



MARMARA UNIVERSITY - FACULTY OF ENGINEERING

2017-2018 Fall

PHYS1103 Physics Lab I

COURSE DESCRIPTION FORM

Offering Department		Department of Computer Engineering		Undergraduate must course (1st semester)							
Course Code		PHYS1103									
Course Name		Physics Lab I									
Language of Instruction		English									
ECTS		2									
Contact Hours		Theoretical (T): 0		Practice (U): 0		Laboratory(L): 2					
Pre-requisites											
Instructor		Name		Hüseyin Yaltrık							
		E-mail		huseyin.yaltrik@marmara.edu.tr							
Course Materials		Mandatory		Materials and announcements for the class are shared on the course website: https://www.edmodo.com/							
		Recommended									
Course Objectives		Understanding mechanical physics with experiments. Learning the difference between the experimental and theoretical results of mechanical systems. Learning how to analyze data with calculations and graphs which display functional relations.									
Course Content		Experiments about equilibrium of forces, force-motion relation, friction coefficient and oscillation motions.									
Learning Outcomes		LO1		To gain the understanding of some basic concepts and theories of mechanical physics.							
		LO2		Ability to follow laboratory safety rules while performing experiments.							
		LO3		Ability to perform experiments as a group.							
		LO4		To understand mechanical physics with experiments. To learn the difference between the experimental and theoretical results of mechanical systems.							
		LO5		To learn how to analyze data with calculations and graphs which display functional relations.							
		LO6		Ability to report the experimental observations and results.							
Program Outcomes				LO1	LO2	LO3	LO4	LO5	LO6		
PO5		Ability to design (a) and conduct experiments, gather data (b), analyze and interpret results for investigating engineering problems (c).		c	b	b	c	b, c	c		
PO6		Ability to work efficiently in intra-disciplinary (a) and multi-disciplinary teams (b); ability to work individually (c).				a					
Subjects (Knowledge, Skills and Behaviours), Contributions of Subjects to Learning Outcomes, Assessment Methods		No	Week	Subjects	LO1	LO2	LO3	LO4	LO5	LO6	
		S1	1-2	Introduction to Laboratory Equipments		L	L	L	L	L	
		S2	3	Motion of Constant Velocity	R	L	R, L	R, L	R, L	R, L	R, L
		S3	4	Motion on An Inclined Plane	R	L	R, L	R, L	R, L	R, L	R, L
		S4	5	Straight Line Motion with Constant Acceleration.	R	L	R, L	R, L	R, L	R, L	R, L
		S5	6	Atwood Machine	R	L	R, L	R, L	R, L	R, L	R, L
		S6	7	Projectile Motion	R	L	R, L	R, L	R, L	R, L	R, L
		S7	8	Conservation of Linear Momentum	R	L	R, L	R, L	R, L	R, L	R, L
		S8	9	Rotational Motion	R	L	R, L	R, L	R, L	R, L	R, L
		S9	10	Simple Harmonic Motion	R	L	R, L	R, L	R, L	R, L	R, L
		S10	11	Hooke's Law	R	L	R, L	R, L	R, L	R, L	R, L
		S11	12	Calculation of Gravitational Acceleration	R	L	R, L	R, L	R, L	R, L	R, L
S12	13	Calculation of Friction Coefficient	R	L	R, L	R, L	R, L	R, L	R, L		
Assessment Methods and Weights		No	Type	Weight	Implementation Rule			Make-up Rule			
		MF	Midterm, Final								
		Q	Quiz								
		H	Homeworks								
		P	Project	-	-						
		R	Report	50%	The deadline for the reports is one week after the experiments are performed. The score of reports that are not submitted is 0. 10 reports are assigned in total.			A report is given for the experiment when a medical certificate or an assignment letter which is suitable according to the university regulations is provided.			
		S	Presentation		-			-			
		A	Participation / Interaction		-			-			

	L	Class/ Laboratory/ Field Work	50%	Every experiment is performed by groups of three people.	When a medical certificate or an assignment letter which is suitable according to the university regulations is provided, the experiment can be performed.										
	O	Other													
	TOTAL		100%												
Determining Letter Grades	<ul style="list-style-type: none"> • A letter grade will be assigned after every experimental study and experiment report is evaluated. • In order to determine the letter grade, a curve or catalog based method will be followed based on the total average scores of the students. • The final exam score and the total average score of the student must be at least 35 to pass the course. 														
	<table border="1"> <tr> <td>Assessment</td> <td>Laboratory</td> <td>Report</td> <td colspan="2">TOTAL</td> </tr> <tr> <td>Weight</td> <td>50</td> <td>50</td> <td colspan="2">100</td> </tr> </table>					Assessment	Laboratory	Report	TOTAL		Weight	50	50	100	
	Assessment	Laboratory	Report	TOTAL											
Weight	50	50	100												
Teaching Method, Student Work Load	Time Applied by the Instructor														
	No	Method	Explanation		Hours										
	1	Lectures	Lectures are given in class using the board or via presentations. Example questions are solved to enhance the concepts.												
	2	Problem Session/ Practice	Problems related to the course topics are solved on the board.												
	3	Laboratory	Experiments are done in the laboratory or theoretical concepts covered during the lectures are practiced using computer exercises.		13x2=26										
	4	Interactive Courses	Questions are asked to students during lectures and they are encouraged to guess the answers (peer learning is also in this category)												
	5	Field Work	Students attend activities outside the campus.												
	6	Midterm	Midterm exam is given during the midterm week.												
	7	Final	Final exam is given during the final exam week.												
	Estimated Time to be Allocated by a Student														
	8	Project	The students carry out research about the problem given in the project, design and implement their solution and prepare a report.		13x2=26										
	9	Homeworks	The students solve the problems given as homework.												
	10	Pre-class learning of Course Material	The students study and learn the new subjects from course materials.		11x2=22										
11	Review of Course Material	Students review the course subjects from course materials to prepare for the exams and homeworks.													
12	Office Hour	Students ask questions to the instructor or the assistant during office hours.		2											
Total				76											
Academic Honesty	Violations of scholastic honesty include, but are not limited to cheating, plagiarizing, fabricating information or citations, facilitating acts of dishonesty by others, having unauthorized possession of examinations, submitting work of another person or work previously used without informing the instructor, or tampering with the academic work of other students.														
	In case academic dishonesty is observed, the first authority is the instructor of the course. The instructor may decide to give the student zero for the homework(s)/lab(s)/exam(s), give the letter grade FF, or may take disciplinary action.														