



ESOGÜ Electrical-Electronics Engineering Department

COURSE CODE: 151228539 - 151248539

COURSE TITLE:Electrical Engineering Design

Semester	Weekly Hours		COURSE				
	Theoretical	Practical	Credits	ECTS	Type	Language	
8	2	4	4	9	Compulsory (x) Elective ()	Turkish () English (x)	
Write the credit (for non-credit courses weekly hours) below (If necessary distribute the credits.).							
Math and Basic Science		Electrical Engineering [mark (√) if there is high design content]		General Education		Humanities	
		4 (√)					
Assessment		THEORETICAL-PRACTICAL COURSES			LABORATORY COURSES		
Midterm		Type	Number	%	Activity Type	Number	%
		Midterm			Quiz		
		Quiz			Lab performance		
		Homework			Report		
		Project	1	50	Oral exam		
		Other (Reports)	3	50	Other (.....)		
Final							
Makeup exam (Oral/Written)		Oral					
Prerequisites							
Brief content of the course		Design and implementation of a device or system which is subject to real constraints and conditions.					
Objectives of the course		Teaching the steps of engineering design process.					
Contribution of the course towards professional education		In this course students will learn the steps of engineering design process and apply the steps on a real-constrained project					
Outcomes of the course		At the end of this course, Students 17) Will be able to apply design process steps on a project 18) Can design a real-constrained project 19) Can implement the project					
Textbook of the course		George E. Dieter Linda C. E. Schmidt “Engineering Design” McGraw Hill, 4th Ed. 2009					
Other reference books							
Required material for the course		Components that will be used in the design					

WEEKLY PLAN OF THE COURSE	
Week	Topics
1	Engineering Design, Problem definition
2	Need identification, Gathering information
3	Concept generation,
4	Decision making and concept selection
5	Detail design
6	Modeling and simulation
7	Risk, reliability, and Safety
8	Midterm
9	Midterm
10	Cost Evaluation
11	Design with Materials
12	Design for manufacturing
13	Quality and Robust design
14	Legal and Ethical Issues
15,16	Final

NO	OUTCOMES OF THE PROGRAMME	4	3	2	1
1	Adequate knowledge of mathematics, science and Electrical and Electronic Engineering; ability to practice theoretical and practical knowledge of these areas into modeling and solving problems of Electrical and Electronic Engineering				X
2	Ability to identify complex engineering problems in Electrical and Electronic Engineering and related fields, for this purpose having skills to formulate, select and apply appropriate methods.				X
3	Having skills to apply modern design methods to design a complex system, equipment or product that should work under realistic conditions and constraints and satisfy specific requirements concerning the Electrical and Electronic Engineering.	X			
4	Having skills to develop, select and apply modern techniques and tools needed for Electrical and Electronic Engineering applications, skills to use information technology effectively.				X
5	Skills to design and conduct tests, collect data, analyze results, and interpret data for the experimental investigation of Electrical and Electronic Engineering problems				X
6	Ability to function effectively as an individual and as a member of teams within the discipline and in multidiscipline areas.	X			
7	Communicating effectively in oral and written form both in Turkish and English.				X
8	Awareness of the necessity of lifelong learning, access to information, monitoring developments in science and technology and the ability to self-renewing				X
9	Understanding of professional and ethical responsibility			X	
10	Information on project management, change management and risk management practices, awareness on entrepreneurship, innovation and sustainable development.		X		
11	Information about universal and societal effects of engineering applications on health, safety and environment; awareness of the legal consequences of engineering solutions.				X

Scale for assessing the contribution of the course to the program outcomes:

4: High 3: Medium 2: Low 1:None

Name of Instructor(s): Prof. Dr. Osman Parlaktuna

Signature(s):

Date: