

Physics I Laboratory
PHY2053L
Spring 2008
Syllabus



Instructor:

Dr. Rachel Cruz
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Office Hours: Mondays 4–5pm, Tuesdays 9am–12pm, Wednesdays 12–1pm, and by appointment

Class Times: (Both sections meet in room 2802.)
Section 10278 meets 1:00-3:50pm Tuesdays
Section 10279 meets 9:00-11:50am Wednesdays

Required Material:

Physics I Laboratory Manual, 18th Edition, Spring 2008, Available at the UNF bookstore
You must have the current version of the lab manual! Lab write-ups written in older versions of the manual will not be accepted and will receive NO credit.

While this class is registered and run separately from the lecture portion of the course, it is a requirement that you either be currently enrolled in PHY2053 or have taken it previously.

Communication:

I may send announcements to the class via your UNF e-mail address. Per university policy, students are required to regularly check their account.

Preparation and Procedure:

You are responsible for preparing for each experiment before lab by reading over the lab manual for the scheduled experiment. There will be a short quiz at the start of class on the material in the lab manual and may contain problems similar to the pre-lab exercises. This quiz will be worth 10-20 points of the total 100 points for the lab exercise. The quiz will be closed note and book but will not require great memorization. If you have read through the manual, understand the main topics and definitions and work the pre-lab problems, you should score very highly on the quizzes. The quiz will be at the beginning of class for a set amount of time and no make-ups will be given; so, *be on time!*

There is usually adequate time in each lab session to complete the write-up of each lab. Everyone must turn in their individual report and all associated work before the end of the lab. Each lab must end with a summary and conclusion. The summary is a paragraph where the important experimental results are restated in grammatically-correct, complete, English sentences. Do not recap the experimental procedure or state every small measurement made. The conclusion is a paragraph where the results are discussed to include sources of error and what physical concepts are shown. All answers must be written in a legible manner; *if I cannot read it clearly, it will be marked wrong*. Don't forget: most answers are incomplete without units! If you are unsure about the completeness or readability of your answers, check with me before handing in your lab. I encourage you to discuss the lab with your group members and other class mates but your final responses in your lab write-up must be in your own words. *Plagiarism is a form of academic misconduct and will be handled accordingly.*

All cell phones, MP3 players, and similar devices must remain quiet and are NOT to be used during lab time. You are here in an academic endeavor, to learn about physics, and this time should be treated appropriately.

Grading:

Your lab grade will be determined from an average of your lab scores.

Each lab score will be out of a possible 100 points, with 10-20 points from the quiz at the start of lab (with the exception of Lab 1).

Any lab grade and the final grade may be adjusted for academic misconduct. Pluses and minuses will be used and there may be a curve applied to the final grade.

Attendance and make-up policy:

You are expected to be in attendance for every experiment and quiz; there are no make-ups. If an emergency arises, it is your responsibility to contact me in an expedient manner and all emergency absences must be documented in writing.

Exams:

There is no exam associated with the lab portion of this course.

Schedule:

<u>Week</u>	<u>Date</u>	<u>Experiment</u>
1	Jan. 7-11	Lab 1: Data Analysis
2	Jan. 14-18	Lab 2: Kinematics and Newton's 2nd Law
3	Jan. 21-25	No Lab: Martin Luther King, Jr. Holiday Jan. 21
4	Jan. 28-Feb. 1	Lab 3: Free-Fall and the Acceleration due to Gravity
5	Feb. 4-8	Lab 4: Composition and Resolution of Concurrent Forces
6	Feb. 11-15	Lab 5: Newton's 2 nd Law and Circular Motion of a Pendulum
7	Feb. 18-22	Lab 6: Conservation of Energy
8	Feb. 25-Feb. 29	Lab 7: Collisions and Projectile Motion (Ballistic Pendulum)
9	Mar. 3-7	Lab 8: Conservation of Momentum, Impulse and collisions
10	Mar. 10-14	Lab 9: Torques and Rotational Equilibrium
11	Mar. 17-21	No Lab: Spring Break
12	Mar. 24-28	Lab 10: Simple Harmonic Motion (Pendulum)
	March 28	Last day to withdraw from classes
13	Mar. 31- Apr. 4	Lab 11: Archimedes' Principle
14	Apr. 7-11	Lab 12: Standing Waves
15	Apr. 14-18	Lab 13: Specific Heat of Metals and Heat of Fusion of Ice
16	Apr. 21-25	No Lab
17	Apr. 28-May 2	No Lab: FINALS WEEK

Central Student Outcomes of General Education

Hopefully this lab will be a rewarding experience as you learn first-hand about physics. It also should help develop the following outcomes of general education (the full list is provided at <http://www.unf.edu/coas/gened/geoutcomes.html>):

I. Skills: Students should be able to:

- A. think critically, reason soundly, and argue effectively, as demonstrated by the ability to:
 1. analyze arguments according to standard criteria
 2. use systematic processes, including the collection and analysis of evidence, to form and support conclusions
- B. demonstrate competence in the use of information technology, as demonstrated by the ability to:
 1. locate, retrieve, and filter information using appropriate resources
 2. use appropriate software for developing written and graphic materials and for organizing, analyzing, and presenting data
- C. communicate effectively, as demonstrated by the ability to write coherent analytical and persuasive papers using effective expression

II. Knowledge: Students should know:

- A. The natural and designed world,
 1. demonstrating a general knowledge of current scientific understanding of the history and nature of the universe, the earth, and of life forms
 2. demonstrating a general knowledge of the methods and traditions of analysis in the natural sciences
- B. Mathematical and Quantitative Reasoning demonstrating proficiency in solving problems using mathematical concepts and quantitative reasoning