Physics labs meet for 3 hours each week. The first hour will be a recitation (problem solving session). The last two hours will involve performing an experiment with your lab partners. It is important to make efficient use of the laboratory time. Most of the experiments are designed so that the data taking, analysis, and interpretation can all be completed in the allotted time.

**Group Lab Reports:**
Each group is expected to turn in one lab report at the end of lab. Each week one member of the group is to submit the “group” report. Throughout the quarter, group members are expected to rotate the duties of writing the group lab report so that every student has submitted at least two group reports.

The report should contain the following sections:

1. **Title**
2. **Names of all group members.** The name of the student who is writing the group lab report should be circled.
3. **Abstract:** Leave a few lines blank and fill this section in at the end when you know what you did. In the abstract state the aim(s) of the experiment, briefly describe the experiment, and state your results. In every experiment we test a physics equation or “model” to see if it accurately describes experimental measurements. Your abstract should state what this physics model is, and if the model quantitatively predicted your experiment well.
4. **Data and Analysis:** Tables for data, plots, and any calculations that you performed in the process of doing the lab procedure. Organize your work neatly as you go. Include labels and explanatory sentences to explain your thought processes. If you plot things on the computer, print the plots and label them e.g. “Figure 1 Pendulum Data” and then refer to Figure 1 in your report. You won't get full credit unless you show your work for all calculations.
5. **Summary Table of Results:** List the main results of the measurements and the percent difference from what you expected.
6. **Questions:** Answer the follow-up questions using complete sentences. If the answer to one of the questions seems like it is redundant, just make sure that the result is in your summary table.
7. **Conclusions:** Wrap it up with the conclusions you can make about the physical world because of what you did. You should also comment on ways to improve your experimental results. (Never use the words "human error." Instead say something specific like "the accuracy of our length measurements was limited by our ability to determine the location of the center of mass of the weight.")

Before you disassemble your experiment and delete the data on the lab computer, please let me check your report for obvious mistakes. This will help me help you get a better grade.

**Grading:** Lab report plus lab recitation grades will be graded on a scale of 0 to 10. Your grade in this lab depends equally on the scores from the reports that you write and the scores of the reports that your lab partners write. The total lab grade accumulated at the end of the quarter will be sent to your lecture instructor to be included in your course grade.
Attendance at all laboratory meetings is mandatory. Any absences will result in a failing grade in both the lab and the lecture. Arriving slightly late to a laboratory exercise will result in a reduction of points for that week’s lab grade. Arriving significantly late will require you to make up the lab exercise in another section of Physics 132 lab. The laboratory class is scheduled for 3 hours. Although laboratory exercises may occasionally finish in a shorter period of time, plan on being in class for the full 3 hours every week. Do not schedule any other activities during course time. If you leave class before your group’s lab report is turned in, you will be counted as absent for that week.

Rescheduling: If you know you cannot make it to lab prior to your scheduled section, completing the lab in another section is possible if and only if:

- Prior approval is granted by me
- Prior approval is granted by the lab instructor of the other section
- A verifiable and unavoidable scheduling conflict exists (i.e., family funeral, court date, medical specialist appointment, etc.)
  - or
- A documented illness or injury occurred, preventing you from attending your regularly scheduled section

*Note* Even with my approval, it is not guaranteed that make ups are possible due to limited spots/availability of other lab sections.

Physics Laboratory Policies:
Safety
- Do not eat or drink in the lab.
- Make sure you understand and follow directions for each experiment, including the safety directions.
- If you injure yourself -- for example, if you cut yourself – tell your instructor at once.
- Do not perform unauthorized experiments.

Equipment
- Do not use any equipment not explicitly required for the experiment.
- If any equipment is broken or not functioning correctly inform you instructor immediately.
- When in doubt, ask!