COLLEGE OF CHARLESTON

PHYS 102L–INTRODUCTORY PHYSICS II LAB

Instructor: T. R. Richardson

Spring 2018

section L03 Tuesdays 2:30–5:30 PM
Harbor Walk West, Room 111

L a b S y l l a b u s

PHYS 102L INTRODUCTORY PHYSICS II LAB

Contact Information:

T. R. Richardson:
Offices: JC Long room 211 & HWWE 108
My Lab: HWWE 108

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Office Hours:

Check the web link on the right for the latest listing of my office hours. http://richardsont.people.cofc.edu/trr_hours.html

Contacting me:

Contacting me is easy. Email if it is not complicated or time sensitive (I. e. something in the next 36 to 48 hours. Otherwise use the phone. These days it is best to use my cell phone. Because of classes and meetings it may be turned off. If I don't answer, text me with your phone number or message. My cell phone for school will not take voice messages, even if it seems to, so please don't try to leave a message. I will do my best to call you back but I am never "it" when it comes to phone tag. Also don't text me without trying to call first unless you are unable to talk at that time and the matter is an emergency. I choose not to text back and forth when a call would be simpler.

Pre-requisite/Co-requisite:

This lab course is designed to accompany PHYS 102 and that course is a co-requisite to this lab. This course also has as the prerequisites PHYS 101 (or HONS 157) and PHYS 102L (or HONS 157L).

General Education Objectives and Learning Outcomes:

At the end of the syllabus are the departmental general education objectives and learning outcomes for this course. Expect me to direct your attention to specific ones as the course progresses through its topics.

Objectives:

This course is the lab designed to accompany our first semester college physics course. As your instructor views the course, it has certain objectives. This class should:

1. Enhance your analytical skills.
2. Guide you in testing and verifying certain concepts in physics.
3. Enhance your technical writing skills.
4. Enhance both your qualitative and quantitative reasoning skills through weekly practice.
5. Develop better team skills.
6. Provide you with a pretty good time accomplishing these objectives or we have both missed an opportunity here.

Textbook:

The required text is the *Physics 130 Lab Manual, College of Charleston, Spring 2018* for sections 03. Also bring your lecture text to every lab indicated on the schedule.

Attendance and Makeup Policy:

Attendance in lab is mandatory. One free lab is allowed but discouraged. Since the work accomplished in lab cannot be duplicated outside of the lab environment, and since we have neither the time, space or staff for extensive department wide lab make-ups, attendance at lab is mandatory and makeups are not feasible. Special circumstances such as extended illness will be handled on a case by case basis. Please do not complicate your life by electing an activity or commitment which conflicts with lab meeting times. Doing so will, for the wrong reason, have an adverse effect on your lab grade. Also please note that according to the faculty rules, no professor can require you to miss a scheduled class, such as our lab, to attend some other activity.

If a student attends all labs, then that student's lowest quiz and lab grades will be dropped in the computation of the final average in lab. That benefit is forfeited with a missed lab. The first absence counts as a drop and the second absence is recorded as a zero for that lab session.

Quizzes:

There will be a lab quiz almost every week. The lowest quiz grade will be dropped in the computation of the final grade. If a student is absent from a quiz, that absence might be treated as that student's dropped grade depending on the circumstances.

Lab Work and Lab Reports:

There will be a designated lab each week designed to help you master concepts considered in the lecture portion of the course. That work is normally completed each week in lab and submitted at the end of lab or the following as a group activity. One of these experiments will be designated for a written lab report lab for which each student will complete their own written report on the experiment and that report will be due in two weeks from the time of the lab. There will also be a lab writing assignment. You will be expected to write a letter to a public official, either elected or appointed, on a matter of public policy that involves matters of science.

Lab Final Exam:

There is no final exam for this lab course.

Grading:

The final average in this course is found using the following proportions:

- Weekly quiz average 41 %
- Lab average 41 %
- Writing assignment 9 %
- Formal Lab Report 9 %

The grading scale for this course is listed below.

A	92.5 – 100	C	72.5 – 77.4
A-	89.5 – 92.4	C-	69.5 – 72.4
B+	87.5 – 89.4	D+	67.5 – 69.4
B	82.5 – 87.4	D	62.5 – 67.4
B-	79.5 – 82.4	D-	59.5 – 62.4
C+	77.5 – 79.4	F	0.0 – 59.4

Disabilities and SNAP:

If your situation Falls under the guidelines of the programs in the SNAP office, please come to my office so we can talk about how to handle your particular situation. This class is SNAP friendly but sooner is better than later if we have to arrange accommodations.

The College Honor Code:

Every society has its rules that help that society to function. The College Honor Code contains some of the rules all of us are expected to follow for the years we are together here. A link to the portion of the College Honor Code relevant to our class is on our course page.

Online Resources:

My webpage: http://richardsont.people.cofc.edu/
Course webpage: http://richardsont.people.cofc.edu/01_p102_lab_syllabus_s18.html

My Physics Learning Outcomes:

The list below is your professor's Physics Learning Outcomes for this course. After the successful completion of this class, the students will be able to:

1. Design experiments and carry out measurements based on the guidelines supplied by the instructor.
2. Collect meaningful data and tabulate it with units while applying appropriate significant figures.
3. Use software (Microsoft Excel or Open Office) to tabulate results, plot graphs and report observations.
4. Estimate uncertainties associated with measurements made in lab.
5. Discuss experimental results and compare the results with accepted values.
6. Draw conclusions from observations and measurements.
7. Prepare a lab report following the guidelines given in the instructor's online resources.
8. Apply appropriate methods of safely handling equipment and performing laboratory procedures.

Physics Curriculum Committee Learning Outcomes:

To successfully complete this course the student is expected to demonstrate competence (through quizzes and tests) by being able to:

1. Distinguish the nature and significance of the following topics studied in astronomy: stars (binary, variable), star clusters, interstellar matter, galaxies and cosmology.
2. Perform measurements of electrical, magnetic, atomic, nuclear, and optical phenomena
3. Perform objective observations of physical phenomena
4. Draw conclusions based on observations and data
5. Analyze quantitative information using sketches, graphs, tables, and statistics
6. Enhance scientific writing skills

7. Enhance teamwork and communication skills
8. Learn lab safety

General Education Learning Outcomes:

The following general education learning outcomes will be assessed during this semester in lab. The assessment will test whether you can:

1. Apply physical/natural principles to analyze and solve problems. This outcome will be assessed on a formal written lab report of one of the labs during the fall session. This report will count as a lab in your final lab grade and it cannot be your dropped lab grade.
2. Explain how science impacts society. Assessment will be accomplished with a letter written to a public official about a science related matter of public policy. This exercise will count as quiz in your final lab grade and it cannot be your dropped quiz grade.