

Course Code	Course Name	Teorical	Practice	Laboratory	Credits	ECTS
FZK-3018	Digital Electronics	3.00	0.00	0.00	3.00	6.00
Course Detail						
Course Language	: Turkish					
Qualification Degree	: Bachelor					
Course Type	: Optional					
Preconditions	: Not					
Objectives of the Course	: The objective of course: It is aimed to teach the basic concepts of digital electronics, digital electronic circuits and application areas and gain skills for circuit design.					
Course Contents	: The content of courses: numerical logic circuits and functions, number systems, logic gates, Boolean algebra, data selectors, data distributors, triggers and Flip-Flops.					
Recommended or Required Reading	: Digital Principles, Roger L. Tokheim; İleri Elektronik Dijital 1, Şaban Kurtuldu, Mehmet Ali Güler					
Planned Learning Activities and Teaching Methods	: Lecture in class, problem solving, laboratory experiment, discussion and feedback.					
Recommended Optional Programme Components	: -					
Instructors	: Prof. Dr. Serhat Özder					
Instructor's Assistants	: Res. Ass. Dr. Naci ERKAN					
Presentation Of Course	: Lectures, Homework, Discussion, Practice					

Course Outcomes

Upon the completion of this course a student :

- 1 Knowing that numbers used in digital electronics.
- 2 Knowing that logic gates.
- 3 Knowing that binary arithmetic and arithmetic circuits.
- 4 Knowing that flip-flops and other multivibrators.
- 5 Knowing that counters.
- 6 Knowing that shift registers.

Preconditions

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Weekly Contents

	Teorical	Practice	Laboratory	Preparation Info	Teaching Methods
1.Week	*Numbers used in digital electronics.				
2.Week	*Binary codes.				
3.Week	*Basic logic gates.				
4.Week	*Other logic gates.				
5.Week	*Simplyfying logic circuits: Mapping.				
6.Week	*Simplyfying logic circuits: Mapping.				
7.Week	*Code conversion.				
8.Week	*Binary arithmetic and arithmetic circuits.				
9.Week	*Flip-flops and other multivibrators.				
10.Week	*Flip-flops and other multivibrators.				
11.Week	*Counters.				
12.Week	*Counters.				
13.Week	*Shift registers.				
14.Week	*Shift registers.				

Assesment Methods %

1 Vize : 40.000

2 Final : 60.000

ECTS Workload

Activities	Count	Time(Hour)	Sum of Workload
Vize	1	2.00	2.00

Activities	Count	Time(Hour)	Sum of Workload
Final	1	2.00	2.00
Class Hours (14 weeks)	14	3.00	42.00
Mid Term Exam Preparation	1	20.00	20.00
Final Exam Preparation	1	30.00	30.00
Individual study after lecture	14	2.00	28.00
Homework	6	5.00	30.00
Individual study before lecture	14	2.00	28.00
			Total : 182.00
			Sum of Workload / 30 (Hour) : 6
			ECTS : 6.00

Program And OutcomeRelation																								
	P.O. 1	P.O. 2	P.O. 3	P.O. 4	P.O. 5	P.O. 6	P.O. 7	P.O. 8	P.O. 9	P.O. 10	P.O. 11	P.O. 12	P.O. 13	P.O. 14	P.O. 15	P.O. 16	P.O. 17	P.O. 18	P.O. 19	P.O. 20	P.O. 21	P.O. 22	P.O. 23	P.O. 24
L.O. 1	5	3	4	4	3	5	4	2	3	4	3	4	4	5	5	3	4	3	2	2	3	5	3	4
L.O. 2	5	3	4	4	3	5	4	2	3	4	3	4	4	5	5	3	4	3	2	2	3	5	3	4
L.O. 3	5	3	4	4	3	5	4	2	3	4	3	4	4	5	5	3	4	3	2	2	3	5	3	4
L.O. 4	5	3	4	4	3	5	4	2	3	4	3	4	4	5	5	3	4	3	2	2	3	5	3	4
L.O. 5	5	3	4	4	3	5	4	2	3	4	3	4	4	5	5	3	4	3	2	2	3	5	3	4
L.O. 6	5	3	4	4	3	5	4	2	3	4	3	4	4	5	5	3	4	3	2	2	3	5	3	4

Ders/Program Çıktıları İlişkisi																								
P.O. 1	P.O. 2	P.O. 3	P.O. 4	P.O. 5	P.O. 6	P.O. 7	P.O. 8	P.O. 9	P.O. 10	P.O. 11	P.O. 12	P.O. 13	P.O. 14	P.O. 15	P.O. 16	P.O. 17	P.O. 18	P.O. 19	P.O. 20	P.O. 21	P.O. 22	P.O. 23	P.O. 24	P.O. 2
5	3	4	4	3	5	4	2	3	4	3	4	4	5	5	3	4	3	2	2	3	5	3	4	2