

PHYS 101 Laboratory - Syllabus

Catalog Description:

Experiments, exercises, and demonstrations to accompany PHYS 101.

Course Objectives

The objective of this course is for the student to learn:

- How to perform a careful experiment, estimate the uncertainties, and present the results graphically.
- How to use the graph as an analysis tool. In particular, methods for finding the straight line and the uncertainties best representing the data are emphasized.
- How to prepare technical material for oral presentation to a group of peers.
- The connections among the concepts taught in the lecture portion of the course, experiences from the 'real world', and the laboratory exercises.
- The specific physical principles involved for each of the labs performed.

Carolina Core Outcome:

SCI - Students will be able to apply the principles and language of the natural sciences and associated technologies to historical and contemporary issues.

Eligibility

To be eligible for enrollment in PHYS 101L a student must satisfy one of the following three conditions:

1. Have completed the corresponding lecture course PHYS 101 with a grade of C or better.
2. Be concurrently enrolled in the corresponding lecture course PHYS 101.
3. Have a written waiver from the Undergraduate Director for Physics and Astronomy.

Organization of the Course

Course Overview

For PHYS 101L, the semester involves completing 8 laboratory projects and giving one oral presentation. Each week, one project will be performed by each laboratory group. A lab group will work on their project during the lab time. Before they leave each group will turn in their Experimental Data Sheets for that project. These sheets will be graded by the course TA.

Each student will give one oral presentation during the semester. The oral presentations will consist of a presentation of a science topic that is of interest to the student and is graded by the course TA.

Attendance and Grading

Grading

8 Experimental Data Sheets (each out of 45, up to 360 points).

1 oral presentation (40 points).

Each absence will cost a penalty of -10 points plus loss of credit for missed work.

Total Points = 400

360-400 A

340-359 B+

320-339 B

300-319 C+

280-299 C

240-279 D

0-239 F

No grades will be dropped

Attendance

Attendance in the course is required. Consistent with the University "10% rule", the attendance policy for this course is as follows:

In the event that the laboratory instructor is not present at the lab room ten minutes after the beginning time of the lab period, students are expected to send a representative to inform the staff in the Physics departmental office, Jones PSC room 404. Students should then wait in the lab room for a replacement instructor.

In the case of projects performed outside the laboratory room, the student must first report to the laboratory room.

Tardiness

1. Tardy arrival at class by more than 20 minutes will constitute an unexcused absence.
2. Tardy arrival by 20+ minutes will be automatically excused on the first occasion.
3. Tardy arrival by 20+ minutes on the second and subsequent occasions will constitute an unexcused absence.

Unexcused Absences

One unexcused absence from any class meeting will result in -10 points plus loss of credit for the work missed.

1. Two unexcused absences in the same cycle or more than two unexcused absences total will result in a failing grade, F, for the course.

Excused Absences

One or two excused absences will have no direct effect on your grade. You are still responsible for turning in your assignments on time, getting missed data from your partner and participating in one oral presentations. If you miss the oral presentation session on the day you are to present, see your instructor to discuss options for making up this deficiency.

1. More than two excused absences will result in an incomplete (I) for the course.

An absence will be considered excused only if you present to your instructor a copy of a valid excuse prior to the class meeting during which you will be absent. (Notification of excused absence after an absence will be accepted only in cases of demonstrable emergency; for example, you were rushed to the hospital and unable to notify the lab instructor.) **A valid excuse is a signed and dated letter from a person in authority (your doctor, minister, judge, policeman, dean, etc.) on official stationery stating why you are unable to attend class on the date in question. A note from a parent or friend is not acceptable.**

Excuses should be presented to the laboratory instructor prior to the class meeting during which you will be absent. **Excuses that are presented after an absence will be adjudicated by the course supervisor.**

Seating and Partner Assignments

Seating will be assigned on the first day of class, and your partner(s) will be the student sitting at the same table as you. Thereafter, you will remain with your partner(s) for the remainder of the semester. The instructor will reassign seating and partners as needed if issues or conflicts arise.

Physics 101 Lab Manuals

At this time, the lab manual is free of charge. It will be kept in the lab room and graded from week to week.

The lab manual is needed to complete the lab assignments.

Collaboration

Students are encouraged to work together in groups during the lab meetings.

General Requirements

Bringing the lecture course textbook with you to lab is highly encouraged. If you don't have one, you should borrow or buy one for use in this course.

Cell phone use must be limited to information access in the lab room.

Students are presumed to have an electronic mail account, to have their address published in USC's online directory and to check their e-mail regularly. The laboratory instructors, support staff, and faculty in charge of the laboratory can all be reached *via* an e-mail link at the department web site.

The laboratory instructors, support staff, and faculty in charge of the laboratory may choose to send important information by e-mail. Students are responsible for supplying a functioning e-mail address and checking for messages on a regular basis.