



## ESOGÜ Electrical-Electronics Engineering Department

**COURSE CODE:** 151227643 - 151247643 **COURSE TITLE:** Occupational Health and Safety in  
Electrical Engineering

Semester	Weekly Hours		COURSE			
	Theoretical	Practical	Credits	ECTS	Type	Language
7	2	0	2	3	Compulsory ( x) Elective ( )	Turkish ( ) English (x)
Write the credit (for non-credit courses weekly hours) below (If necessary distribute the credits.).						
<b>Math and Basic Science</b>		<b>Electrical Engineering</b> [mark (√) if there is high design content]		<b>General Education</b>		<b>Humanities</b>
		( )				
<b>Assessment</b>		<b>THEORETICAL-PRACTICAL COURSES</b>			<b>LABORATORY COURSES</b>	
		<b>Type</b>	<b>Number</b>	<b>%</b>	<b>Activity Type</b>	<b>Number</b>
<b>Midterm</b>		Midterm	1	40	Quiz	
		Quiz			Lab performance	
		Homework			Report	
		Project			Oral exam	
		Other (.....)			Other (.....)	
<b>Final</b>			1	60		
<b>Makeup exam (Oral/Written)</b>						
<b>Prerequisites</b>						
<b>Brief content of the course</b>		Occupational safety in electrical workplaces, definition of electrical quantities, cause of electrical accidents, electrical safety risk analysis and precautions for workplaces, effect of electrical current on human body, electric shock emergency, occupational safety laws in electrical work.				
<b>Objectives of the course</b>		Teach the risk analysis, safety rules and precautions for occupational safety in electrical workplaces and occupational safety laws for electrical operations and facilities.				
<b>Contribution of the course towards professional education</b>		Knowing the possible electrical risks in different workplaces and taking precautions against the accidents protect human and improve the efficiency of labor				
<b>Outcomes of the course</b>		1. To know possible electrical risks in different works places and take precautions for occupational health and safety. 2. Design of an experiment to take measurements (fault current, static electric, ground resistance, electromagnetic field level), analyzing the results and interpretation. 3. To know the occupational health and safety laws for electrical work.				
<b>Textbook of the course</b>		Benjamin O. Alli “Fundamental principles of Occupational Health and Safety”, ILO, 2008				
<b>Other reference books</b>						
<b>Required material for the course</b>						

WEEKLY PLAN OF THE COURSE	
Week	Topics
1	Occupational safety in electrical works
2	Definition of electrical quantities (voltage, current, resistance, static electric, etc.)
3	Electrical accidents
4	Electrical facility and installation
5	Fundamentals of electrical safety(isolation, low voltage usage)
6	Fundamentals of electrical safety(grounding, avoidance of static electric)
7	Electrical safety in low and high voltage operations
8	Midterm Exam
9	Midterm Exam
10	Electrical safety in facilities (electric generation and distribution facilities)
11	Electrical safety in facilities (construction sites and workplace with flammable or explosive atmosphere)
12	Effect of electrical current on human body
13	Electric shock emergency
14	Occupational health and safety laws for electrical works
15,16	Term Exam week

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			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			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:**