

COURSE INFORMATION					
Course Title	Code	Semester	C +P + L Hour	Credits	ECTS
Special Topics in Communication Systems	EE659		3 + 0 + 0	3	10

<b>Prerequisites</b>	
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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. Engin Maşazade
<b>Instructors</b>	Assoc. Prof. Dr. Engin Maşazade
<b>Assistants</b>	
<b>Goals</b>	The aim of this course is to create an environment for discussing and studying contemporary methods and challenges in communication systems.
<b>Content</b>	The content of the course may differ at each offered semester. The possible content that can be covered in a semester may become adaptive wireless sensor network management, resource allocation in cognitive radio networks, next generation wireless communications and networking systems.

Learning Outcomes	Program Outcomes	Teaching Methods	Assessment Methods
1) Ability to reach technical research papers, develop critical thinking to develop new ideas.	1,2,3,4,5,6,7,8,9	1,3,6	D, E
2) Based on the state-of-the-art literature, develop a valid problem formulation, suggest methods for solving it.	1,2,3,4,5,6,7,8,9	1,3,6	D, E
3) Project Presentation in front of the class.	1,2,3,4,5,6,7,8,9	1,3,6	D, E

<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

<b>COURSE CONTENT</b>
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<b>Week</b>	<b>Topics</b>	<b>Study Materials</b>
1	Discussions on Emerging Methods in Wireless Communications	Resources
2	Discussions on Emerging Methods in Wireless Communications	Resources
3	Technical Paper Review and Discussions	Resources
4	Technical Paper Review and Discussions	Resources
5	Technical Paper Review and Discussions	Resources
6	Project Proposal Presentations	Resources
7	Technical Paper Review and Discussions	Resources
8	Technical Paper Review and Discussions	Resources
9	Technical Paper Review and Discussions	Resources
10	Technical Paper Review and Discussions	Resources
11	Project Progress Presentations	Resources
12	Project Progress Presentations	Resources
13	Project Progress Presentations	Resources
14	Final Project Presentations	Resources

### **RECOMMENDED SOURCES**

<b>Textbook</b>	
<b>Additional Resources</b>	IEEE Communications Magazine IEEE Transactions on Wireless Communications IEEE Communications Letters IEEE Communications Surveys & Tutorials IEEE Signal Processing Magazine IEEE Transactions on Signal Processing IEEE Signal Processing Letters

### **MATERIAL SHARING**

<b>Documents</b>	Course Web Page
<b>Assignments</b>	Course Web Page
<b>Exams</b>	Course Web Page

<b>ASSESSMENT</b>		
<b>IN-TERM STUDIES</b>	<b>NUMBER</b>	<b>PERCENTAGE</b>
PROJECT PROPOSAL	1	30
PROJECT PROGRESS REPORT	1	30
FINAL PROJECT AND PRESENTATION	1	40
<b>Total</b>		<b>100</b>
<b>CONTRIBUTION OF FINAL EXAMINATION TO OVERALL GRADE</b>		40
<b>CONTRIBUTION OF IN-TERM STUDIES TO OVERALL GRADE</b>		60
<b>Total</b>		<b>100</b>

<b>COURSE CATEGORY</b>	Field Course
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<b>COURSE'S CONTRIBUTION TO PROGRAM</b>						
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.				X	
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				X	

	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.					
9	Evaluates scientific, technological, social and cultural developments, and transfers the outcomes to the society with scientific objectivity and ethical responsibility.				X	

<b>ECTS ALLOCATED BASED ON STUDENT WORKLOAD BY THE COURSE DESCRIPTION</b>			
Activities	Quantity	Duration (Hour)	Total Workload (Hour)
Course Duration (including 2 midterms: 14xtotal lecture hours)	14	3	42
Project Work	14	14	196
Presentation	1	5	5
<b>Total Work Load</b>			243
<b>Total Work Load / 25 (h)</b>			9.72
<b>ECTS Credit of the Course</b>			10