

College Physics I Laboratory

Course Syllabus - Spring 2020

Instructor: Dr. Aditya Togi

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Office Hours: Mon: 1:30 PM--2:30 PM in CHCB 129

Thu: 1:00 PM—3:30 PM in CHCB 129

Please feel free to stop by or make an appointment for other times.

COURSE WEBSITE: Grades and lab materials will be posted on the Moodle site for this course

Overview

The goal of the laboratory is to help students in understanding the concepts of physics taught in the classroom and to develop the required laboratory skills and techniques. The laboratory work will include measurements, calculations errors and uncertainties involved in the measurements with proper calculations and graphical analysis and display of data. It is essential that you keep up from the start as the concepts in this course build on each other.

Learning Objectives

The goals of this course are:

To learn how to take proper measurements and data recording

Interpret results statistically and graphically

Understand the theoretical concepts through proper experiments

Required Materials

You will need the following materials for the course:

Lab write ups/ Weekly labs

Scientific calculator

Pens/pencil

Flash drive to save data or record data with hand in a notebook

Laboratory: There will be a total of 11 labs in the semester. Out of these 10 labs will be counted towards your final grade. The reason for this is so students may miss one lab (unplanned absence, emergency) without consequence. **You are required to attend the labs, take measurements, and keep a notebook for each lab. There will be no opportunity for make-up labs.** Each week, a few days before lab, you should download and print a copy of the current lab, read it, and bring it with you to lab. You are expected to have read the lab instructions prior to arriving at the lab and to have completed the associated pre-lab quiz. The experiments are designed to take approximately two hours for measurements and an additional one to two hours needed outside of lab for data analysis as well as preparation for the next lab. This is consistent with the time expectations for a one-credit course.

Grading

Your grade for the course will be determined by a combination of pre and post lab quizzes. **There will be no make-up labs so attendance is mandatory.** The grading for the course will be broken down as follows:

Pre-Lab Quizzes: 20%

Post-Lab Quizzes: 80%

This course can only be taken with the traditional grading option. Plan on letter grades being assigned based on the traditional grading curve:

100-91.5% an A

91.5—83.25% an A-

83.25—75% an B+

75—66.5% an B

66.5—58.25% an B-

58.25—50% an C+

50—41.5% an C

42.5—33.25% an C-

Couse Guidelines and Policies

Student Conduct Code

The Student Conduct Code at the University of Montana embodies and promotes honesty, integrity, accountability, rights, and responsibilities associated with constructive citizenship in our academic community. This Code describes expected standards of behavior for all students, including academic conduct and general conduct, and it outlines students' rights, responsibilities, and the campus processes for adjudicating alleged violations. Full student conduct code.

(<http://www.umt.edu/student-affairs/dean-of-students/default.php>)

Disability Modifications

The University of Montana assures equal access to instruction through collaboration between students with disabilities, instructors, and Disability Services for Students. (<https://www.umt.edu/dss/default.php>) If you think you may have a disability adversely affecting your academic performance, and you have not already registered with Disability Services, please contact Disability Services in Lommasson Center 154 or call 406-243-2243. I will work with you and Disability Services to provide an appropriate modification

Week	Lab No	Date	Topic
1		2020 Jan 13, 14	No Lab
2		2020 Jan 20, 21	No Lab
3	1	2020 Jan 27, 28	Introduction to uncertainty
4	2	2020 Feb 03, 04	Measuring acceleration due to gravity
5	3	2020 Feb 10, 11	Force table
6		2020 Feb 17, 18	No Lab
7	4	2020 Feb 24, 25	Centripetal Force
8	5	2020 Mar 02, 03	Collisions
9		2020 Mar 09, 10	No Lab
10		2020 Mar 16, 17	No Lab, Spring Break
11	6	2020 Mar 23, 24	Ballistic Pendulum
12	7	2020 Mar 30, 31	Angular Momentum
13	8	2020 Apr 06, 07	Buoyant Force
14	9	2020 Apr 13, 14	Hooke's Law
15	10	2020 Apr 20, 21	Standing waves
16	11	2020 Apr 27, 28	Heat and work

The 17th Week is Final week of the semester