EEET 242-Electrical Machines and Transformer Lab
Lab Report Guideline

Every student must submit a lab report for each and every lab. Late reports will receive a deduct for the amount of time late. Each and every lab report are submitted electronically, in a single PDF format file in the order indicated below. It is ok for you to work, as a team, and create a single lab report however each and every person must submit a copy of that lab report. You may, however, elect to submit a different lab report than your partners but they must be listed on the cover sheet.

When you are writing your lab reports, there are two questions you should ask yourself and keep in mind.

1. Could your friend (roommate) read your report and understand exactly what you did?
2. Could you read the report a month later and repeat the experiments and get the same results? A full lab report consists of the essential parts discussed below:

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1. **Cover Sheet:** The cover sheet is the first page of your report. It should contain the course number, lab number and title, the date that the lab was completed (not the date of the lab report), the instructor's name and who were your partners.
2. **Objective:** At minimum, write the objective or purpose of the lab. You can often get the general idea from the lab handout. The objective or purpose is what you are trying to achieve.
3. **Wiring Diagrams:** Include all the wiring diagrams you used in setting up each section of the experiment. Include them with that section. Be sure to label all diagrams and figures and refer to them in your report (e.g. figure 1 shows the circuit representation of a series wound motor etc.). Make sure you include labels of all values you measured.
4. **Procedure:** The procedure spells out the experimental steps you carried out in the lab. Do Not copy the step-be-step procedure if listed in the lab handout. However, include a general statement of what was done.
5. **Experimental Data:** Include data measured from lab equipment (voltage, current, torque, power etc.). Put measured data in tabular form. The raw data is critical because it allows the curious reader to calculate the results independently. You want to make sure that the data you took during the experiment is neat and readable, so you, or someone else, can make sense of it later.
6. **Calculations & Analysis:** The calculations take you from the data to the final result. If many similar calculations are involved, just include one sample calculation in detail but put all your calculations in a table. If your final result is an average value this should be indicated. If you are calculating a result that is to be compared with a theoretical or given value, you must indicate both and the difference.
7. **Results & Conclusions:** This is where you discuss your results in terms of discrepancy and error. Here is where you also analyze the factors that influenced your results and how you might improve them. Include summary of your lab results and any conclusions you made based on your results and calculations. Here are some things to avoid things that will definitely "cost you" in terms of your grade:
    - You will lose points if your conclusions do not follow logically from your results. Do not say something just because that is what the textbook says.
    - You will lose points if you use the words like "human error." Your instructor will read this phrase as "I don't care enough about this experiment to actually think about what is going on in it, so please butcher my lab grade."
    - You will also lose points if you say something that refers to "a calculation error." Your instructor will read this phrase as "I really don't care enough about this experiment to go back and check my work, so please butcher my lab grade."