NUMERICAL ELECTRONICS

1	Course Title:	NUMERICAL ELECTRONICS	
2	Course Code:	EMEZ001	
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:	-	
12	Language:	Turkish	
13	Mode of Delivery:	Face to face	
14	Course Coordinator:	Öğr.Gör. ÖZCAN TEMEL	
15	Course Lecturers:	Öğr.Gör. Ömer Eriş	
16	Contact information of the Course Coordinator:	hashan@uludag.edu.tr Tel: 2942345 Adres: U.Ü Teknik Bilimler MYO Görükle	
17	Website:		
18	Objective of the Course:	The main objectives of this course are to introduce basic logic circuits, logic circuit simplification methods, setting up logic circuits, electrical equivalents of logics and solution of application problems.	
19	Contribution of the Course to Professional Development:		
20	Learning Outcomes:		
		1	Describes number systems.
		2	Describes the logical gate circuits.
		3	Set up circuits of logic functions.
		4	Able to do logic circuit simplification techniques.
		5	Solves problems of logic and implements logic circuits.
		6	Be able to design decoder and encoder circuits.
		7	Describes Mux and demux circuits.
		8	
		9	
		10	
21	Course Content:		

Course Content:

Week	Theoretical	Practice
1	Introduction.	
2	Number Systems.	Problem solving.
3	Number Systems.	Problem solving.
4	The logical gate circuits.	Use of logic gates.
5	Logical gate circuits, integrated circuit families and their technical characteristics.	Use of logic gates.

6	Circuit drawing of logic functions and finding out logic equation from a drawn circuit.	Realization of electrical equivalent of logic gates.
7	Conversions between electrical circuits and logic circuits.	Realization of electrical equivalent of logic gates.
8	Midterm exam.	
9	Boolean mathematics.	Problem solving.
10	Karnaugh map.	Problem solving.
11	Obtaining and simplification of the logic function of a problem	A control circuit design.
12	Installing and running the logic circuit of a problem.	Usage of 7-segment decoder driver drive.
13	The decoder, encoders. 7-segment decoders.	Decoder design.
14	Multiplexer (mux) and demux.	Mux and demux design.

22	Textbooks, References and/or Other Materials:	Digital system and applications, Ronald J. Tocci Mikroişlemçiler ve sayı sistemleri, Douglas V. Hall Digital Electronics and Applications for Digital Design, Richard J Prestonik Dijital Elektronik, Mustafa Yağımlı, Feyzi Akar
23	Assesment	

TERM LEARNING ACTIVITIES	**NUMBER**	**WEIGHT**
Midterm Exam	1	25.00
Quiz	0	0.00
Total	3	100.00
Success Grade		
Contribution of Final Exam to Success Grade		50.00
Total		100.00

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	6.00	6.00
Projects	1	10.00	10.00
Field Studies	0	0.00	0.00
Midterm exams	1	10.00	10.00
Others	0	0.00	0.00
Final Exams	1	10.00	10.00
Total Work Load			120.00
Total work load/ 30 hr			4.00
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	2	0	0	0	1	0	5	0	2	0	0	0	0	0	0	0
ÖK2	2	0	0	0	3	0	5	0	3	0	0	0	0	0	0	0
ÖK3	3	0	0	0	4	0	5	0	5	0	0	0	0	0	0	0
ÖK4	0	0	0	0	1	0	5	0	1	0	0	0	0	0	0	0

ÖK5	2	0	0	0	3	0	5	0	4	0	0	0	0	0	0	0
ÖK6	2	0	0	0	3	0	5	0	4	0	0	0	0	0	0	0
ÖK7	2	0	0	0	3	0	5	0	4	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**