Rubric for Lab Report Grading.

Students will prepare lab reports that are written in the format of a scientific paper. Journal of American Chemical Society (JACS) format can be used as a template. For detailed instructions and the template, see the following website: http://pubs.acs.org/page/jacsat/submission/jacsat_templates.html . However please note that double column format is not necessary.

The sections and the content of the report are summarized as follows:

Title: Full title of experiment, your name, your lab partner's name (if any), date performed, date submitted.

Abstract (5%): Usually < 150 words. A concise description of the experiment and the methods used. Give a summary of the major results found (e.g. concentrations, rate constants, orders of reaction, quenching constants, wavelengths of maximum absorbance, etc. with limits of error if appropriate). State significant conclusions (see some articles in library journals for examples of abstracts).

Introduction (20%): State the purpose of the experiment and give a brief outline of the methods used and why they were used.

Experimental (20%): Describe what you did, in the order in which you did it. It is not necessary to note down every single knob turned or button pressed or clicked. *This section should be written in the past tense*.

Results (20%): *In a narrative form*, present your observations, data and calculations. Use plots and/or spreadsheets where appropriate (draw the graphic material or paste the printed material in the report). Make sure plots and figures are accurately labelled. You can include copies of your lab notebook pages (as Supporting material to the paper).

Discussion (20%): The purpose of the discussion is to interpret and expand on your observations and to comment on possible sources of error, or causes of poor results; include error analysis here. Make a comparison of your results with literature or textbook values citing references. Summarize the main conclusions and results of your experiment.

If you preferer "Results and Discussion" can be one section (40%), and each Result is followed by a relevant Discussion.

Conclusion (5%): Conclusion is where you summarize and reflect upon the whole experiment or project. A good conclusion provides a note of the original intent, how the actual experiment went and the observations or lessons you derived from it.

References (5%): Give a list of any texts or journal articles, which you consulted. For citations, follow the referencing format recommended by the American Chemical Society (ACS).

Appendices/Supporting information (5%): Here you can include files with raw data and files with detailed calculations which might disrupt the continuity of earlier discussion in the main paper.