.edu.tr](mailto:muhendislik@deu.edu.tr)



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## Course Objective:

To provide an understanding of the main control issues in industrial automation systems based on relevant theories and applications.

## Learning Outcomes:

- 1 Ability to explain the role of control devices within industrial automation system, and the interrelationships with components and modules within that system.
- 2 Ability to explain differences between open loop and closed loop control.
- 3 Ability to explain differences between discrete and continuous control.
- 4 Ability to determine the best methodology and sensor to measure process variables.
- 5 Ability to follow current main issues in control of industrial automation systems.

## Learning and Teaching Strategies:

Instructor notes will be given using blackboard and visual presentations. Additionally, it will be further supported by homework and student presentations.

## Assessment Methods:

Name	Code	Calculation formula
Vize	VZ	
Ödev	OD	
Final	FN	
Bütünleme Notu	BUT	
BNS	BNS	$VZ * 030 + D * 020 + FN * 050$
Bütünleme Sonu Başarı Notu	BBN	$VZ * 030 + D * 020 + BUT * 050$

## Further Notes about Assessment Methods:



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Assessment Criteria:

Midterm (30%) + Assignments (20%) + Final Exam (50%)

Textbook(s)/References/Materials:

Robert Bateson (2002), Introduction to Control System Technology, 7th ed. Prentice-Hall ISBN#0-13-030688-6.

Course Policies and Rules:

Contact Details for the Instructor:

Tel: 301 76 14, e-mail: gokalp.yildiz@deu.edu.tr

Office Hours:

Course Outline:

Week	Topics:	Notes:
1	Introduction to control systems and process control	
2	Control system design	
3	Open loop and closed loop control technology	
4	Block diagrams	
5	Analog and digital control	
6	Sensors	
7	Switches, valves and actuators	
8	Stepping vs. servo electrical motors	



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9	Mid-Term Exam
10	Programmable Logic Controllers
11	Industrial applications (1)
12	Industrial applications (2)
13	Presentations (1)
14	Presentations (2)



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## ECTS Table

Course Activities	Number	Duration (hour)	Total Work Load (hour)
In Class Activities			
Lectures	11	3	33

## Exams

Final	1	2	2
Midterm	1	2	2

## Out Class activities

Preparations before/after weekly lectures	12	1	12
Preparation for midterm exam	1	16	16
Preparation for final exam	1	16	16
Preparing assignments	1	15	15
Preparing presentations	1	4	4
Total Work Load (hour)			100
ECTS Credits of the Course= Total Work Load (hour) / 25			4