ASTR1903: Lab I

Grading Rubric

Lab Write-Up Guidelines

The primary goal of this class is to teach you how science is actually done. This means, in part, keeping a record of everything. Please write down everything you do in the order you do it. State assumptions, show work for calculations, and so on. You will do most labs with a partner, but make sure to keep your own records. We should be able to reproduce your answers with just the information in your notebook. Below are some formatting and specific content requests.

- Begin each lab writeup on a new page (or document) and have your name, your partner's name, the lab title, and the date at the top.
- Always include units on numbers with units, and always label plot axes.
- Put a box around (or highlight) numerical answers (and make sure to show your work!)

Grading Rubric

Each lab write-up will be assigned a grade out of 10. The points will be assigned based on three categories:

1. **Clarity of writing:** How you explain and justify your answers. (Maximum 4 points)
   - 1 point: Little or no justification of answers; hard to follow explanations or logic.
   - 2-3 points: Explanations are reasonable and the logic holds up, but additional clarification may be in order; scientific terms are used appropriately most of the time; pre- and post-lab reflections are completed.
   - 4 points: Explanations are clear and every answer is fully justified, scientific terms are used correctly, and pre- and post-lab reflections are thoughtful.

2. **Quantitative reasoning and presentation:** A picture (or a mathematical equation) can be worth 1000 words! (Maximum 3 points)
   - 1 point: Graphs, diagrams or equations are missing, unlabeled, misinterpreted, or not well explained in the context of the lab. Units are incorrect. Quantitative values used in arguments are both incorrect and unreasonable in the context in which they are used.
   - 2 points: Graphs, diagrams or equations are misinterpreted, but the explanation could be valid in the context of the lab. Units are incorrect but have the right dimensions. Quantitative values used in arguments are incorrect, but the argument is reasonable in context.
   - 3 points: Graphs, diagrams or equations are used appropriately, properly labeled, correctly interpreted, and well explained. Units are consistent and correct. Quantitative values used in arguments are correct and used appropriately in the context of the argument.

3. **Correctness of answers:** You don't always have to be right! (Maximum 3 points)

   - 1 point: The answers are obviously incorrect and off by many orders of magnitude. Alternatively, answers are incorrect and sufficient work is not shown.
   - 2 points: The answers are incorrect, but could be reasonable given the question. Alternatively, the answers are incorrect and off by many orders of magnitude, but are identified as such and a hypothesis is made as to why they are off by so much.
   - 3 points: The answers are correct to the degree of accuracy specified by the question. If not specified by the question, answers should be accurate to 10%.