

Physics 110 Section 8

Lab Assignment #1

Title of the Experiment

Date of the Experiment

Your Name

### Introduction (1pt)

- Briefly (~ one paragraph) introduce the topic and discuss the purpose/objective
- Describe relevant basic physical principles and formulas with definitions

### Procedure (1pt)

- List required materials and equipment
- List the steps required to complete this lab

### Pre-Lab Questions (1pt)

- Answer all pre-lab questions

### Results (3pt)

- List the raw data obtained from the experiment (1pt)
  - Usually in the form of a table
- Include relevant graphs/tables if asked in the lab manual(2pt)
  - Use appropriate titles, scales, and labels

### Questions (2pt)

- Answer all questions

### Conclusions (2pt)

- Discuss whether your results verify the theory/law. Why or why not? (1pt)
  - You will NOT be penalized if your results do not perfectly follow the theory/law. Experiments go wrong frequently, and unfortunately, we don't have enough time to always ensure every student collects the correct data. If your data does not match the theory/law, explain why that may be the case (lab setup errors, data collection error) and describe how the results would look if they did verify the theory/law
- Name sources of random error and state possible improvements for the experiment to reduce error (1pt)
  - For example, experiments where an experimentalist is required to start and stop a stopwatch by hand have a very large random error (our human reaction speed sucks). An improvement would be to use a computer-controlled sensor to start and stop a digital clock

## General Notes

- Due to stricter plagiarism policies since moving to online formats, Hunter is requiring a separate lab report for each person. Although I will allow you to work with other students on the lab and results, please make sure to write your own paper using your own words (no copy/pasting).
- Hit each point described above and you should get your credit.
- The goal of these lab reports is to prepare you for writing research papers later in your careers. These reports are a step towards that direction, and it is always good to get used to certain scientific writing standards, but you shouldn't stress too much about their perfection. Also, every scientist writes labs slightly differently. There is no universal standard for writing papers.
  - Still, proofread for typos, keep formatting professional
- Most real papers are written in (formal) first person plural. (i.e. "We observed \_\_\_\_.") This is because real papers are written by groups of people and scientific experiments are almost always extremely collaborative projects. You may use first person plural just to get used to writing as if you are writing on behalf of an entire lab of people.
- Throughout the semester please email me at [allenzheng98@gmail.com](mailto:allenzheng98@gmail.com) if you have any lab report formatting questions.