

COURSE INFORMATION					
Course Title	Code	Semester	C +P + L Hour	Credits	ECTS
Special Topics in Electronics	EE649	Fall and/or Spring	3 + 0 + 0	3	10

<b>Prerequisites</b>	None
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<b>Language of Instruction</b>	English
<b>Course Level</b>	Doctorate
<b>Course Type</b>	Elective
<b>Course Coordinator</b>	Assoc. Prof. Dr. Serkan Topaloğlu
<b>Instructors</b>	Prof. Dr. Fethi Olcaytuğ
<b>Assistants</b>	None
<b>Goals</b>	The goal of this course is to cover recent advances in electronic circuits
<b>Content</b>	Vary every time course is offered according to actual developments

Learning Outcomes	Program Outcomes	Teaching Methods	Assessment Methods
1) Latest Electronic Circuits	1,2,7,8	1,2,3,4,6	A,D
2) Latest Compound Semiconductor Devices	1,2,7,8	1,2,3,4,6	A,D
3) Latest Sensor and Actuator Principles Design and Applications	1,2,7,8	1,2,3,4,6	A,D
4) Latest Sensor and Actuator Materials	1,2,7,8	1,2,3,4,6	A,D
5) Latest Sensor and Actuator Technologies	1,2,7,8	1,2,3,4,6	A,D

<b>Teaching Methods:</b>	1: Lecture, 2: Problem Solving, 3: Simulation, 4: Seminar, 5: Laboratory, 6: Term Research Paper
<b>Assessment Methods:</b>	A: Exam, B: Quiz, C: Experiment, D: Homework, E: Project

COURSE CONTENT		
Week	Topics	Study Materials
1	Introduction to the basics of the selected area	Presentation notes
2	Presentation of details about some selected specific areas	Presentation notes
3	Open technical needs or scientific questions in the selected areas	Presentation notes

4	Review of recent developments and focal points of actual interests	Presentation notes
5	Resume of the introduction, selection of papers, Midterm I	
6	Selected paper review	Selected papers
7	Selected paper review	Selected papers
8	Selected paper review	Selected papers
9	Selected paper review	Selected papers
10	Selected paper review	Selected papers
11	Selected paper review	Selected papers
12	Selected paper review	Selected papers
13	Selected paper review	Selected papers
14	Selected paper review	Selected papers

<b>RECOMMENDED SOURCES</b>	
<b>Textbook</b>	Selected papers
<b>Additional Resources</b>	Presentation notes and recommended actual literature

<b>MATERIAL SHARING</b>	
<b>Documents</b>	Course Web Page (Coadsys)
<b>Assignments</b>	Course Web Page (Coadsys)
<b>Exams</b>	Course Web Page (Coadsys)

<b>ASSESSMENT</b>		
<b>IN-TERM STUDIES</b>	<b>NUMBER</b>	<b>PERCENTAGE</b>
Midterm I	1	15
Midterm II	0	0
Homework Assignment		55
<b>Total</b>		<b>70</b>
<b>CONTRIBUTION OF FINAL EXAMINATION TO OVERALL GRADE</b>		30
<b>CONTRIBUTION OF IN-TERM STUDIES TO OVERALL GRADE</b>		70
<b>Total</b>		<b>100</b>
<b>COURSE CATEGORY</b>	Field Course	

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.	X				
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.	X				
6	Contributes to the literature of science and technology by publishing the results of academic studies in respectable academic media.	X				
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.	X				

ECTS ALLOCATED BASED ON STUDENT WORKLOAD BY THE COURSE DESCRIPTION			
Activities	Quantity	Duration (Hour)	Total Workload (Hour)
Course Duration (including 2 midterms: 14xtotal lecture hours)	14	3	42
Hours for off-the-classroom study (Pre-study, practice)	14	6	84
Midterm I	1	15	15
Midterm II	0	0	0
Homework assignment	2	40	80
Final examination	1	20	20
<b>Total Work Load</b>			241
<b>Total Work Load / 25 (h)</b>			9,64
<b>ECTS Credit of the Course</b>			<b>10</b>