ECE 124d/256c
Lab Write-up

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What should and should not appear in your class progress reports for labs and project.

Despite the seeming simplicity of a two to three-page limit for the report length, it pays to carefully present what you did, how you did it and most importantly, *why* it was done. Reports generally follow a similar plan based loosely on the make-up of a scientific paper, modified to account for the large amount of common knowledge in a planned. lab exercise.

Classically a report has the following sections:

1. Title and name of experimenter(s).
2. Purpose and expected goals of the lab -- in a design project this is often replaced with a clear description of what is to be designed. (i.e. a spec) and the design goals.
3. Methodology
    a. *Overview of design tasks*
    b. *Assumptions required for design analysis and procedures*
    c. *Observations from the design tasks*
    d. *Plan for design testing and analysis (i.e. how to measure the results)*
4. Results
    a. *Metric results -- did you meet your goals? Figures and Interpretation*
    b. *Limitations of the solution -- observations*
    c. *Test results if assumptions did not agree with design expectations*
    d. *Road Blocks*
    e. *Issues and sources of errors in the lab*
    f. *(Optional) Suggested improvements to lab*

This probably seems impossible to fit into 2 pages, but many sections do not apply to a given lab write-up. If you have important figures or displays they do not count in the 2 pages, however, keep it below 4, period. Save a few trees and do not create a title page for a short report!

For the figures, it is much more important to annotate what should be looked at than having a dozen figures... There are many routes to getting figures into the report -- screen capture, postscript output (both SUE and MAX do this) and output from Spice analysis. Cadence tools also have suitable outputs if you prefer. Finally, there is a very powerful waveform calculation tool from Synopses that can be used to perform Fourier and other transforms...

For the class term project, you have 4-5 pages if you need it, but follow a similar practice of describing what you observe, what you assume, what you did and what does and does not make any sense to you. The goal of the write up is to be clear and describe what you did and how well your ideas met the design goals (or at least your read of the design goals).