

## Guidelines for your PHYS 101 Capstone Project

### Project Proposal:

Each student is required to submit a project proposal that is meant to demonstrate the preliminary planning that has occurred and to offer your instructor an opportunity to assess the level of difficulty and to help you plan a project that can be completed in the appropriate time frame.

The proposal will be graded based on how well it presents a summary of what you plan to accomplish and how. Successful proposals will include (1) a brief statement of the purpose of the project, (2) a clearly worded statement of the hypothesis that is being tested, (3) a rough plan for any data measurement techniques to be used, and (4) a description of the graphs and tables necessary to describe the experimental data.

Your proposal must be no longer than one 8.5x11-inch page (single-spaced with 1-inch margins), with an equipment list on a separate page. Be sure that your name and the title of the project appear on all sheets.

### Project Report:

Your project report is a group effort, with all group members expected to contribute in a substantial way. Reports should be written as if a fellow student is reading it. The reader must be able to understand exactly what you did and why you did it. There needs to be enough detail to allow the reader to re-create the experiment and obtain similar results. Thus, if you devise a unique method for making a measurement, your technique should be described in reasonable detail. You may use graphs and data generated by your group but *your diagrams, sample calculations, and wording must be your own*.

A typical summary should be no more than 8 pages long (single-spaced with 1-inch margins) and include diagrams, graphs, data tables and sample calculations as appropriate. In some cases additional information can be appended to the report such as important data. The report must be formatted with each section set off with a header. The text should contain clear, concise prose.

- Statement of the **purpose of the project**.
- **Description of the investigation**, along with background information, if appropriate. The procedure used to obtain data should be stated along with any diagrams of figures, if this is helpful. Data should be presented in tables that include units. Graphs of data and/or modeling attempts should be accomplished using spreadsheets or other plotting tools. Be sure to label the axes and use units on your graphs.
- **Conclusions** based on analysis of the data. This is important!! What does the data tell you? You should interpret, not speculate.
- **Discussion of the results**. Do your results make sense? What kinds of difficulties did you run into? How might the project be improved?
- **Summarize** the conclusions of the project.