General Policies on Laboratory Reports

Write reports and advance assignments using complete sentences, proper grammar, and correct spelling. Your writing should clearly and concisely express definite concepts, not vague generalities. Avoid slang, abbreviations (except for units) and jargon. Plagiarism is not acceptable.

You should report the correct number of significant digits, and do so by using the standard form used by (almost) all scientists. Write 0.373 m, not .373 m. [Make it a habit to use this style.] For numbers in scientific notation, write 2.73 × 10\(^{-5}\) A or 27.3 \(\mu\)A, never 2.73E-5 A. **Always include uncertainties.**

If you write the title page and summary section on a computer, you must construct equations with an equation editor or leave space so they can be written in by hand. Expressions like \((Vr^2+Vc^2)^{(1/2)}\) are unacceptable and will be marked off. Similarly, you must always use superscripts for exponents.

In WordPerfect, the “Insert/Equation” option will allow you to write \(\sqrt{Vr^2 + Vc^2}\) instead of text like \((Vr^2+Vc^2)^{(1/2)}\); you can edit it by clicking on it and then using “Edit/Open Equation Object” to get the equation editor. MS Word or ScientificWord have similar options available. (Best of all is TeX, which is used by most physicists to write papers, but TeX is not easy for amateurs to use.)

Laboratory Report Structure and Content:

Specific requirements for your report will be provided by your lab instructor and will vary between labs, but every lab report should have the following elements in the order given below.

- **Title page:** Give the name of the experiment followed by your name. Include the date, the course and time the section meets, the lab station you used, and the names of your partner(s) in a block below the title. Your instructor may also require an executive summary (cover memo) at the bottom of this page.

- **Data sheets:** Take all necessary data during the laboratory period in ink. Correct any errors by drawing a single line through the incorrect entry and then record the correct value. Include units and estimates of instrumental error. **This page will normally come from the lab manual or a handout.** These are your raw data. **Computer generated tables are not acceptable for raw data**, but can be used in your summary.

- **Sample calculations:** Show a sample of each type of calculation used in the analysis of the data. You should show each step, including the formulas used. [This page is also normally in the lab manual, but you may need to direct the reader to a separate page of notes from your lab work.]

- **Analysis and discussion:** This section of the report consists of a guided question and answer format. [These pages will come from your lab manual and/or a handout.] Give handwritten answers in paragraph form so that the answer is understandable even if the question is not available to the reader. If continued on a separate page, it must be numbered to correspond to the question in the manual. You must justify your answers with data, facts, physical principles, and/or equations. Read the questions carefully.

- **Graphs:** Graphs should be done on a computer. Each station has a computer with a printer, and the same programs are available in the Open Access Laboratory in the Academic Computing Center (the AC building or CT building) if you do not have time to complete them in the lab. Use the regression line option to show straight line fits, being careful to turn off the “connect points” option.

- **Summary:** Your lab instructor will give you the requirements for this final section.