

**PHY 338K (Fall 2008)**  
**Lab : Thursday 14:00-17:00**  
TA'S HANDOUT

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### Lab reports - Structure

Lab reports will be due a week after the corresponding lab class. Delayed reports get lower grades and no reports will be accepted after a week's delay. Work in the lab (during/outside regular hours) can be done with your lab partner. But, the final write up should be done individually.

Being able to convey scientific information in a concise written form is an important skill and writing these lab reports should help you get better at that. Make sure that your lab report contains (at least) the following elements

1. Abstract
2. Introduction
3. Experimental Setup
4. Procedure
5. Data
6. Analysis of data
7. Summary of numerical results/conclusions

- **Abstract**

This should ideally be a single paragraph that clearly states the primary objectives of the experiment and the collective import of the results. When you get down to writing scientific articles on a regular basis, you will realize that a fair share of your intended audience reads *just* the abstract and *may be*, the conclusion. Whether they get interested in the rest of the article largely depends on what goes into these!

- **Introduction**

Here, expand on the motivations for doing this experiment. Recollect the necessary background material for this experiment. Additionally, think of some daily life instance where the circuit that you assembled is often used. Electronics is all around you and the circuits that you will play with are amongst the most basic building blocks - so, finding examples is real easy!

- **Experimental Setup, Procedure, Data**

This forms the core of your report. The setup should include a schematic of the setup/circuit diagrams. The procedure should be detailed enough to facilitate a retracing of the steps by someone else. Tabulate all relevant data with appropriate units.

- **Analysis**

If any manipulations are required on the raw data, show them here. Use graphs/charts to bring out the key patterns. Basically, try and extract as much physics as possible from the data. Discuss if the main goals were achieved. If not, reason out the possible errors that might have crept into your experiment. You can also include concrete suggestions for making the experiment better.

- **Results, Conclusion etc**

Write a brief summary of what was achieved. Include some important numbers if needed.

### Lab reports - Evaluation

I will return the graded labs in about a week's time. Each section of the report carries some weight (totalling to say, 60-70 %). The rest would depend on the overall quality of your report and the results achieved.