

PHYS 310 Spring 2024 - Grading Criteria for Lab Projects

Each of the five projects this semester is worth 10% of the course grade, for 50% total. The project grade combines three different aspects: (a) your work on the project; (b) your lab notebook entries for the project; and (c) your presentations. The following are guidelines for what we consider to be excellence in each of these categories.

Work done on the project

- Reasonable progress on the goals for the project. “Reasonable” varies depending on the project, what you are trying to accomplish, and the circumstances (stage of semester, etc.).
- Work on project outside of class time – total outside-of-class work including homework should be at least 6 hours per week.
- Appropriate data analysis techniques, including uncertainty where appropriate.
- Demonstrated initiative on learning project theory by reading and searching for relevant background information and asking informed questions.
- Engagement with the project; willingness to take ownership.

Lab notebook

- Discussion of goals/activities for each day.
- Measurement procedure and troubleshooting; apparatus diagrams.
- All of the data collected (if possible), analysis, graphs with appropriate labels and units, and annotated comments.
- Running discussion/commentary; i.e., don't just write down the data – discuss it as you go. In general, words are a wonderful thing in a lab notebook.
- Discussion at the end of the project, summarizing the results, conclusions, any issues encountered, and what additional work could be done if there were more time.
- Lab notebook entries **must** be clearly marked with the dates they are written, and any later additions marked explicitly. They should be kept during lab time, not filled in later.
- Lab notebooks can also include theoretical or planning entries or notes on project reading.

The most important thing about your lab notebook entries is that someone else who looks at the notebook should be able to figure out what you did.

Informal, weekly presentations

- What you discuss will vary depending on which week (e.g., if early or later in the project).
 - Background, explanation and interest/importance of the project (mostly during first week of project).
 - Procedure/apparatus.

- Results
 - Discussion
- Clear to audience of classmates.
- Reasonably prepared. (Guidelines: we expect that the presentations should take around an hour or so of preparation, creating informal slides – these do not have to be super-polished talks.)
- Your responses to questions.
 - Shows research and thought about the project.
 - Valid responses for reasonable questions.
 - Honest responses when you are uncertain about an answer.
 - Partners share balance in answering questions.