Group can be two or three people. Group with one student is not allowed. Each person delivers his/her own report.

The purpose of the lab report is to show the measurement results, compare them with the expected theoretical values, and to explain the possible causes if there is an unacceptable difference between the two. So, a lab report shall be concise and written in an easy-to-read format. Long reports are not favored and in fact, they are extremely discouraged. In this lab, there is a maximum of seven pages cap on any report and the cover page is not counted in the cap. Deviation from this policy results in deduction of points from the lab report's grade. In your 110L lab manual, you'll find seven experiments which the forth one has two parts, each is taking on lab session. So you're going to write a total of eight reports in this lab.

You have two tasks before each lab session starts. First you shall read all the pages in the lab manual for the experiment of that day. Second you shall do the prelab section (in the manual) for the same experiment. From the questions that you're going to ask from me during the lab hours, I will understand whether you've read the whole manual for that experiment and if I get the wrong impression from you that you have not studied it well, there will deduction of points from performance part of your grade. As far as prelab concerns, you shall write all of the calculations for the prelab questions and it must be complete before the lab session starts. It will be signed by the TA and shall be attached to the report you're delivering next week for that experiment. By doing the calculations in the prelab, you learn what values to use to setup your experiment, so if you don't do the prelab you will be lost in that session and it has a bad effect on your grade too. In summary, you shall be well prepared for the lab session, knowing exactly what you're going to do in the lab time. This makes your life easier too.

**Laboratory Report Guidelines:**

1. All lab reports are due one week after the experiment. If it falls on a holiday, they are due on the day after the holiday at 12 noon in my mailbox at 56-125B, E4. No late policy.
2. Lab reports shall be original. Small sense of plagiarism results in a grade of zero for that report. This specially include the data recorded from the experiment. Statistically it is very unlikely that two measurements have come with the same reading for an experiment.
3. Reports shall be typed.
4. Graphs and formulas shall be drawn and written nicely, otherwise they shall be done by computer.
5. Cover page includes experiment name, date of performance, date of delivery, your name and SID, your partner's name and SID, and your session number, in the order mentioned.
6. No theory section shall be in the lab report or the prelab. Theory had been learnt from EE110 course you had before. Any deviation from this rule results in the deduction of points form the lab report's grade. Each experiment consists from a number of subexperiments. The report consists of the following six parts for all the subexperiments in the lab:
   - **Title** for the subexperiment (Same as the one in the manual)
• **Introduction** for the subexperiment (Two sentences to describe the goal of the experiment)

• Brief **procedure** for the subexperiment (A figure of the setup with component values on it. Do not copy the procedure from the manual, only add to it if you have done anything extra or different)

• **Results** for the subexperiment (In this section only the processed data will be presented. For example if you've asked to measure a voltage across a resistor to find out the current through it, then the voltage measurements are recorded in your measurement sheet and only the current, processed data, is entered in this section. Numerical results must be entered in a table, a three-column table which the columns from left to right are: processed measured result (M), expected result from prelab theory (T), and the error percentage between them. The error percentage is defined as 100*(M-T)/T. On the first row of this table, the units of measured quantities shall be mentioned. The formula that has been used to convert the measured quantity to processed data shall be mentioned too. If the results are supposed to be shown as a graph, the axes and the important points on the graph shall be labeled properly.)

• **Discussion** for the subexperiment (In this section you will explain why there is a discrepancy between the measured results and the expected prelab results. Realistic error sources shall be named which are usually related to your measurement setup because the equipment has nonidealities which are not accounted for in the theory.)

• **Conclusion** for the subexperiment (In this section you summarize the key results in your subexperiment. The key results must be either boxed or highlighted using boldface fonts. Do not forget units for all the parameters.)

7. Some labs have extra questions at the end of their instructions in the manual. You only write the answer to those questions in the report. Do not copy the question and try to be exact to the point and brief in the answer.

8. The original signed pages (by TA) of the measured data for the experiment are attached to the end of the report. These pages are not counted in the cap for the number of pages in the report. Each partner shall write his/her own recorded data while you're performing the lab experiment.

9. The original signed pages (by TA) of the prelab follows the last page which is specified in item 8. Each person shall write his/her own prelab. While the instructor is lecturing the lab, the prelab will be graded and signed and be back to you to use it during your experiment.

**Laboratory Report Grading:**
For each subexperiment: Title has 3 points, Introduction has 3 points, Procedure has 5 points, Results has 8 points, Discussion has 6 points, and Conclusions has 5 points. This makes it 30 points for each subexperiment. If there is N subexperiments in the lab and your grade from all of them is X, the total grade of your report for the experiment part is 60*X/(30*N) or 2*X/N. You can get a total of 60 points up to here. Twenty points will be given to the prelab, and 20 points will be given for strictly adhering to the rules outlined in this document. This makes 100 points for each lab report. Reports are graded carefully so no regarding policy.

The lab session shall finish at 3:50 PM since I have office hours starting from 4:00 PM the same day. Monday office hour is most suitable for session #3 students and Wednesday office hour is most suitable for session #4 students.

Good luck and I'm confident that you will learn from this lab and will enjoy it.