

General Physics I Laboratory

(Phys 114)

Spring 2026



What am I doing here? In this lab, we will be doing experiments to learn about "mechanics" (the motion of objects). The overall arch of the course is for you to gain skill and understanding with the way scientific, quantitative *measurements* are made, and to understand and be able to quantify the limitations of those measurements. Some of the learning outcomes include improving your ability to perform experiments, your understanding of the scientific principles involved in each experiment, your ability to analyze and interpret quantitative data (including the ability to quantitatively determine uncertainties in results and measurements), your ability to use scientific equipment (rulers, watches, cameras, scales, etc.), your ability to maintain a proper scientific logbook, and your ability to write proper scientific summaries of your work.

How will I be graded? Your grade is relatively independent of how well your lab results match the "predicted" results. Instead, your grade will be determined by:

Lab Quizzes (weekly):	25%
Weekly Assignments (abstracts, worksheets):	40%
Lab Notebook and Excel:	10%
Lab Final	<u>25%</u>
	100%

Attendance is required at *all* labs, and you will not be permitted to submit work for labs that you didn't attend (including both parts of any two-week labs). Your grade will be reduced by one full letter for each lab you skip (e.g., a B- will become a C-). You will be permitted to make up labs if you have a documented, legitimate reason for missing lab (like a documented illness, a religious conflict, a military obligation, or a varsity sports commitment).

Late submissions will lose 10% of their value per day.

The quizzes are actually take-home assignments that are due at the **beginning** of each lab. They are intended to insure that you have *read and understood* the appropriate sections of the lab manual before coming to lab.

To a large degree, your grade on assignments will be based on the evidence of the effort you put into them (as opposed to "getting the expected value"). While writing your assignments, you must work independently of others, including any lab partners who worked with you during the experiment. The use of Artificial Intelligence (for example, ChatGPT) is completely forbidden. Also, while you and your partner will have different Excel files, it is expected that you will collaborate *during* the experiment so that they both contain the same measurements and basic results. Assignments are due at the beginning of each lab.

Your lab notebook is a record of what you did during the lab, and it is expected to be updated minute-by-minute *as you perform your labs*. Your lab notebook will be graded in a personal "interview" approximately three times during the semester. The interviews will be unannounced, since you are expected to maintain your notebook continuously throughout the semester. The grade for your notebook will be substantially affected by whether your prior lab information is *complete*. Neatness is of far less importance, so you should never delay completing your notebook "when you can do it more neatly" later. If you pursue a career in science, you will find that completing a logbook at a time different than the events it records is a common example of scientific fraud in industry settings. Review the grading guidelines weekly as a way to check yourself for proper content (those guidelines will be the basis for your notebook grades).

As part of your "notebook" grade, you will be expected to submit an electronic copy of your Excel document from the previous week's lab. The grade will be based on completion, organization, formatting, whether it agrees with your partner's data, and yet is unique and not merely copied from your partner. Excel submissions will be made using a Google Form, and are due at the beginning of each lab.

Schedule

Every week, you will have at least 3 things due. Sometimes, you will have 4:

- a paper take-home pre-lab assignment/quiz (due at the beginning of lab).
- a paper worksheet from the previous week's lab.
- an electronic copy of your Excel document from the previous week's lab.
- (Occasional): a paper abstract describing the previous week's experiment.

Date	What are we doing?	Abstract due?
January 22, 2026	<i>No Lab</i>	
January 29, 2026	Lab 1: Uncertainty	
February 5, 2026	Lab 2A: 1D Free Fall	
February 12, 2026	Lab 2B: 1D Inclined Plane	
February 19, 2026	Lab 3A: Force Table, Part I	Abstract from Week 3 (1D Kinematics)
February 26, 2026	Lab 3B: Force Table, Part II	
March 5, 2026	Lab 4: 2D Trajectory Motion	
March 12, 2026	<i>No Lab</i>	
March 19, 2026	<i>No Lab</i>	
March 26, 2026	Lab 5A: Newton's 2 nd Law, Part I	
April 2, 2026	Lab 5B: N2L with Friction	
April 9, 2026	Lab 6: 1D Collisions	Abstract from Week 8 (Newton's 2nd Law with friction)
April 16, 2026	Lab 7: Rotational Inertia	
April 23, 2026	Lab 8: Oscillations	Abstract from Week 10 (Rotational Inertia)
April 30, 2026	<i>Lab Final Exam</i>	