

ELECTRONIC CIRCUIT COMPONENTS

1	Course Title:	ELECTRONIC CIRCUIT COMPONENTS	
2	Course Code:	EEM2302	
3	Type of Course:	Compulsory	
4	Level of Course:	First Cycle	
5	Year of Study:	2	
6	Semester:	4	
7	ECTS Credits Allocated:	6.00	
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 UMUT AYDEMİR	
15	Course Lecturers:	Öğr. Gör. Dr. İsmail Tekin	
16	Contact information of the Course Coordinator:	E-posta: eldar@uludag.edu.tr Tel: (224) 294 2015 Adres: Elektronik Mühendisliği Bölümü No:434	
17	Website:		
18	Objective of the Course:	Basic electronic circuit elements in the structure, operation principle, characteristics and parameters, its behavior under stress, models and computer simulations provide the basic information needed about the usage examples.	
19	Contribution of the Course to Professional Development:		
20	Learning Outcomes:		
		1	Learns the structure of electronic circuit elements
		2	Learn the working principles of electronic circuit elements
		3	Learn the characteristics and parameters of the electronic circuit components
		4	Learns simulation models of electronic circuit elements
		5	Learns to use examples of electronic circuit elements
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21	Course Content:		
		Course Content:	
Week	Theoretical	Practice	
1	Types of electronic circuit devices, resistors, resistor types, structures, operating principles, characteristics and parameters, application examples.		
2	Capacitors, coils and transformers, types, structure, operation principle, characteristics and parameters, application examples.		

3	The theory of the semiconductor, semiconductor diodes, structure, operation principle, characteristics and parameters, and surface-contact-point-contact diodes, diode applications.	
4	Tunnel diodes, varicaps, structure, operation principle, characteristics and parameters.	
5	Diacs, thyristors, structure, operation principle, characteristics and parameters.	
6	Triacs, structure, operation principle, characteristics and parameters.	
7	Bipolar transistors, structure, operation principle, characteristics and parameters	
8	Midterm + review session	
9	Connection types of bipolar transistors.	
10	FETs, structure, operation principle, characteristics and parameters.	
11	MOSFETs, structure, operation principle, characteristics and parameters.	
12	IGBTs, structure, operation principle, characteristics and parameters.	
13	Light emitting diodes (LEDs), structure, operation principle, characteristics and parameters	
14	Photodetectors, optocouplers, switching elements. structure. operation principle.	

Activites	Number	Duration (hour)	Total Work Load (hour)
Theoretical	24	42.00	42.00
Practicals/Labs	0	0.00	0.00
Self study and preperation	54	92.00	92.00
Homeworks	0	0.00	0.00
Projects	0	0.00	0.00
Field Studies	0	0.00	0.00
Midterm exams	1	16.00	16.00
Others	0	0.00	0.00
Final Exams	1	20.00	20.00
Total			120.00
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			

24	ECTS / WORK LOAD TABLE
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ÖK2	0	4	3	2	0	0	0	0	0	0	0	0	0	0	0	0
ÖK3	0	4	4	2	0	0	0	0	0	0	0	0	0	0	0	0
ÖK4	0	4	3	1	0	0	0	0	0	0	0	0	0	0	0	0
ÖK5	0	2	2	2	0	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			