

## Phys 1220      Lab Report Expectations

Hand only one report in for the group which worked the particular lab.

- 1) Add your prelab predictions to the report. They will not be graded, although we may add comments to the section. We need the predictions to see how you re-evaluated them in the postlab.
- 2) Add your raw data. You will lose points, if you have changed your raw data in any way, for example by erasing them or making them unreadable or show me only a spreadsheet but no hand-written data. Sometimes one needs to note that certain data are known to be invalid. In such a case, cross these data out neatly so that they can still be read and comment next to them why these data should be discarded from further analysis.
- 3) Start the postlab with a summary statement about your main experimental average(s) within their respective errors (usually standard deviations – where too few data have been taken to build the error statistic, it is permissible to use the accuracy of your measuring tool, i.e. the smallest clearly discernible unit one can read on the tool, instead). Continue by comparing this to the accepted value (often a value given in the course textbook or lab manual) with its own known accuracy limits.
- 4) Continue the postlab by answering the postlab questions. Don't forget to answer the question that re-evaluates your prelab predictions. If your predictions were off and you do not catch that here, you may lose points.
- 5) If your results do not agree with the accepted value within error, or if your data error was unusually large, add a short discussion of the *main* systematic errors. Include in this whether each error would shift the data to higher or lower values than the true value and try to estimate the magnitude of each error (sometimes this cannot be done but often one can make reasonable assumptions and arrive at a rough value). Note that there may be many systematic errors present but that typically only two or three of them have relevant magnitude.