ESOGÜ Electrical-Electronics Engineering Department

COURSE CODE: 151221199 - 151241199 **COURSE TITLE:** Physics Laboratory I

Semester	Weekly Hours		COURSE			
	Theoretical	Practical	Credits	ECTS	Type	Language
1	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		
	Type	Number	%	Activity Type	Number	%
Midterm	Midterm			Quiz		
	Quiz			Lab performance		
	Homework			Report	7	50
	Project			Oral exam		
	Other (……)			Other (……)		
Final					1	50
Makeup exam (Oral/Written)				Oral		

Prerequisites	
Brief content of the course	Measurement; Projectile motion; Newton's second law; moment of inertia; spring; viscosity; Archimet's principle.
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	8. Enhance observational and analytical skills. 9. Develop an appreciation for qualitative and quantitative reasoning. 10.Develop physical curiosity. 11.Develop team skills. 12.Make measurements with common instruments. 13.Make objective observations of physical phenomena. 14.Draw conclusions based on observations and data. 15.Analyze quantitative information using sketches, graphs, tables, and statistics. 16.Conduct quantitative and qualitative discussions of observational errors. 17.Produce a lab report.
Textbook of the course	Physics I Experiments. Eskisehir. Eskisehir Osmangazi University Publications, Yrd.Doç.Dr. Sertaç Eroğlu, Dr. Murat Kellegöz, Dr. Gökhan Kılıç, Halil Yasin Adıyaman
Other reference books	1. **Halliday, D., Resnick, R., and Walker, J. (2008).** Fundamentals of Physics (8th Edition). John Wiley & Sons, Inc. 2.**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	Measurement
5	Projectile motion
6	Newton's second law
7	Moment of inertia
8	Mid-term week – no experiment
9	Mid-term week – no experiment
10	Spring
11	Viscosity
12	Archimet's principle
13	Mid-term week – no experiment
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 E&E Engineering; ability to practice theoretical and practical knowledge of these areas into modeling and solving problems of Computer Engineering	**X**			
2	Ability to identify complex engineering problems in E&E 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 E&E Engineering.				**X**
4	Having skills to develop, select and apply modern techniques and tools needed for 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 E&E 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 in Turkish and one foreign language.			**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: