ELECTRONICS II

1	Course Title:	ELECTRONICS II
2	Course Code:	ELNZ203
3	Type of Course:	Compulsory
4	Level of Course:	Short Cycle
5	Year of Study:	2
6	Semester:	3
7	ECTS Credits Allocated:	4.00
8	Theoretical (hour/week):	3.00
9	Practice (hour/week):	0.00
10	Laboratory (hour/week):	1
11	Prerequisites:	None
12	Language:	Turkish
13	Mode of Delivery:	Face to face
14	Course Coordinator:	Öğr.Gör. ÖZCAN TEMEL
15	Course Lecturers:	ÖĞR.GÖR. Özcan TEMEL
16	Contact information of the Course Coordinator:	ozcant@uludag.edu.tr 2942380
17	Website:	
18	Objective of the Course:	Being able to faciitate transistor either switching or amplifiying device. Being able to design and measure OpAmp circuits performing mathematical operations. Being ablle to design and measure filters utilizing OpAmps.
19	Contribution of the Course to Professional Development:	
20	Learning Outcomes:	

	1	Being able to faciitate transistor either switching or amplifiying device.
	2	Being able to design and measure OpAmp circuits performing mathematical operations.
	3	Being ablle to design and measure filters utilizing OpAmps.
	4	Being able to determine circuit components for a specified frequency and waveform.
	5	Being able to design and measure buck, boost, inverting and adjustabe voltage regulators utilizing SMPS principles.
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21	Course Content:	
	Course Content:	
Week	Theoretical	Practice
1	Transistor operating regions, switching properties.	Presentation, problem solving, discussion.
2	Transistor as an amplifier: Common emitter, base and collector connections.	Presentation, problem solving, discussion.

3	Transistor as an amplifier: Class- A, B, C amplifiers.	Presentation, problem solving, discussion.
4	Transistor as an amplifier: Class- AB, D amplifiers.	Presentation, problem solving, discussion.
5	Operational amplifiers: Inverting, non-inverting inputs and negatife feedback.	Presentation, practice, discussion.
6	Operational amplifiers: Inverting and non-inverting amplifiers, voltage follower, comparator.	Presentation, practice, discussion.
7	Operational amplifiers: Summing and weighted summing (DAC) amplifiers, integrator, differentiator.	Presentation, practice, discussion.
8	Midterm exam.	Written examination.
9	Operational amplifiers: Band stop, band pass, high pass, low pass filters.	Presentation, practice, discussion.
10	Oscillators: Colpitts, Hartley, 555, MAX038.	Presentation, practice, discussion.
11	Power supplies with linear voltage regulators.	Presentation, practice, discussion.
12	Power supplies with switching mode voltage regulators.	Presentation, practice, discussion.
13	Power supplies with switching mode voltage regulators.	Presentation, practice, discussion.
14		Presentation, practice, discussion.

22	Textbooks, References and/or Other Materials:	
23	Assesment	

TERM LEARNING ACTIVITIES	**NUMBER**	**WEIGHT**
Midterm Exam	1	20.00
Quiz	0	0.00
Home work-project	1	20.00
Final Exam	1	60.00
Total	3	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		

24	**ECTS / WORK LOAD TABLE**

Activites	Number	Duration (hour)	Total Work Load (hour)
Theoretical	14	2.00	28.00
Practicals/Labs	14	2.00	28.00
Self study and preperation	14	2.00	28.00
Homeworks	1	22.00	22.00
Projects	0	0.00	0.00
Field Studies	0	0.00	0.00
Midterm exams	1	22.00	22.00
Others	0	0.00	0.00
Final Exams	1	22.00	22.00
Total Work Load			172.00
Total work load/ 30 hr			5.00
ECTS Credit of the Course			4.00

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	3	0	5	5	3	0	0	0	0	3	0	0	0	0	0	0
ÖK2	3	0	5	5	5	3	0	0	3	5	0	0	0	0	0	0
ÖK3	3	0	5	5	5	3	0	0	3	5	0	0	0	0	0	0
ÖK4	3	5	5	3	3	0	0	0	3	3	0	0	0	0	0	0
ÖK5	3	3	5	5	5	3	0	0	3	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**				