

Term Project for PH315

Due Saturday Nov 30 by 11:59pm (This project is worth 15% of the final grade)

Pose a tractable, quantitative question that leads to interesting insights, and then write a solution to the question. Your question and solution should be written in a style similar to a PH 315 physics text book. In your solution, explain all steps so that a fellow student can clearly follow your logic.

Written communication is an important aspect of this project. You are expected to follow the professional communication guidelines that were provided for long-answer homework questions and the experiment report.

The final portfolio for the project (due this week) includes the following components:

a) Reflection (10%) (*a few sentences addressing each bullet point*)

- What went well? What do you like about your question and solution?
- What technical knowledge did you gain while doing this term project?
- In what ways did the term project help you understand quantitative sketches of real-world problems?

b) Your question (30%) (*start on a new page*)

- Pose your question in a way that is accessible to a well prepared PH315 student.
- Include any quantities that are needed to solve the question. Alternatively, you may decide that some quantities can be easily estimated or Googled.
- Include a visual aid that clarifies the question, for example, an image from the internet, a graph, a schematic you drew yourself.
- Provide references (for example a web address) for sources you have used.

c) Your solution (40%) (*start on a new page*)

- Explain your solution (all steps) using clear communication. A PH315 student should be able to understand how you constructed your solution.
- Include one or more visual aids to support your written solution. For example, a hand drawn schematic or graph (pen & paper captured with cell phone camera is fine).
- If you gained insight/inspiration from an outside source, list any helpful references.

d) Appendix (20%) (*start on a new page*)

The appendix serves as evidence that you engaged in the process of drafting and revising your work. Include your first list of topic ideas, and earlier drafts of the question/solution. You can also include comments from the instructor. Note the dates of your drafts. It's OK if you didn't complete all of the earlier drafts, include whatever you have.

Bonus points (10%) may be earned if you worked on a particularly difficult/challenging question.