ME 451 TA LONGFORM REQUIREMENTS - 2006

How to use this sheet:

1. Read over the templates that Craig Gunn provided for you, they can also be found here: http://www.egr.msu.edu/classes/me451/radcliff/lab/Handouts/index.html
2. Use templates given by Craig Gunn, but use this sheet to cut down on the length and as a guide to writing a more detailed scientific report.
3. Your final report should conform to all the following requirements.

- ✓ Reports should be double spaced
- ✓ 12 pt Font, 1.25" Margins
- ✓ Each major section starts on a new page
- ✓ Reports should not be double-sided
- ✓ **At the final draft due date your TA expects: one final draft, both copies of your marked-up rough drafts and an electronic copy sent to your TA via email**

1. Abstract
    a. Describe the goal of the lab
    b. Describe the experimental setup/ approach
    c. Briefly summarize the main conclusions from the experiment, remember that including actual numerical data here is important
    d. Write that abstract so that your boss can make a decision concerning a certain design based on the information you give him/her
    e. Abstract should not be longer than ¾ of a page

2. Introduction
    a. Describe the experiment in "layman's terms"
    b. Explain what results you are looking for – ie. why the experiment is being completed

3. Lab Methods Section
    a. This section should not be much longer than 3 pages.
    b. This section should not be created by copying and pasting equations and figures out of the lab manual. Copying complex equations and figures may be necessary at times, but don't make it a habit.
    c. Remember: Your TA's have already read the lab manual, this section is for your benefit as a short review of the procedure that you followed to complete the experiment.

4. Results
    a. Any tables or figures produced in the lab go here. You can scan them in or email them to yourself from the lab. Make them a reasonable size on the page. (They should not take up an entire page)
    b. You should explain what trends you see, but leave the major discussion of these trends to the discussion section. There should not be a whole lot of writing in this section, but the trends for each chart or graph should be discussed.

5. Discussion
    a. This is the most important section.
    b. Your approach to this section should be **to answer, in detail, every short form question**. This means that you should incorporate the question into your response and thoroughly explain your answer. There should be no "yes or no" answers. They all need to be explained.
    c. **An example of the lab needs to be discussed in relation to the lab memo for that particular lab**.

1. Thoroughly explain (1/2 – ¾ page) how you can use what you have learned in the lab to design the Whirlwind project as discussed in the memos.
2. These can be creative ideas, nothing is too abstract, but you must mention how you can use the ideas learned in the lab to help design the lab memo project.
3. **See your lab TA if you want help determining the direction of the example**.

6. Conclusions
    a. Should be <u>listed</u> in 1, 2, 3 format
    b. Each conclusion should be a sentence that briefly explains your conclusion.