COURSE DESCRIPTION	
Course code and title	PHYS156, PHYSICS LABORATORY
Course Semester	1
Course Content	Introduction of laboratory and laboratory equipment, Physical measurement and error, Export to Experimental Data to the Table, Graph drawing and using graphs, writing reports, Velocity, Acceleration, Two dimensional motion, Newton's Laws of Motion in the inclined Plane, Collisions, Simple Harmonic Motion
Recommended or Required Reading	Laboratory Manual for General Physics, Physics 1 For Scientists and Engineers, 5 th edition, Raymond A. Serway, Robert J. Beichner
Recommended or Required Reading	Young Freedman UniversityPhysics 13th Edition Fundamentals of Physics [10th Edition] Halliday & Resnick
Credits of Course (ECTS)	2
Prerequisites	Lectures must be attended by students
Type of Course	Basic Science Education
Language of Instruction	English
Purpose and Object of the Course	Examining of basicmechanicalevents in naturewithexperimentalandalsostudywithfundamentalinformation. Obtainingandlearning of theexperimentaldataandusingthis data
Learnıng Outcomes Of The Course Unıt	1. Learning measurement methods and error calculation 2.Export to Experimental Data to the Table, learning of drawing data graphs, benefits of the graphs and writing report 3. Examing the results of reproducible and error-including experiments with the classical mechanical formulas
Planned Learning Activities and Teaching Methods	Face to face
Course Per Week	1.Week: Introduction of laboratory and laboratory equipment 2.Week: Physical measurement and error 3.Week: Export to Experimental Data to the Table, learning of drawing data graphs, benefits of the graphs and writing report 4.Week: Making of "Velocity, Acceleration" experiment 5.Week: Evaluating of results of "Velocity, Acceleration" experiment and writing reports 6.Week: Making of "Two dimensional motion" experiment 7.week: Evaluating of results of "Two dimensional motion" experiment and writing reports 8.Week: Making of "Newton's Laws of Motion in the inclined Plane" experiment 9.Week: Evaluating of results of "Newton's Laws of Motion in the inclined Plane" experiment and writing reports 10.Week: Making of "Collisions" experiment 11.Week: Evaluating of results of "Collisions" experiment and writing reports 12. Week: Midterm exam, Make-up experiment 13. Week: Making of "Simple Harmonic Motion" experiment 14. Week: Evaluating of results of "Simple Harmonic Motion" experiment and writing reports 15. Week: Final
Workload	Theoretical Study Hours of Course Per Week:0 Practising Hours of Course Per Week: 2 hours Reading:0 Searching in Internet and Library:0 Designing and Applying Materials:0 Preparing Reports: 15 hours Preparing Presentation:0 Presentation:0 Mid-Term and Studying for Mid-Term: 5 hours Final and Studying for Final: 5 hours

Assessment Methods And Criteria

	Number	Total contribution (%)
Mid-terms	1	20
Assignment	1	10
Exercise	0	0
Projects	0	0
Practice	0	0
Quiz	5	2
Contribution of In-term Studies to Overall Grade (%)		
Contribution of Final Examination to Overall Grade (%)		60
Attendance		0

Efficiency

Activities	Total number of weeks	Time (Weekly)	Total efficiency at the end of the semester
Theoretical Study Hours of Course Per Week	14	0	0
Practicing Hours of Course Per Week	14	2	28
Reading	0	0	0
Searching in Internet and Library	0	0	0
Designing and Materials, Applying	0	0	0
Preparing Reports	14	1	14
Preparing Presentation	0	0	0
Presentation	0	0	0
Mid-Term and Studying for Mid-Term	1	5	5
Final and Studying for Final	1	5	5
Other	0	0	0
TOTAL WORKLOAD			52
TOTAL WORKLOAD/ 25			2.08
ECTS of Course			2

Course's Contribution To Program

No	PROGRAM LEARNING OUTCOMES	1	2	3	4
1	Has necessarytheoreticalandpractical knowledge in mathematics, life sciences, computationandcomputerengineeringfields				x
2	Definesengineeringproblems, comesupwithfeasibleanalyticalapproachesforthesolution, selectsandappliesappropriatemodelingmethodsand ICT techniques				x
3	Has theability of surveyingtheliterature, gatheringdata, settingupanddoingexperiments, analyzingtheresultstowardsthesolution of an engineering problem				x
4	Has theability of designingandevaluatingthesystem (which is theoutcome of a				x

	solved problem) underreal life requirementsandconstraints.				
5	Torealizethesystemdesign, appliesefficientprojectmanagement byensuringcarefulresourceand processplanning				x
6	Inmultidisciplinaryanddisciplinaryprojects, worksefficiently as a resultorientedteamleaderorplayer				x
7					
8					
9					
10					

Name of Lecturer(s) and E-mail(s) of Lecturer(s)	Prof. Dr. Haluk KORALAY koralay@gazi.edu.tr