

COMMUNICATION SYSTEMS

1	Course Title:	COMMUNICATION SYSTEMS	
2	Course Code:	EEM3402	
3	Type of Course:	Compulsory	
4	Level of Course:	First Cycle	
5	Year of Study:	3	
6	Semester:	6	
7	ECTS Credits Allocated:	6.00	
8	Theoretical (hour/week):	4.00	
9	Practice (hour/week):	0.00	
10	Laboratory (hour/week):	0	
11	Prerequisites:	None	
12	Language:	Turkish	
13	Mode of Delivery:	Face to face	
14	Course Coordinator:	Prof. Dr. TUNCAY ERTAŞ	
15	Course Lecturers:	Prof. Dr. Tuncay ERTAŞ	
16	Contact information of the Course Coordinator:	E-posta:tertas@uludag.edu.tr Tel: (224) 294 2013 Adres: Elektronik Mühendisliği Bölümü, 5. Kat, Ofis No:113	
17	Website:	http://home.uludag.edu.tr/~tertas	
18	Objective of the Course:	To analyze signals and systems in time and frequency domain. To have a sound understanding of communications systems with various modulation formats. To apply the basic concepts to the design and analysis of communication systems.	
19	Contribution of the Course to Professional Development:		
20	Learning Outcomes:		
		1	To sketch the discrete and continuous spectra of signals
		2	To conduct noise analysis of analog modulation systems
		3	To understand the optimum receiver principles
		4	To find the BER for various mod.
		5	To solve problems related to communication systems using Matlab.
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21	Course Content:		
		Course Content:	
Week	Theoretical	Practice	
1	Signals and systems		
2	Double sideband modulations		
3	Single and vestigial sideband modulations		
4	Angle Modulations		

5	Random processes	
6	Noise in AM systems	
7	Noise in FM systems	
8	Repeating courses and midterm exam	
9	Sampling and pulse modulations	
10	Baseband pulse transmissions	
11	Baseband pulse transmissions	
12	Signal space and receiver types	
13	Bandpass digital modulations	
14	Bandpass digital modulations cont.	

22	Textbooks, References and/or Other Materials:	1- J. G. Proakis ve M. Salehi: Fundamentals of Communication Systems, Prentice-Hall 2- S. Haykin: Communication Systems, Wiley, 4th Ed.
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23	Assesment
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TERM LEARNING ACTIVITIES	NUMBE	WEIGHT		
Activites		Number	Duration (hour)	Total Work Load (hour)
Theoretical				
Home Work-project	3	25.00	3.00	42.00
Practicals/Labs		0	0.00	0.00
Self study and preperation	5	100.00	4.00	56.00
Total				
Homeworks		3	10.00	30.00
Success Grade Projects		0	0.00	0.00
Field Studies		0	0.00	0.00
Midterm exams		100.00	24.00	24.00
Others		0	0.00	0.00
Course Final Exams		1	28.00	28.00
Total Work Load				180.00
Total work load/ 30 hr				6.00
ECTS Credit of the Course				6.00

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ÖK5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
LO: Learning Objectives PQ: Program Qualifications																
Contrib ution Level:	1 very low		2 low		3 Medium		4 High		5 Very High							