



ESOGÜ Electrical-Electronics Engineering Department

COURSE CODE:151227645-151247645

COURSE TITLE: Fundamentals Of Lighting And
Electrical Installation

Semester	Weekly Hours		COURSE				
	Theoretical	Practical	Credits	ECTS	Type	Language	
7	3	0	3	5	Compulsory () Elective (x)	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		
1		2 ()		-	-		
Assessment		THEORETICAL-PRACTICAL COURSES			LABORATORY COURSES		
Midterm		Type	Number	%	Activity Type	Number	%
		Midterm	1	60	Quiz		
		Quiz			Lab performance		
		Homework			Report		
		Project			Oral exam		
		Other (.....)			Other (.....)		
Final			1	40			
Makeup exam (Oral/Written)		Oral					
Prerequisites		Mathematics I, Mathematics II					
Brief content of the course		Purpose of illumination, illumination types, Light and eye sight, Photometric quantities, some important photometric laws, Fundamentals of production of light, Light sources, Calculation of illumination for places of inside of a building, Inner electric installation, Some protection methods for electric shocks. Preparation of illumination and inner installation project for a building.					
Objectives of the course		Some important knowledge about lighting and preparation of inner installation project for buildings are given.					
Contribution of the course towards professional education		A student who learnt the subjects given in this course can do the application of inner installation that is described in the project of the building.					
Outcomes of the course		A student who learnt the subjects given in this course can design the illumination and inner installation project for a given building.					
Textbook of the course		Aydınlatma Tekniği (Turkish), Prof. Dr. Muzaffer Özkaya, Bursa Üniversitesi Basımevi, 1981					
Other reference books		<p>LIGHTING FUNDAMENTALS</p> <p>LIGHTING UPGRADE MANUAL US EPA Office of Air and Radiation 6202J EPA 430-B-95-003, January 1995</p> <p>http://www-is.informatik.uni-oldenburg.de/~dibo/teaching/mm/pages/light-fundamentals.html#selc</p>					
Required material for the course		-					

WEEKLY PLAN OF THE COURSE

Week	Topics
1	The purpose of illumination, Illumination types, Physiologic illumination , Decorative illumination
2	Definition of light, Eye sight, Spectral susceptibility of eye
3	Some photometric quantities, Flux of light, Quantity of light, Intensity of light, Illumination level, Photometric radiance, Luminance.
4	Some important photometric laws, Cosine law, Lambert law, Law for projection of three dimensional angle etc.
5	Application of those photometric laws, Example problem solutions.
6	Fundamentals of light production, Thermal way of light production, Magnetic (Luminescent) way of light production
7	Sources of light, Incandescent lamp, Fluorescent lamp, High pressure discharge lamp
8	Midterm
9	Midterm
10	Illumination devices, Classification of illumination devices
11	Illumination calculation for inner places, Illumination calculation depending upon efficiency
12	Some important parts Inner electric installation
13	Voltage drop calculation, Selection of cross sectional area of wire used in electric installation
14	Preparation of inner installation project.
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 complex 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, process, 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 to analyze and solve complex applications in Electrical and Electronic Engineering, 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 complex problems in Electrical and Electronic Engineering				
6	Ability to function effectively as an individual and as a member of teams within the discipline and in multidiscipline areas.				
7	Communicating effectively in oral and written form both in Turkish and English. Effective report writing and understanding written reports, preparing design and manufacturing reports, making effective presentations, skills to give and receive clear and concise instructions.				
8	Awareness of the necessity of lifelong learning, access to information, monitoring developments in science and technology and the ability to self-renewing				
9	Understanding of professional and ethical responsibility				
10	Information on project management, change management and risk management practices, awareness on entrepreneurship and innovation, knowledge on sustainable development.				
11	Information about universal and societal effects of engineering applications on health, safety and environment; awareness of the legal consequences of engineering solutions.				

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. Salih FADIL

Signature(s):

Date: