ELECTRONIC CIRCUITS AND DEVICES											
1	Course Title:	ELECTRONIC CIRCUITS AND DEVICES									
2	Course Code:	BMB301	1								
3	Type of Course:	Optional									
4	Level of Course:	First Cyc	sle								
5	Year of Study:	3									
6	Semester:	5									
7	ECTS Credits Allocated:	5.00									
8	Theoretical (hour/week):	3.00									
9	Practice (hour/week):	0.00									
10	Laboratory (hour/week):	0									
11	Prerequisites:	Physics	ll								
12	Language:	Turkish									
13	Mode of Delivery:	Face to	face								
14	Course Coordinator:	Prof. Dr.	KEMAL FİDANBOYLU								
15	Course Lecturers:	-									
16	Contact information of the Course Coordinator:	e-posta: kfidan@uludag.edu.tr Uludağ Üniversitesi, Bilgisayar Mühendisliği Bölümü Görükle Kampüsü, 16059 Nilüfer, Bursa									
17	Website:										
18	Objective of the Course:	To provide the students with basic knowledge about circuit theory and electronic devices.									
19	Contribution of the Course to Professional Development:	Engineering Science: 80%; Engineering Design: 20%									
20	Learning Outcomes:										
		1	Analyze DC circuits containing resistors, voltage sources, and current sources								
		2	Calculate real power on circuit components								
		3	Analyze DC circuits using nodal voltage and mesh current methods								
		4	Obtain Thevenin and Norton equivalents of different circuits								
		5	Explain the properties of semiconductor materials and pn junctions								
		6	Examine DC analysis techniques for diode circuits using various models								
		7	Explain the operation and characteristics of diode rectifier circuits, Zener diode, photodiode and light-emitting diode circuits								
		8	Explain the physical structure and operation of bipolar junction transistors (BJT); Investigate various DC biasing schemes of BJT circuits								
		9	Explain the physical structure and operation of junction field effect transistors (JFET) and metal oxide field effect transistors (MOSFET)								
		10	Investigate various DC biasing schemes of FET and MOSFET circuits; Develop small-signal models for BJT, JFET and MOSFET amplifier circuits								
21	Course Content:										
		Co	ourse Content:								

Week	The	Theoretical									Practice										
1	Basic Circuit Elements and Laws																				
2	Circuit Analysis Techniques																				
3	Impo	Important Circuit Concepts																			
4	Sem	Semiconductor Diodes																			
5	Diod	Diode Applications																			
6	Bipo Oper	Bipolar Junction Transistor Construction and Operation																			
7	Bipo	lar Ju	unctio	n Trar	nsisto	r Confi	guratio	ons													
8	DC E (BJT	DC Biasing of Bipolar Junction Transistors (BJT)																			
9	Junc Cons	lunction Field Effect Transistor (JFET) Construction and Operation																			
10	Meta (MO	al Ox SFE	ide Fi T) Coi	eld Eff nstruc	ect Ti tion a	ransisto nd Ope	or eration	1													
11	DC E Effec	DC Biasing of Junction and Metal Oxide Field Effect Transistors																			
12	Sma	Small Signal and AC Analysis of BJTs																			
13	Sma	mall Signal and AC Analysis of FETs																			
14	Sma	mall Signal and AC Analysis of MOSFETs																			
22	Text	Textbooks, References and/or Other							1.	1. L. Bobrow, Elementary Linear Circuit Analysis 2nd Ed											
	Mate	erials	:						Ó,	ford U											
Activites								Numb	er		Dura	Duration (hour)			Total Work Load (hour)						
								: W	ıднт			3.00			42.00						
R									Щ.				0.00	0.00			0.00				
	Practicals/Labs									1.4			0.00			70.00					
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	HOMBILE XEND ST FINALEXAM TO SUCCESS Grade									100			23.00		25.00						
	I otal Work Load																				
Measurer and Evaluation Techniques Used in the								e Ci	Classical problem-solving ability will be measured in												
24 ECTS / WORK LOAD TABLE														•	5.00						
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	QUALIFICATIONS																				
	I	PQ1	PQ2	PQ3	PQ4	PQ5	PQ6	PQ7	PQ8	PQ9	PQ1 0	PQ11	PQ12	PQ1 3	PQ14	PQ15	PQ16				
ÖK1	Ę	5	5	5	4	1	1	1	1	1	1	1	1	0	0	0	0				
ÖK2	Ę	5	5	5	4	1	1	1	1	1	1	1	1	0	0	0	0				
ÖK3	Ę	5	5	5	4	1	1	1	1	1	1	1	1	0	0	0	0				
ÖK4	Ę	5	5	5	4	1	1	1	1	1	1	1	1	0	0	0	0				

ÖK5	5	5	5	4	1	1	1	1	1	1	1	1	0	0	0	0
ÖK6	5	5	5	4	1	1	1	1	1	1	1	1	0	0	0	0
ÖK7	5	5	5	4	1	1	1	1	1	1	1	1	0	0	0	0
ÖK8	5	5	5	4	1	1	1	1	1	1	1	1	0	0	0	0
ÖK9	5	5	5	4	1	1	1	1	1	1	1	1	0	0	0	0
ÖK10	5	5	5	4	1	1	1	1	1	1	1	1	0	0	0	0
LO: Learning Objectives PQ: Program Qualifications																
Contrib 1 very low ution Level:			2 low			3 Medium			4 High			5 Very High				