

ampus

**Science, Engineering, and Technology**  
**PHYS 203 – General Physics for Non-Engineers I**

**Lab Report Guidelines**

- All lab reports should be typed.
- **Lab reports will be due at 6:00 PM on Thursdays. Late lab reports will be assessed a penalty.**
- Signed original data sheet(s) must be attached to the lab report (except for the first lab).
- The lab report should roughly follow this format:
  - **HEADING (5%):** Write your name, your partner's name, and the date the lab was performed.
  - **TITLE (5%):** The title of the lab must be exactly the same as the title in the lab handout.
  - **OBJECTIVE (15%):** State which physical principle you are trying to learn about. Describe the purpose of this lab and why we are interested in it.
  - **THEORY (15%):** Describe in greater detail the physical principle at stake. Include the equations to be used along with the meaning of each symbol in the equation, written neatly and clearly. Explain which quantities will be measured, which you will use known values for, and which quantities can be calculated or extrapolated from the data.
  - **DATA (20%):** Display data neatly in tables along with the units and clear labels of what is being measured. **All original data must be signed by the instructor before you leave the lab.**

Each graph should be on a single full sheet of page and include a title, proper axis labels with units, and clearly marked axis scales. The data points must be clearly visible. If the graph is a straight line, include the equation of the best-fit straight line on the graph. Identify the slope of the line along with the y-intercept as well as the meaning of these values.
  - **ANALYSIS (25%):** Explain and interpret the data in terms of the theory. Show your calculations here. For each derived result, show a neat and clearly organized sample calculation. All results must have appropriate units and the correct number of significant figures.

Interpret your data, graphs, and calculations and discuss their significance in terms of the theory. For example, if you have a straight line graph, explain the significance of the slope and y-intercept. If one quantity decreases as another quantity increases, explain how this is reflected in the equations of the theory.
  - **CONCLUSION (15%):** State whether the objective was achieved. If so, explain how the data confirms the theory. Either way, discuss some possible sources of error or uncertainty.
- Present your data as though you were the first ones to perform this experiment, and you want to communicate your discovery to the scientific community at large. With this in mind:
  - Don't assume that the reader knows about your experiment. Explain and justify what you did.
  - Clarity counts! Your explanations should be clear and concise, your tables and graphs properly labelled, and your equations and calculations neatly written and easy to follow.
  - Just like in real research, you might not always get good data. If you have bad data, you will be judged on how you interpret it. You can still write a good lab report with bad data, just as you can write a bad lab report with perfect data.
  - **Longer is not necessarily better!**