Physics Lab 232 Syllabus

Hello, I am glad you are taking this class. Here is the IMPORTANT information you need to know about this class. I want you to do well, and I am very eager to tell you what I expect for you to get a 100 on the lab reports. If you are not sure about something, email me at lkwick@utk.edu and I will do my best to help you out.

I expect you to have looked over the lab material BEFORE class. I especially like formulas, units, the lab objective, etc. We will start working on the experiment as soon as possible, for they are usually rather time-consuming. I will outline the basic ideas, and you will get to implement the details. Here are a few of my philosophies about performing the labs and taking data.

Problem solving and productivity are important, I want you to get a chance to troubleshoot the situation first; however, I don’t want you to waste excessive time, so I will be very happy to help you, after you tell me what you have already tried.

Data is very important. It is critical that you record the data objectively. Please write/type only what the instrument reads. I have found that my mental mathematical mistakes have cost me hours of frustration. I must sign your data sheet at the end of every lab, this is proof that you have done the experiment. It is a good idea for lab partners to take data together, so please print two copies of the data. I don’t think that right data or good-looking data is as important as impartial data. I would rather you turn in ugly results and do your best to explain these to me, than to change the data so that it looks nice.

This brings me to the lab report. I would like the grade to reflect the entire lab experience. However, the only thing that I will really ‘grade’ is the questions. The problem is that these are just a small part of the whole lab. So to give you some sort of credit for the rest of the time you put into the lab, I give away free points. These will be disguised in the following areas:

Title Page (page 1): Lab Title, Your Name, Partner’s Name, Date (of the Experiment). I want to give you points for each of these so please don’t forget them (for your grade’s sake).

Lab Objectives (page 2): The first paragraph in your book tells us why we are doing these labs. A summary of this should keep us focused on the lab’s goal.

Results (page 2): Here you get to answer all of the lab objectives with numbers. I expect that ALL numbers have the correct number of significant digits, for this is how we will keep track of error. See Sig Figs for a review.

Conclusion (page 2): Here is where you can earn points back for having your numbers a bit off. Try to think of all the possible sources of error (parallax, imperfect measuring devices, data with large natural error, wrong formulas, being careless (honesty is good),
higher order (non-linear) effects, etc.). Aside from error, I want to hear about anything that you found that was cool. If you discover something new, let me know. If you are unsure about something, tell me. I don’t expect that everyone will get everything from all the labs; I know I didn’t.

Graphs: I am rather picky about graphs, and so there are a bunch of points associated with each one. Here is what I look for: Axis labels (with unit). No wasted space with poorly chosen ranges. No legend. A title. An equation clearly printed on the graph.

Questions: Please do the questions. Showing work usually gives you some partial credit for wrong answers.

Data: Turn in your signed data sheet. It is worth lots of points.

I hope you can get this done as efficiently as possible. Working together with friends is a great idea. Using Excel can help with tedious calculations. Being organized will save you time. However, I do want each lab partner to type the entire lab write-up independently, and I want you to do well. I will often write notes on the lab report explaining why I took off points; please read these comments. I am sure that I will think of a few more things as we go through the semester, and I will make announcements at the beginning of lab. Let’s have fun learning.

Sincerely,
Leo Kwiek