

Course Information								
Course Code	T	P	L	C	ECTS	Type C/E	Language TR/ENG etc.	Year/Semester
FİZ3004	2	2	0	3	4	C	TR	3/SPRING
Course Name (Turkish)	Elektronik ve Elektrik Devreleri							
Course Name (English)	Electronics and Electrical Circuits							

Unit/Program	Physics Department/Undergraduate Program
Course Prerequisite	No
Course Objectives	Teaching students the basic concepts of electrical circuits and electronic devices
Course Outline	Electrical circuits and electronics
Textbook/ Material / Resources	Science and Engineering Electrical and Electronics Textbook.
Internship Status	No

Course Precedents				
University Name	Program Name	Course Name	T-P-L-C; ECTS	Type
Gebze Technical University	Physics	Physics II	3-0-0-4-6	C
Osmangazi University	Physics	Physics II	4-2-0-5-7	C
The instructor who proposed the course (Title, Name and Surname)			Signature	
Instructors who can teach the course (Title, Name and Surname)			Signature	

Academic justification for the opening of the course? (The effect of course outcomes on program outcomes, etc.)
Updating ECTS for FİZ308 course

Brief explanation of the course (theoretical lecture, applications, laboratory, studio, off-campus activity, using software, etc.)
It will be taught by the relevant Faculty Member in a face-to-face classroom environment.

External Stakeholder Opinions About the Course (It is expected that the opinions to be obtained from the business world that will employ your graduates or from real or legal persons outside the University who have expertise on the subject of the course will be specified. Proof documents must be attached to this form.)	
Stakeholder Name	Opinion (It should be given as a summary, it should not exceed two lines.)

Weekly Course Content Distribution		
Week	Theory	Application/Laboratory
1	Electric charge and current	
2	Electrical Power & Energy	
3	Electrical circuit sources and elements; Resistor, Inductance, Capacitor	
4	Basic circuit elements, series and parallel connection of elements,	
5	Voltage divider and current divider circuits	
6	Parallel voltage and series current sources	
7	Direct current circuits; Ambient current method	
8	Thevenin's Theorem and Norton's Theorem	
9	Midterm Exam	
10	Alternating; Sinusoidal Voltage and current	
11	Phase difference, Real, imaginary and complex numbers	
12	Behavior of circuit elements in alternating current	
13	Semiconductors and circuit elements made of semiconductors	
14	Diodes and types of diodes, transistors	
15	Final Exam	
16		

Assessment			
Evaluation Criteria	Activity	Custom	Contribution to Success Grade (%)
	Midterm Exams	1	40
	Quizzes		
	Assignments		
	Projects		
	Term Paper		
	Laboratory		
	Other		
	Final Exam	1	60
	Sum:		100
Remarks			

Content Design and Subject Weight (%)	Mathematics and Basic Sciences	50
	Engineering Sciences	50
	Social Sciences	
	Health Sciences	
	Educational Sciences	
	Culture and Art Sciences	
	Design Information	

Workload (ECTS) Calculation			
Events	Number	Duration (Hours)	Total workload (Hours)
Fieldwork			
Midterm Exam Application	1	2	2
Self-Study (including pre-class and exam preparation)	5	2	10
Make-up Exam	1	2	2
Experiment and Observation			
Class Participation (Theory)	14	4	56
Homework			
Final Exam Practice	1	2	2
Laboratory			
Article Review			
Writing an Article			
Reading			
Case Study			
Performance			
Problem Solution	14	2	28
Project Preparation			
Project Submission			
Quiz			
Report Preparation			
Submitting Reports			
Role/Drama Work			
Seminar			
Oral Exam			
Team/Group Work			
Argument			
Application/Practice			
Other			
TOTAL WORKLOAD:			100
ECTS CREDITS OF THE COURSE: (The number obtained as a result of Total Workload/25 is calculated by rounding to the whole number.)			4

<div>Program Outcomes (PO)</div> <div>Learning Outcomes (LO) (Course Outcomes)</div>		1	2	3	4	5	6	7	8	9	10	11
1	To be able to explain the basic concepts of electrical circuits and electronic devices.	5	5	5	4	4	2	3	4	4	2	1
2	To be able to obtain, interpret and explain information about current electronic devices	5	5	5	3	5	1	3	3	5	2	1
3	To gain the ability to determine, explain and associate mathematical solutions of electrical and electronic circuits	5	5	5	4	4	1	4	5	5	4	1

Organizer: Prof. Dr. Fethi DAĞDELEN

Preparation Date: 20.05.2024