PHYS 1021: Lab Report Format

General Remarks

As future members of the scientific community it is incredibly important that you communicate with supreme clarity. Achieving a reasonable result, and/or understanding a problem or experiment is useless by itself; you must be able to clearly illustrate exactly *what you did and how you did it*! This is one of your first opportunities to practice scientific communication. In order to help you along the way towards becoming an expert in the art of scientific prose I have provided a suggested structure I encourage you to follow when writing your lab report:

Structure

- Introduction and Goals: State briefly the experiment you performed, and state the objectives and goals of the experiment. You should also come up with a hypothesis you would like to address.
- Procedure: In your own words clearly summarize what you did in the lab (this can be in bullet point form if you prefer).
- Data and Data Analysis: In this section present the relevant graphs and raw data in an organized manner.
- Uncertainty and Error: Make sure to discuss any uncertainty and error encountered in the course of the lab. Remember, human error is NOT an acceptable answer under any circumstances.
- Conclusion: Now you can finally talk about whether or not your data supports or rejects your hypothesis. Also, if you know what the result should be (based on literature) determine how well your data compares to the expected value.

Final Comments

Remember, it is your job to communicate the entire experiment with supreme clarity. Your goal is to produce a report that someone else can use to replicate your experiment. The goal of reproducibility is not unique to this class; all scientific results must be reproducible otherwise they are useless. Good luck on all of your science endeavors, and hopefully you all become expert science communicators by the end of this semester!