KOMAR UNIVERSITY OF SCIENCE AND TECHNOLOGY
(KUST)

GENERAL PHYSICS 1 LABORATORY SYLLABUS			
Course Title	**General Physics I (Lab)**		
Course Code	PHY1410C	**No. of Credits**	1CH for Lab
Department	All Departments	**Faculty**	College of Engineering
Pre-requisites Course Code	MTH 1410	**Co-requisites Course Code**	MTH 1411
Course Coordinator(s)	Hamid Farangis Zadeh		
Email	hamid.zadeh@komar.edu.iq	IP No.	
Other Course Teacher(s)/Tutor(s)	Peshawa (Lab)		
Learning Hours	Section 1: Monday / Wednesday 12:00 – 13:30, Class: 106 (Hamid) Section 2: Sunday / Tuesday 12:00 – 13:30, Class: 105 (Hamid) Lab 1: Saturday 08:00 – 11:00 (Peshawa) Lab 2: Saturday 11:00 – 14:00 (Peshawa)		
Contact Hours			
Course Type	College Requirement		
Offer in Academic Year	Spring 2016		

LAB DESCRIPTION

The students will receive practice in using simple models to describe systems through laboratory work covering the basic concepts learned in class.

LAB OBJECTIVES

The main goal of the lab is to apply the basic concepts learned in class through practical demonstrations.

LAB LEARNING OUTCOMES

After participating in the course, students would be able to:

Conduct experiments to test hypothesis by analyzing and interpreting data while taking into account significant figures and errors in the measurement process.

Conduct experiments to test the basic concepts (shown below):

1. Scalar and vector variables
2. Motion (ID and 2D), projectile motion and circular motion
3. Conservation of Energy, Linear Momentum, and Angular Momentum via applying the concept on motions, and
4. Conditions of statics and dynamics to stable and oscillatory systems.

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GUIDELINES ON GRADING POLICY

A	95-100%	C	70-74%
A-	94-90%	C-	65-69%
B+	87-89%	D+	60-64%
B+	83-86%	D	55-59%
B-	80-82%	D-	50-54%
C+	75-79%	F	0-49%
W	Withdrawal	I	Incomplete
Note: Passing Grade is 65% and above			

LAB TEACHING AND LEARNING ACTIVITIES

1. **Laboratory Experiments:** Lab will be held once a week for three hours each week.

2. **Quizzes:** Short quizzes will be given during the semester in lab covering the experiments.

3. **Lab Reports:** There will be twelve labs during the course of this semester. Lab quizzes will be given based on the progression of the course. (Note: Lab due dates may change depending on the progression of the course, see Course Calendar for preliminary Lab Due Dates).

4. **Google classroom:** All materials for the lab including the manual will be posted on Google classroom.

COURSE ASSESMENT Tools

Lab Reports	15%
Lab Quizzes	4%
Final Exam	6%

LAB SAFETY

1. You are expected to be familiar with the entire safety section in the lab handbook. Failure to follow these rules may result in your removal from the laboratory and will have a negative impact on your grade

2. Food and beverages are not allowed in the lab room. You must leave these things outside or keep them in your closed backpacks. This includes personal water bottles! Students with food or beverage containers in the lab room will be asked the leave the lab room and will receive a zero for experimental part of that lab. N0 exceptions. This is your warning.

3. You must wear closed-toed shoes in lab, no sandals. If you forget to wear closed-toed shoes then you will be required to leave the lab room, and you will receive zero for the experimental part of the lab.

LAB POLICY *(including plagiarism, academic honesty, attendance etc.)*

I. **Attendance Policy**: Plagiarism, cheating etc. will NOT be tolerated in this course. Students registered for any course are expected to attend all lectures and must attend all laboratories, examinations, quizzes, and practical exercises, and are subject to penalties specified by the instructor for that course. [See Sec. 5.5 Student Attendance] http://sar.komar.edu.iq/files/Student%20hand%20Book%202013.pdf

Attendance will be taken every day. If you come to class between 1-10 minutes after class has started you will be marked late for the class. If you are late three times that is the equivalence of one absence. If you come in after 10 minutes you will automatically be given an absence.

II. **Make-Up Policy:** Because all examinations are announced in advance, a **zero** will be given for any missed examinations unless the student has a legitimate excuse, such as an illness, in which case proper documentation needs to be provided to verify such a case.

III. **Incomplete Policy:** An "I" is given when a course cannot be complete because of circumstances beyond the student's control as the death of the first degree in the family; or medical report. The "I" indicates the coursework is qualitatively satisfactory and there is a reasonable expectation that completion of the remaining work would result in a passing grade. The instructor must provide a statement of the work to be completed to the head of the academic unit. The student must complete the work at the earliest possible time but before the beginning of the seventh week of the following semester. The "I" will automatically become an "F" in the eighth week of the semester unless an approved new grade received by the registrar's office. (See Student Handbook)

IV. **Academic Honesty:** Students are expected to perform their own work on all assignments in this course. Dishonesty on an exam, quiz, homework, or lab report will result in a grade of zero for that assignment. Further action will be taken according to KUST Academic Honor Policy. [See Sec. 5.10 Academic Honor] http://sar.komar.edu.iq/files/Student%20hand%20Book%202013.pdf

GUIDELINES FOR SUCCESS

How to be successful in this class

a. Respect yourself, your peers and the instructor
b. Be on time and be prepared with daily material, completed assignments and prepared questions
c. Be an active participant in class. ASK QUESTIONS!!
d. Don't miss class; your performance is correlated to your attendance.
e. Learn to think and understand NOT to memorize concepts
f. Spend 2-3 hours doing homework, practice questions and reading the text for every hour spent in lecture. For a 4 credit hour course, you should be spending 8-12 hours a week studying.

Lab Report Format:

Lab Reports are due one week after the scheduled lab session and no credit will be given for late lab reports. The lab report grades are based on how well the reports meet the below criteria and constitute 20% of the final grade.

g. *Absent from Lab*: If you are absent from a lab period, you may make-up the lab in another section, given there is available space and approvable from instructor

h. *Lab Report Format*: Lab reports must be typed using Microsoft Word or legibly hand written. All hand calculations and data collected in the lab must be attached to the lab report in order to receive credit.

All Lab reports will consist of the following sections. (Sample Lab Report Format can be found on Moodle)

- **Cover Sheet:** your name, group members' names, lab name, date lab was conducted [see Cover Sheet Template]

- **Introduction/Objective:** The purpose of the experiment, the physical phenomenon observed and the concept or numerical constant to be verified.

- **Calculations and Results:** Display the data collected and the results obtained expressed as a neatly organized table of data, the mathematical models used and the calculations derived from the data, graphs of results with clearly labeled axes. Calculations used in the experiment should be included in a clear and organized manner.
- **Discussions/Conclusions:** An explanation and interpretation of the results and how they compare to the stated objective. Patterns and trends should be identified and related to supporting or refuting your hypothesis. Possible sources of errors should be discussed and the percent error from the accepted values should be indicated when appropriate. Questions related to the experiment should be included and answered as completely as possible. This section will have the strongest determination for your grade.

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Course calendar:

Date	Week	Experiment Names
5 Mar.	1	No Lab.
12 Mar.	2	Lab Introduction
19 Mar.	3	Exp1: Measurements and Uncertainty
26 Mar.	4	Nawroz Holiday
2 Apr.	5	Exp2: Vectors and Force Quiz 1
9 Apr.	6	University Day
16 Apr.	7	Exp3:Accerelation due to gravity: Inclined Planes
23 Apr.		Midterm Exam No Classes
30 Apr.	8	Exp4: Coefficient of Friction: Influencing Factors Quiz 2
7 May.	9	Exp5: Hooke's Law and SHM
14 May.	10	Exp6: Static Equilibrium and Rigid Bodies and Torques Quiz 3
21 May.	11	Student Lab Experiments
28 May.	12	Exp7: SHM: The Pendulum
4 June	13	Make-Up Lab.
11 June	14	Exp8: Liquid Mechanics: Buoyancy. Quiz 4
18 June	15	Exp9: 1st Law of Thermodynamics
25 June	16	Final exam for Lab
30 Jan.		**Final Exam Week**