

# Lab Reports

PHYS 1220-02, Richard Barrans, Instructor

Written lab reports are a key component of the course. They are due a week after lab day, unless there is an intervening break or holiday. In a report, you demonstrate your ability to organize and interpret data, to draw inferences, and to communicate and defend conclusions. Unless otherwise specified, a lab group may submit a single report, to which all members contribute, for a lab.

A standard lab report consists of the following sections, with the given weights. If I want a different format for a particular lab, I'll let you know in the assignment for that lab.

## **Abstract 5%**

This briefly summarizes the investigation, including procedure and conclusions.

## **Purpose 5%**

The lab assignment directed you to answer a particular question or accomplish a task. What was it?

## **Theory 20%**

Identifies the physics principles relevant to the situation. Develops the formulas or equations to show how the desired information is obtained from the measurements.

## **Experimental 15%**

What did you do in the lab? What process did you carry out? What equipment did you use? Study? What measurements did you take? Describe the apparatus and procedure in enough detail for a reader to duplicate your experiment.

## **Observations and Data 15%**

Data are to be presented to the instructor at the end of the lab period in which they are recorded. If they need to be included in the report for reference, they should be transcribed.

## **Analysis and Discussion 30%**

Report all data processing, such as statistics and plots. The formulas and procedures you use should already have been addressed in the "Theory" section above.

Detail the meaning of your results, particularly pertaining to the "Purpose" above.

Describe possible sources of measurement error, and how errors would affect your results. Please do not use the term "human error." If the experimenter may have done something wrong, identify it specifically.

## **Conclusion 10%**

What is the answer to the question you investigated? Is your hypothesis supported or not? Is your study conclusive? Explain, referring to your "Discussion" above.