



ESOGÜ Electrical-Electronics Engineering Department

COURSE CODE: 151222199 – 151242199 **COURSE TITLE:** Physics Laboratory II

Semester	Weekly Hours		COURSE				
	Theoretical	Practical	Credits	ECTS	Type	Language	
2	0	2	1	2	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		
1		()					
Assessment		THEORETICAL-PRACTICAL COURSES			LABORATORY COURSES		
Midterm		Type	Number	%	Activity Type	Number	%
		Midterm			Quiz		
		Quiz			Lab performance		
		Homework			Report	7	50
		Project			Oral exam		
Final						1	50
Makeup exam (Oral/Written)					Oral		
Prerequisites							
Brief content of the course		Electrolysis; magnetic force; Ohm's law; Wheatstone bridge; transformer; frequency; light absorption coefficient.					
Objectives of the course		To strengthen insights into the fundamental concepts of physics related to Newtonian mechanics through direct investigations and provide hands-on experience.					
Contribution of the course towards professional education		Enhance observational and analytical skills.					
Outcomes of the course		25.Enhance observational and analytical skills. 26.Develop an appreciation for qualitative and quantitative reasoning. 27.Develop physical curiosity. 28.Develop team skills. 29.Make measurements with common instruments. 30.Make objective observations of physical phenomena. 31.Draw conclusions based on observations and data. 32.Analyze quantitative information using sketches, graphs, tables, and statistics. 33.Conduct quantitative and qualitative discussions of observational errors. 34.Produce a lab report.					
Textbook of the course		Physics II Experiments. Eskişehir Osmangazi University Publications, Yrd.Doç.Dr. Sertaç Eroğlu, Dr. Murat Kellegöz, Dr. Gökhan Kılıç, Halil Yasin Adıyaman.					
Other reference books		4. Halliday, D., Resnick, R., and Walker, J. (2008). Fundamentals of Physics (8th Edition). John Wiley & Sons, Inc. 5. Serway, R.A., Beichner, R.J., Physics For Scientists and Engineers with Modern Physics (2007) , Harcourt College Publishers					
Required material for the course							

WEEKLY PLAN OF THE COURSE	
Week	Topics
1	
2	
3	Lab introduction
4	Electrolysis
5	Magnetic force
6	Ohm's law
7	Wheatstone bridge
8	Mid-term week – no experiment
9	Mid-term week – no experiment
10	Transformer
11	Frequency
12	Light absorption coefficient
13	
14	
15,16	Final

Contribution of the course to the program outcomes

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): M. Celalettin Baykul

Signature(s):

Date: