

COURSE INFORMATION					
Course Title	Code	Semester	C + P + L Hour	Credits	ECTS
Special Topics in Control Systems	EE689	Fall/Spring	3 + 0 + 0	3	10

Prerequisites	None
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Language of Instruction	English
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Course Level	Doctorate
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Course Type	Elective
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Course Coordinator	Doç. Dr. Duygun Erol Barkana
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Instructors	Doç. Dr. Duygun Erol Barkana
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Assistants	None
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Goals	The goal of this course is to cover recent advances in Control Systems.
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Content	Decide and implement the control systems that are needed for the students' thesis area and then and analyze the results of the control systems
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Learning Outcomes	Program Outcomes	Teaching Methods	Assessment Methods
1) Ability to decide the control system that is needed,	1,2,7,8	1,2,3,4,6	E
2) Ability to implement the control system and analyze the results.	1,2,7,8	1,2,3,4,6	E

Teaching Methods:	1: Lecture, 2: Problem Solving, 3: Simulation, 4: Seminar, 5: Laboratory, 6: Term Research Paper
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Assessment Methods:	A: Exam, B: Quiz, C: Experiment, D: Homework, E: Project
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COURSE CONTENT		
Week	Topics	Study Materials
1	Modelling of the System that will be Controlled	Papers
2	Modelling of the System that will be Controlled, Presentation 1	Papers
3	Paper Review	Papers
4	Paper Review	Papers
5	Decision of the Controller of the System, Presentation 2	Papers
6	Paper Review	Papers

7	Paper Review	Papers
8	Implementation of the Controller, Presentation 3	Application Area (MATLAB etc)
9	Implementation of the Controller, Presentation 4	Application Area (MATLAB etc)
10	Paper Review	Papers
11	Paper Review	Papers
12	Analysis of the Results of the Controller	Application Area (MATLAB etc)
13	Analysis of the Results of the Controller, Presentation 5	Application Area (MATLAB etc)
14	Final Project	

RECOMMENDED SOURCES

Textbook	Selected Papers
Additional Resources	Notes

MATERIAL SHARING

Documents	
Assignments	None
Exams	None

ASSESSMENT

IN-TERM STUDIES	NUMBER	PERCENTAGE
Presentations	5	100
Total	5	100
CONTRIBUTION OF FINAL EXAMINATION TO OVERALL GRADE	1	40
CONTRIBUTION OF IN-TERM STUDIES TO OVERALL GRADE	5	60
Total	6	100

COURSE CATEGORY	Field Course
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COURSE'S CONTRIBUTION TO PROGRAM

No	Program Learning Outcomes	Contribution				
		1	2	3	4	5

1	Comprehends and applies basic sciences, mathematics and engineering sciences at the highest possible level.	X
2	Demonstrates a thorough knowledge in Electrical and Electronics Engineering in breadth and depth including the current trends of development.	x
3	Designs, implements and completes an original research process independently; manages this process.	
4	Can reach and grasp the most recent information in a field, has a high level of competence in the necessary methodology and skills to do research in this field.	
5	Performs a comprehensive work that results in a new scientific method or technological product/process development, a scientific and technological innovation, or an application of a known method to a new area.	
6	Contributes to the literature of science and technology by publishing the results of academic studies in respectable academic media.	
7	Can critically analyze, synthesize and evaluate the ideas and developments in Electrical and Electronics Engineering.	x
8	Can communicate effectively with the Electrical and Electronic Engineers and the wider scientific and social communities in written and spoken Turkish; can establish written, oral and visual communications, and can participate in discussions using one foreign language (English) at least at the General Advanced Level C1 of European Language Portfolio.	x
9	Evaluates scientific, technological, social and cultural developments, and transfers the outcomes to the society with scientific objectivity and ethical responsibility.	

ECTS ALLOCATED BASED ON STUDENT WORKLOAD BY THE COURSE DESCRIPTION			
Activities	Quantity	Duration (Hour)	Total Workload (Hour)
Course Duration	14	3	42
Hours for off-the-classroom study (Pre-study, practice)	10	16	160
Final Project	1	35	35
Presentation	5	2	10
Total Work Load			247
Total Work Load / 25 (h)			9,88
ECTS Credit of the Course			10