

Physical Science Lab - PSCI 101L

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W 1:30 - 4:30 PM LSF 105

Office: LSF L103-I

Office Hours: M 2:00 - 3:00 PM, RF 1:00 - 3:00 PM in LSF L103-I or by appointment

Textbook (**required**): PSCI 101L Lab Manual

Learning Goals:

By the end of this course, the student will

- Be comfortable recording data and observations from simple experiments
- Obtain a greater appreciation for the connection between classwork and reality
- Be able to express and discuss the results of an experiment in a clear manner that allows for the student's work to be reproduced by others

Schedule of Labs

| | |
|--------------------------|---|
| Week of January 14: | Measuring Density |
| Week of January 28: | Investigating Acceleration |
| Week of February 4: | Graphical Representation of Data |
| Week of February 11: | Free-Fall Motion |
| Week of February 18: | Kill the Tiger |
| Week of February 25: | Newton's Second Law |
| Week of March 4: | Work and Simple Machines |
| Week of March 18: | Sound Waves and Beats |
| Week of March 25: | Electric Circuits |
| Week of April 1: | Electricity and Magnetism |
| Week of April 8: | Make-up for weather days or Final Exam |
| Week of April 15: | Final Exam |

Academic Integrity

The labs are completed as a group, but each lab report must be the sole product of each student's brain and effort (in other words, all cheating or plagiarism will be reported and handled as detailed in the Student Handbook). There will of course be significant similarity in the reports within a group, but each student should use their own words (and not those of the lab manual nor their lab partner). For my part, I will not discriminate against any student for any reason and will make any reasonable accommodations necessary to meet a student's needs. No discriminatory or hostile behavior toward fellow students will be tolerated.

Grading

Your grade will be determined by the following rubric:

| | Poor | Adequate | Exceptional |
|--------------------------|--|--|--|
| Completion of lab | Student missed the lab session or attempted only a small portion of the lab activity. (0 - 30 pts) | Student did not fully complete the lab activity. (31 - 50 pts) | Student completed the lab activity. (51 - 55 pts) |
| Results | Results show little evidence of effort or carefulness. Units are not used or are used incorrectly. (0 - 5 pts) | The results of the experiment are presented but are outside acceptable uncertainty/error bounds. Some units may be missing. (6 - 15 pts) | The results of the experiment are presented well (with all units). Results are reasonable given the limitations of the equipment and experience level. Some errors may be present. (16 - 25 pts) |
| Analysis | Answers to questions are both incorrect and show a misunderstanding of the physical principles. (0 - 5 pts) | Answers to questions are generally lacking in accuracy and understanding, or answers may vary in correctness or completeness. (6 - 15 pts) | Answers are given in complete sentences and are correct/show a reasonable thought process. Some errors may be present. (16 - 20 pts) |

Each lab report will be weighted equally in determining the final grade, and I will drop the lowest lab. The Final Exam counts as two lab grades (and cannot be a “dropped” grade). **Lab reports are due at the end of the session. As a result, late reports will not be accepted.** If the student is unable to attend a lab session, he or she must contact me in advance and arrange to attend a different session for that week. No credit will be given for labs that the student did not attend, nor does the student receive credit simply for attendance. **Your grade does not depend on getting a perfect result (in fact, this does not enter into your grade at all and would be a bit suspicious).** However, your result should be the product of careful work and represent your best effort.