

## Physics 101 Lab

Fall, 2008

In performing an experiment, you are venturing out of the textbook and into reality. This adventure in the real world is designed to 1) give you a feeling for the phenomena under investigation, 2) allow some originality in the performance of the lab, 3) convince you that the theory discussed in the course can provide a good approximation to reality, and most importantly 4) show you that doing science requires good questions, careful observations, and a meaningful comparison between theory and experiment.

All of your work—data, tabulation, computations, graphs, etc. — are to be done in your lab workbook in ink as you complete the experiment. You can NOT write on scrap pieces of paper to copy later into your workbook. The discovery-based approach parallels the process by which science is done, and requires you to make predictions and refine your concepts to match reality.

**The write-up of the experiment is due at 4pm on the Friday of the week in which** the experiment was completed. The written report you will do for this lab is a brief three-four page summary of what you learned in lab with additional, labeled graphs showing representative data and analysis. Each report is worth 10 points. You must indicate your lab partner(s) by writing their name(s) on the lower right hand corner of the first page of each report. While data collection, analysis and figures will be common for you and your partner(s), the write-ups must be your own!

### Prelab

You are expected to come to lab having read the lab for that week and also the relevant section of the textbook. Pop-quizzes may be given on occasion covering the lab's topic and concepts and will be worth 10% of that week's lab grade.

### Write-up Format

The report is 3-4 pages of double-spaced, word-processed text (you can hand-write equations) that describes what you observed and how one can understand your data. You will attach additional pages of data plots/analysis that are labeled so you can refer to them in the text of your report. It is important to describe the data and how you interpret it in some detail. Grading will be based on exploration of the phenomena, collecting and understanding data, and being able to explain your results clearly. Part of the grade will be based on how completely you work in your lab workbook during lab.