



**ESOGU ELECTRICAL-ELECTRONICS ENGINEERING DEPARTMENT
COURSE INFORMATION FORM**

Course Title	Course Code
OCCUPATIONAL HEALTH & SAFETY IN ELECTRICAL ENGR	151225410

Semester in Program	Number of Course Hours per Week		ECTS Credit
	Theory	Practice	
5	2	0	3

Course ECTS Credit Distribution				
Basic Sciences	Engineering Sciences	Design	General Education	Social
			3	

Language of Instruction	Course Level	Course Type
English	Undergraduate	Required

Prerequisite	NONE
Objectives of the Course	Teaching the risk analysis, safety rules and precautions for occupational safety in electrical workplaces and occupational safety laws for electrical operations and facilities.
Brief Course Content	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.

Learning Outcomes of the Course	Contributed POs	Teaching Methods *	Assessment Methods **
1 Knowledge of possible electrical risks in various work places and precautions for occupational health and safety.	8, 10a,11	1,2	A
2 Ability to design an experiment to take measurements for fault current, static electric, ground resistance, electromagnetic field level, and to analyze and interpret the results	5a	1,2	A
3 Awareness of the occupational health and safety regulations for electrical work.	8, 10a,11	1,2	A
4			
5			
6			
7			
8			

*Teaching Methods 1:Lecture, 2:Discussion, 3:Experiment, 4:Simulation, 5:Question-Answer, 6:Tutorial, 7:Observation, 8:Case Study, 9:Technical Visit, 10:Problem Solving, 11:Individual Work, 12:Team/Group Work, 13:Brain Storm, 14:Project Design / Management, 15:Report Preparation and/or Presentation

**Assessment Methods A:Exam, B:Quiz, C:Oral Exam, D:Homework, E:Report, F:Article Examination, G:Presentation, I:Experimental Skill, J:Project Observation, K:Class Attendance; L:Jury Exam

Main Textbook	Benjamin O. Alli <i>Fundamental principles of Occupational Health and Safety</i> , ILO, 2008
Supplementary Resources	Author(s): Ken Oldham-Smith, John M. Madden, <i>Electrical Safety and the Law</i> , Oxford: Wiley-Blackwell, 2002
Necessary Course Material	None

Course Weekly Schedule	
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	Mid-Term Exams
9	Electrical safety in facilities (electric generation and distribution facilities)
10	Electrical safety in facilities (construction sites and workplace with flammable or explosive atmosphere)
11	Effect of electrical current on human body
12	Electric shock emergency
13	Occupational health and safety laws for electrical works
14	Welding, electrical tests and testing
15	Course review
16,17	Final Exams

Calculation of Course Workload			
Activities	Count	Time (Hour)	Total Workload (Hour)
Weekly classroom time	14	2	28
Weekly study time (review, reinforcing, preparation)	14	2	28
Homework			
Taking a quiz			
Studying for a quiz			
Oral exam			
Studying for an oral exam			
Report writing (Preparation and presentation time included)			
Project (Preparation and presentation time included)			
Presentation (Preparation time included)			
Mid-Term Exam	1	1	1
Studying for Mid-Term Exam	1	9	9
Final Exam	1	1	1
Studying for Final Exam	1	9	9
	Total workload		76
	Total workload / 30		2.53
	Course ECTS Credit		3

Assessment	
Activity Type	%
Mid-term	50
Final Exam	50
Total	100

COURSE CONTRIBUTION TO THE PROGRAM OUTCOMES

(5: Very high, 4: High, 3: Middle, 2: Low, 1: Very low)

NO	PROGRAM OUTCOMES	Contribution
1	a. Sufficient knowledge of mathematics	
	b. Sufficient knowledge of basic sciences	
	c. Sufficient basic engineering and Electrical-Electronics engineering knowledge	
	d. Skill of applying all these knowledge and experience to complicated Electrical-Electronics engineering problems	
2	Skill of defining, identifying, formulating and solving the complicated problems in Electrical-Electronics engineering and related areas by applying appropriate analysis and modelling methods.	
3	Skill of designing a complicated process, system, equipment or product by applying modern design methods under realistic constraints and conditions.	
4	To analyze and solve the complicated engineering problems:	
	a. skill of developing, selecting and applying the required techniques and devices	
	b. skill of using information technologies effectively	
5	To study the complicated on the complicated Electrical-Electronics engineering problems and research subjects:	3
	a. skill of experimental design	
	b. skill of performing the experiments, collecting the data and analyzing and interpreting the results	
6	a. Skill of performing individual studies	
	b. Skill of performing intra and interdisciplinary and multidisciplinary teamwork and studies	
7	a. Skill of effective oral and written communication in Turkish and English	
	b. Skill of improving and using foreign language knowledge	
	c. Skill of effective reporting, understanding the reports and preparing the design and production reports	
	d. Skill of effective presentation and giving and getting clear and understandable instructions.	
8	Awareness of the necessity of life-long learning and skill of accessing to information and following the improvements in contemporary science and technology	3
9	a. Awareness of necessity of behaving in accordance with the ethical principles and awareness of the importance of having professional ethical responsibilities	
	b. Knowledge about legal regulations and standards of engineering	
10	a. Knowledge about project management, risk management and change management	3
	b. Awareness of the significance of entrepreneurship and innovation	
	c. Knowledge about sustainable development	
11	Knowledge about the effects of engineering applications and practices on the global and social health, ecology and safety, knowledge about the current problems in relation to the working areas of Electrical-Electronics engineering; and awareness of the legal issues resulting from engineering solutions	5
12	Knowledge about modern problems in local and universal scale	

INSTRUCTORS

Prepared by	Prof. Dr. HH Erkaya			
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