

Course Information

Course Number/Section	PHYS 2125
Course Title	Physics Laboratory I
Term	Fall 2016
Days & Times	See Schedule & Section Info below (1st Lab week: Tue 9/6—Mon 9/12)

Instructor Contact Information

Name	Kuei Sun
Office Phone	Extension 2842
Email Address	kuei.sun@utdallas.edu (I respond to UTD emails only)
Office Location	SLC 3.310
Office Hours	By appointment

Course Description

This is a laboratory course to accompany any Physics I or Mechanics course. Experiments investigate basic measurements and statistics including error, mean, standard deviation, and error propagation; one dimensional and two dimensional motion; forces and Newton's laws; energy/momentum conservation; friction; rotational motion; and oscillations. (**Corequisite:** [PHYS 1301](#) or [PHYS 2325](#))

Student Learning Objectives/Outcomes

Upon completing this course, students will be able to

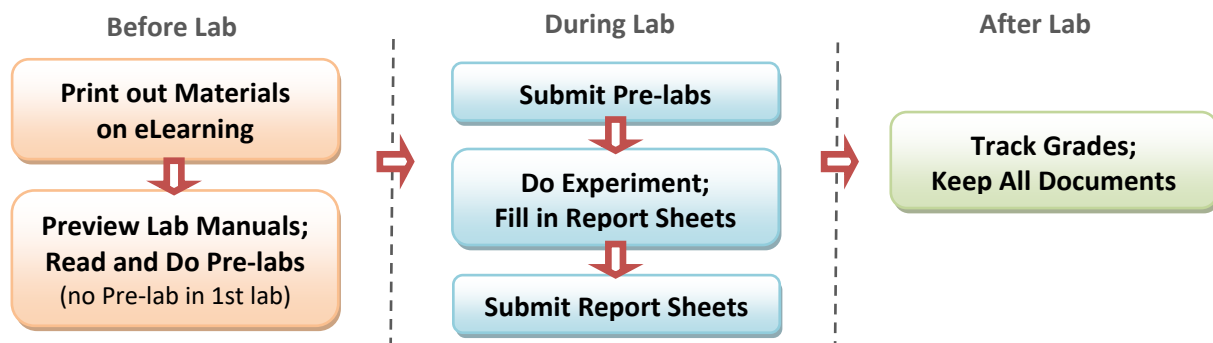
1. Apply the basic concepts and techniques of experimental mechanics to other areas of science.
2. Prepare basic lab reports including data, calculations, figures, and analyses.
3. Classify errors and know how to determine them and how they affect results.
4. Demonstrate understanding of linear, rotational, and oscillatory motion, forces, friction, and energy/momentum conservation.

Required Materials

Students do not need to buy any textbook but will

1. Print out (i) **Lab Manuals**, (ii) **Pre-labs**, and (iii) **Report Sheets** on eLearning and bring to lab.
2. Preview Lab Manuals and answer questions on Pre-labs before your section. **Pre-labs are due at the very beginning of lab and are part of grades.**
3. Take data, get TA's initials in Check Boxes, and answer questions on Report Sheets. **Report Sheets are due by the end of lab and are part of grades.**
4. Regularly check additional materials and helpful information on eLearning.
5. Print out **Lab Safety Handout** on eLearning, sign, and **bring to first lab.**

Procedure for Students



Schedule (A lab week starts on Tuesday and ends on the next Monday)

Lab	Date (Tue-Mon)	Description	Assignments Due
1	9/6-9/12	Measurement & error	Report (no Pre-lab)
2	9/13-9/19	Graphing & regression analysis	Pre-lab & Report
3	9/20-9/26	Vector analysis of forces	Pre-lab & Report
4	9/27-10/3	Newton's 2nd Law	Pre-lab & Report
5	10/4-10/10	Projectile motion	Pre-lab & Report
6	10/11-10/17	Energy/momentum conservation	Pre-lab & Report
7	10/18-10/24	Friction & pure rotation	Pre-lab & Report
8	10/25-10/31	Rotational motion	Pre-lab & Report
9	11/1-11/7	Simple harmonic oscillators	Pre-lab & Report
10	11/8-11/14	String waves & resonance	Pre-lab & Report

Section Information

Sec	Time	Place	TA	Office hours
104	Tue 1p-3:45	FN2.214	Matthew Fong < mxf140930 >	Wed 12-2p @ PHY1.706 #5
105	Tue 4p-6:45	FN2.214	Miyoung Choi < mxc140830 >	Tue & Fri 3-4p @ PHY1.706 #6
114	Tue 4p-6:45	FN2.212	Susmita Jyotishmati < sxj051100 >	Tue 1-3p @ PHY1.104 #15
602	Tue 7p-9:45	FN2.214	Matthew Fong < mxf140930 >	Wed 12-2p @ PHY1.706 #5
106	Wed 10a-12:45	FN2.214	Xun Liu < xxl135130 >	Fri 2:30-4:30p @ PHY1.104
107	Wed 1p-3:45	FN2.214	Daniel Codoluto < djcl50130 >	Wed&Thu 9-10a @ PHY1.602
115	Wed 1p-3:45	FN2.212	Susmita Jyotishmati < sxj051100 >	Tue 1-3p @ PHY1.104 #15
603	Wed 7p-9:45	FN2.214	Brandone Lance < bxl120830 >	Fri 11a-1p @ PHY1.102 #4
108	Thu 10a-12:45	FN2.214	Dimithree Kahanda < dxk123030 >	Tue 1-3p @ NSERL Lobby
109	Thu 1p-3:45	FN2.214	Daniel Codoluto < djcl50130 >	Wed&Thu 9-10a @ PHY1.602
110	Thu 4p-6:45	FN2.214	Brandone Lance < bxl120830 >	Fri 11a-1p @ PHY1.102 #4
111	Fri 10a-12:45	FN2.214	Xun Liu < xxl135130 >	Fri 2:30-4:30p @ PHY1.104
116	Fri 10a-12:45	FN2.212	Joseph Burnett < jxb132330 >	Wed 2:30-3:30p @ PHY1.616
112	Fri 1p-3:45	FN2.214	Dimithree Kahanda < dxk123030 >	Tue 1-3p @ NSERL Lobby
113	Fri 4p-6:45	FN2.214	Miyoung Choi < mxc140830 >	Tue & Fri 3-4p @ PHY1.706 #6
101	Mon 10a-12:45	FN2.214	Peng Zheng < pxz150930 >	Tue 2-4p @ PHY1.102
102	Mon 1p-3:45	FN2.214	Qing Wang < qxw151230 >	Mon 4-6p @ PHY1.104
103	Mon 4p-6:45	FN2.214	Peng Zheng < pxz150930 >	Tue 2-4p @ PHY1.102
601	Mon 7p-9:45	FN2.214	Qing Wang < qxw151230 >	Mon 4-6p @ PHY1.104

Grading Policy

Lab	Score	Pre-lab	Report (data, analyses, & check boxes)			
1	100	No Pre-lab	100%			
2-10	100	30%	70%			
Final score x is the average of the lab scores. There will be no curving.						
Score	$x \geq 90$	$90 > x \geq 85$	$85 > x \geq 80$	$80 > x \geq 75$	$75 > x \geq 70$	$70 > x \geq 66$
Grade	A+ or A (*)	A-	B+	B	B-	C+
Score	$66 > x \geq 63$	$63 > x \geq 60$	$60 > x \geq 56$	$56 > x \geq 53$	$53 > x \geq 50$	$50 > x$
Grade	C	C-	D+	D	D-	F
(*)Among those with $x \geq 90$, the top 25% get an A+, and the others get an A.						

Course Policies

1. You are required to attend the lab session in which you have registered. If you attend a different section, you will get an **F** in your registered section. No exceptions.
2. You are required to do all labs. There are no dropped grades.
3. Think of Pre-labs as homework exercises before your lab section. You may discuss the reading part with others, but you have to do calculations and answer questions individually and independently. Be sure that your name and section number are written on the first page of Pre-labs. **Pre-labs are due at the very beginning of lab and are part of your grades. Any late Pre-lab will NOT be accepted.**
4. You are expected to work as a group of three (two if necessary) during the lab to take data. Active participation in all labs is required. Each student is required to take at least one independent set of data in each experiment.
5. There are several check points during the lab (as instructed in Lab Manuals). You will ask the TA to check your setup, operation, data, etc. and have TA's initials on Check Boxes on Report Sheets. Please be sure that all the boxes are checked before you submit Report Sheets. **Check Boxes on Report Sheets are part of your grades.**
6. You will follow the instructions in Lab Manuals to record data in Report Sheets. A team should have the same data. There are analyses and discussions that you have to do individually and independently on Report Sheets. You will submit Report Sheets to TA when finishing the lab. Please be sure that your name and section number are on the first page of Report Sheets. **Everything on Report Sheets is part of your grades. Any late Report Sheets will NOT be accepted.**
7. TAs will grade Pre-labs and Report Sheets and return them at the next lab. From the time you receive a lab grade, you have one week to query the TA about the grade. After that, this lab grade is final. Please keep all documents of this semester. **It is your responsibility to make sure the grades are accurate and recorded.**
8. You need to leave the equipment in good working order for the next section. All apparatus must be arranged as it was before your section. TAs will look at your work-area before accepting your Report Sheets.
9. ***Make-up labs.*** If for any reason you cannot make it to your lab, you have to do **TWO** things in advance to get permission to make up the lab in another section of the **Same Lab Week**:
 - 1) Contact your regular lab TA about the problem and **get the TA's reply with permission.**
 - 2) Contact the TA of make-up lab you will attend and **get the TA's reply with permission.****Please be aware that** there is no grade penalty for your first two make-up labs. Starting from the third make-up lab, your grade will be **(Prelab + Report) × 80%**.
10. In the event of inclement weather etc., check the UTD Web page <http://www.utdallas.edu/> for notice of any unexpected closure of the university (in which case, lab will not meet). The university will also announce its reopening after this kind of closure. After it does, look for an announcement on eLearning that will tell you about the schedule for this lab.

Comet Creed

This creed was voted on by the UT Dallas student body in 2014. It is a standard that Comets choose to live by and encourage others to do the same:

“As a Comet, I pledge honesty, integrity, and service in all that I do.”

University Policies and Procedures

The information contained in the following link constitutes the University's policies and procedures segment of the course syllabus.

Please go to <http://go.utdallas.edu/syllabus-policies> for these policies.

These descriptions and timelines are subject to change at the discretion of the Instructor.