

Guidelines for lab notebooks

- 1) The front of the notebook should have your name, course title, section, and a table of contents which explains where each lab begins and ends.
- 2) Each experiment should begin with the title, date, and time.
- 3) Each time you record something in the notebook, **write down the time**.
- 4) Draw diagrams of how you set up the equipment.
- 5) Erase nothing. If you realize you did something incorrectly, make a note next to the wrong result, and make a new entry with the corrected result.
- 6) Write comments about the things you tried, what worked, and what didn't work.
- 7) Record raw data, or write down the names of the data files. When using data files, write down an explanation of what the experimental conditions were when you took the data in the file.
- 8) Plot the data by hand, or tape printed copies of the data plots into the notebook. Make lots of notations on the plots explaining what the data means.

Guidelines for lab reports

- 1) Show plots of the best data you have for each portion of the lab.
- 2) Explain how you analyzed the data, and how you extracted the physical quantity that you measured. Include any formulas that you used.
- 3) Show your error analysis, including the sources of error, how you decided what the errors were, and how the errors propagate in calculated quantities. Explain whether your errors are mostly systematic, statistical, or a combination of both.
- 4) Discuss the results, with the final measured numbers and uncertainties. Discuss what should be improved to get a more accurate measurement, and how that might be done.