

COMMUNICATION ELECTRONICS

1	Course Title:	COMMUNICATION ELECTRONICS
2	Course Code:	EEM4316
3	Type of Course:	Optional
4	Level of Course:	First Cycle
5	Year of Study:	4
6	Semester:	8
7	ECTS Credits Allocated:	4.00
8	Theoretical (hour/week):	3.00
9	Practice (hour/week):	0.00
10	Laboratory (hour/week):	0
11	Prerequisites:	-
12	Language:	Turkish
13	Mode of Delivery:	Face to face
14	Course Coordinator:	Dr. Öğr. Üyesi ABDURRAHMAN GÜNDAY
15	Course Lecturers:	-
16	Contact information of the Course Coordinator:	E-posta: agunday@uludag.edu.tr Tel: (224) 294 2018 Adres: Elektrik - Elektronik Mühendisliği Bölümü 3. Kat, No: 304
17	Website:	
18	Objective of the Course:	Providing the students to earn necessary knowledge and experience and ability to analyze and design some basic communication circuits. Moreover, getting them to obtain the informations related to wide band amplifiers, resonant circuits, narrow band amplifiers (tuned amplifiers), oscillators, modulator and demodulator circuit architectures.
19	Contribution of the Course to Professional Development:	Learning the circuits used in the field of Communication Electronics successfully and gaining the ability to make circuit desings in this field.
20	Learning Outcomes:	
	1	Ability to apply theoretical and practical knowledge for modeling and solving engineering problems in the field of communication electronics
	2	Ability to solve, formulate and identify complex engineering problems encountered in the field of communication electronics by selecting the appropriate analysis and modeling methods
	3	Ability to design complex system in communication electronics under realistic constraints and conditions by applying modern design methods
	4	Ability to develop, select and use modern techniques and tools for communication electronics
	5	Ability to interpret the results and collect data for analysing engineering problems in the field of communications electronics
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21	Course Content:	

	Course Content:			
Week	Theoretical		Practice	
1	Introduction to communication electronics			
2	Filter circuits (basic structure and working principles)			
3	Oscillator circuits (basic structure and working principles)			
4	Oscillator circuits (basic structure and working principles)			
5	Modulators (FM and AM modulators and their properties)			
6	Modulators (FM and AM modulators and their properties)			
7	Demodulators (FM and AM demodulators and their properties)			
8	Midterm Exam + Review of Past Lectures			
9	Demodulators (FM and AM demodulators and their properties)			
10	Mixers: basic structure and working principles (mixer circuits)			
11	PLL and frequency synthesizers			
12	Operational amplifiers			
13	Wide band amplifiers			
14	Tuned amplifiers and resonance circuits			
Activites		Number	Duration (hour)	Total Work Load (hour)
Theoretical		21	3.00	42.00
Practicals/Labs		0	0.00	0.00
Self study and preperation		3	5.00	70.00
Homeworks		0	0.00	0.00
Projects		4	0.00	0.00
Field Studies		0	0.00	0.00
Midterm exams		1	4.00	4.00
Others		0	0.00	0.00
Final Exams		1	4.00	4.00
Total Work Load				120.00
Total work load/ 30 hr		1	40.00	4.00
Midterm Exam				
ECTS Credit of the Course				4.00
Home work-project		0	0.00	
Final Exam		1	60.00	
Total		2	100.00	
Contribution of Term (Year) Learning Activities to Success Grade		40.00		
Contribution of Final Exam to Success Grade		60.00		
Total		100.00		
Measurement and Evaluation Techniques Used in the Course		Mid-term and final exams and homeworks related to the course content.		
24	ECTS / WORK LOAD TABLE			

25	CONTRIBUTION OF LEARNING OUTCOMES TO PROGRAMME QUALIFICATIONS															
	PQ1	PQ2	PQ3	PQ4	PQ5	PQ6	PQ7	PQ8	PQ9	PQ10	PQ11	PQ12	PQ13	PQ14	PQ15	PQ16
ÖK1	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ÖK2	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ÖK3	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0
ÖK4	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0
ÖK5	0	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0
LO: Learning Objectives PQ: Program Qualifications																
Contribution Level:	1 very low			2 low			3 Medium			4 High			5 Very High			