

LABORATORY SYLLABUS

PHYS 1411 – Introduction to Physics

Credit Hours: 1

Lab Instructor: _____ (fill in name and email for future reference)

Email: _____

Physics Office: (936) 294-1601
Office Location: Farrington, room 204D

Required Textbook: Physics 1411 Lab Manual (available at Bookstore)

Required Supplies: Pencils, Notebook, and a calculator with trigonometric functions.

Description and Goals: The PHYS 1411 Laboratory is designed to complement and enhance your classroom experience. It begins a few weeks after the start of the semester. A single grade is assigned for both components as a whole, with a contribution of 15% from the laboratory. Many concepts discussed in a theoretical or problem solving context during the main course will be experienced and tested here by firsthand contact. Engineering-related topics will tend to be emphasized, because of their applied nature. You will begin to develop the careful observational skills required for scientific lab work, and learn to correctly glean useful information and generalizations from those results. You will practice techniques for the reduction of systematic observing errors, and learn to properly account for the manner in which unavoidable random or statistical errors limit the applicability of your conclusions. You will practice effective communication of your procedure, observations, and conclusions by the completion of a lab report template for each session.

Attendance: Attendance is mandatory for each laboratory meeting. One makeup lab is made available at the end of the semester in case of an excused absence. All missed work will result in a grade of zero. No student should leave any lab meeting prior to handing in their report and being excused by their instructor.

Lab Schedule Ten exercises will be selected for completion from the 1411 lab manual. The schedule example shown following is subject to revision by your laboratory coordinator.

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| Week 1 | Introduction to Measurements |
| Week 2 | One-Dimensional Motion |
| Week 3 | Applications of Vectors |
| Week 4 | Two-Dimensional Projectile Motion |
| Week 5 | Atwood's Machine (Newton's 2 nd Law) |
| Week 6 | Applications of Friction |
| Week 7 | Circular Motion and Centripetal Force |
| Week 8 | Conservation of Energy |
| Week 9 | Conservation of Momentum |
| Week 10 | Simple Harmonic Motion |

Lab Reports:

Your grade will be determined by the completion and quality of your written lab reports. Report templates are at the rear of your manual, and should be removed, completed, and turned at the end of each lab meeting. The preliminary questions must be completed prior to the start of each lab, and will be initialed by your instructor. Blanks are provided for the reporting of your data, and for the reporting of any required calculations. It is intended that each team should work cooperatively to collect all data, and perform essential calculations. Open-ended discussion questions are asked to test your ability to draw conclusions from the interpretation of your laboratory experience. It is intended that each individual should demonstrate independence in the answering of these thought questions, and there must be a minimal overlap of responses. Once finished, it may be useful to compare and learn from the responses of your peers. All assertions must follow in a direct and logically consistent manner from the actual content of your own experiment. If you feel that some procedural error has clouded your results, then this may be discussed.

Lab Rules:

All class members are expected to respect the proceedings of this laboratory, and the learning environment of their fellow students. This principle has several practical implications, some of which are enumerated below.

- 1) Do not cheat. Violators are subject to dismissal on a 1st offence.
- 2) Regular punctual attendance is expected of all class members.
- 3) There is to be absolutely no use of Cellular phones in the classroom, for either voice or text communication.

Role of Lab Instructor: Your lab TA's role is to facilitate the efficient and productive operation of the lab meeting. Although the lab is designed to work in tandem with your main course, the distinct objectives of each setting will cause certain subjects to be emphasized more or less strongly, or sometimes to be presented in a different order. Your TA will open each meeting with a sufficiently detailed introduction or review to keep that day's material self-contained. During operation of the lab, the TA is available to aid in setup, clarify procedures, and provide general assistance. However, they will not serve as a reference of packaged answers. The lab TA has no responsibility to meet with students outside of scheduled meeting times. If disputes arise, the student should first attempt a direct resolution with their TA. If this becomes impossible, or if external mediation is required, the matter should be brought to the lab supervisor.

Please keep in mind the fact that your TA is also an undergraduate student at SHSU. They are learning how to perform their job better even as they are working to help you; this experience is as unique and important a part of their education as it is of yours. Your respect and patience are vital to the success of this effort!

The following are university-wide official policies which apply to this course. Additional details are available at the web address: <http://www.shsu.edu/syllabus/>

Academic Dishonesty: Students are expected to maintain honesty and integrity in the academic experiences both in and out of the classroom.

Classroom Rules of Conduct: Students are expected to assist in maintaining a classroom environment that is conducive to learning. Students are to treat faculty and students with respect. Students are to turn off all cell phones while in the classroom. Under no circumstances are cell phones or any electronic devices to be used or seen during times of examination. Students may tape record lectures provided they do not disturb other students in the process.

Student Absences on Religious Holy Days: Students are allowed to miss class and other required activities, including examinations, for the observance of a religious holy day, including travel for that purpose. Students remain responsible for all work.

Students with Disabilities Policy: It is the policy of Sam Houston State University that individuals otherwise qualified shall not be excluded, solely by reason of their disability, from participation in any academic program of the university. Further, they shall not be denied the benefits of these programs nor shall they be subjected to discrimination. Students with disabilities that might affect their academic performance should visit with the Office of Services for Students with Disabilities located in the Counseling Center.

Visitors in the Classroom: Only registered students may attend class. Exceptions can be made on a case-by-case basis by the professor. In all cases, visitors must not present a disruption to the class by their attendance. Students wishing to audit a class must apply to do so through the Registrar's Office.