



T.C. ESKİŞEHİR OSMANGAZİ UNIVERSITY
ARCHITECTURE AND ENGINEERING FACULTY
MECHANICAL ENGINEERING DEPARTMENT

COURSE INFORMATION FORM

SEMESTER | Fall

COURSE CODE	151811203	COURSE NAME	Physics Laboratory I (A)
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SEMESTER	WEEKLY COURSE PERIOD			COURSE OF			
	Theory	Practice	Laboratory	Credit	ECTS	TYPE	LANGUAGE
1	0	0	2	1	2	COMPULSORY (x) ELECTIVE ()	English
COURSE CATAGORY							
Basic Science		Basic Engineering		Mechanical Engineering [if it contains considerable design, mark with (√)]			Social Science
X				()			
ASSESSMENT CRITERIA							
MID-TERM				Evaluation Type		Quantity	%
				Mid-Term			
				Quiz			
				Homework			
				Project			
				Report		7	50
Others (.....)							
FINAL EXAM					1	50	
PREREQUIEITE(S)							
COURSE DESCRIPTION				Free fall and projectile motion, conservation of energy and momentum, Newton's second law, the simple pendulum and moment of inertia, Hooke's law and spiral spring, viscosity, Archimedes' principle and density.			
COURSE OBJECTIVES				The main objective of the course is to strengthen insights into the fundamental concepts of physics related to Newtonian mechanics through direct investigations and provide hands-on experience.			
ADDITIVE OF COURSE TO APPLY PROFESSIONAL EDUCATION				Students will be able to analyze the data related to a scientific topic, and they will have some capabilities about how to make and design an experiment. They will also develop their team skills.			
COURSE OUTCOMES				<ol style="list-style-type: none">1. Enhance observational and analytical skills and develop physical curiosity.2. Develop team skills.3. Make observations and measurements of physical phenomena.4. Draw conclusions based on observations and data.5. Analyze quantitative information using sketches, graphs, tables, and statistical methods, and write report.			
TEXTBOOK				Eroğlu, S., Kellegöz M., Kılıç G., Adıyaman H., 2008, Physics I Laboratory Manual, ESOGÜ Yayınları, Eskişehir.			
OTHER REFERENCES				<ol style="list-style-type: none">1. Ekem, N., Şenyel, M., 1997, Fizik I-II Deneyleleri, ESOGÜ. Yay. No:023, Eskişehir.2. Any equivalent books in related fields.			
TOOLS AND EQUIPMENTS REQUIRED							

COURSE SYLLABUS	
WEEK	TOPICS
1	Laboratory presentation and forming the lab experiment groups
2	Free fall and projectile motion
3	Conservation of energy and momentum
4	Newton's second law
5	Newton's second law
6	Hooke's law and spiral spring
7	Hooke's law and spiral spring
8	Mid-Term Examination
9	Mid-Term Examination
10	Viscosity
11	Archimedes' principle and density
12	The simple pendulum and moment of inertia
13	The simple pendulum and moment of inertia
14	Make up experiments
15,16	Final Exam

NO	PROGRAM OUTCOMES	1	2	3
1	Sufficient knowledge of engineering subjects related with mathematics, science and mechanical engineering; an ability to apply theoretical and practical knowledge on solving and modeling of mechanical engineering problems.	[]	[]	[x]
2	Ability to determine, define, formulate and solve complex mechanical engineering problems; for that purpose an ability to select and use convenient analytical and experimental methods.	[]	[x]	[]
3	Ability to design a complex system, a component and/or an engineering process under real life constraints or conditions, defined by environmental, economical and political problems; for that purpose an ability to apply modern design methods.	[]	[x]	[]
4	Ability to develop, select and use modern methods and tools required for mechanical engineering applications; ability to effective use of information technologies.	[x]	[]	[]
5	In order to investigate mechanical engineering problems; ability to set up and conduct experiments and ability to analyze and interpretation of experimental results.	[]	[]	[x]
6	Ability to work effectively in inner or multi-disciplinary teams; proficiency of interdependence.	[]	[]	[x]
7	Ability to communicate in written and oral forms in Turkish/English; proficiency at least one foreign language.	[x]	[]	[]
8	Awareness of life-long learning; ability to reach information; follow developments in science and technology and continuous self-improvement.	[]	[]	[x]
9	Understanding of professional and ethical issues and taking responsibility	[x]	[]	[]
10	Awareness of project, risk and change management; awareness of entrepreneurship, innovativeness and sustainable development.	[x]	[]	[]
11	Knowledge of actual problems and effects of engineering applications on health, environment and security in global and social scale; an awareness of juridical results of engineering solutions.	[x]	[]	[]
1:None. 2:Partially contribution. 3: Completely contribution.				

Prepared by: Yrd.Doç.Dr. Sertaç Eroğlu

Date: 18.06.2014

Signature(s):