

**Syllabus for PHYS 157L**  
**Honors Physics I Lab (Section 1) – Fall 2015**

**Class Times/Location:** Tuesdays, 4:30-7:30 PM, Harbor Walk West Room 110

**Instructor Information:** Dr. Mike Larsen

**Office Phone:** 843-953-2128

**Email address:** LarsenML@cofc.edu

**Office Hours:** Monday 7-8 AM, Tuesday 10:30-11:30 AM, Wednesday 8-9 AM, or by appointment. (I'm here a lot, and usually am willing to drop anything I'm working on to help you out. If you need help outside of "official office hours", try to find me [my office door has a Dr. Larsen finder that can sometimes be helpful]; most often I'll happily drop what I'm doing to help you).

**Weekly Problem Solving Help Session:** Thursdays, 3:45-5:15 PM. (Location TBD)

**Office Location:** JC Long 217 (I also am sometimes in a lab or the student room during office hours – check JC Long 218, 220, or 221 if I don't seem to be where you expect.)

**Course Webpage:** [http://larsenml.people.cofc.edu/hons157\\_fall15.html](http://larsenml.people.cofc.edu/hons157_fall15.html)

(Please see course page for full description of course, rationale, and supplementary information).

**Attendance Policy**

Attendance is required for all lab sessions, and forms a portion of your lab grade. Because I am aware that sometimes "life happens" and you have to miss lab for an unplanned reason, I will be dropping one of your lab grades in each category. (If all labs are attended, the lowest earned grade will be dropped; see grading section of the syllabus for more detail). If you have a known conflict with a lab (due to a sporting event, religious observance, interview, or other important personal event) it is *your* responsibility to use office hours to discuss options with the instructor *well in advance of the date in question* to work out a mutually acceptable solution.

Note that we will likely be utilizing all (or nearly all) of the 3 hours scheduled for the lab each week; please plan to be here for the full scheduled time. A few weeks we may finish early, but it would be a mistake to rely on that – it is hard to predict, and not likely to happen very often.

**Lab Groups:** You will have assigned lab groups that likely will change periodically. It is your responsibility, if necessary, to exchange contact information with your lab partners. Some lab reports may take the form of "group" lab reports, where an entire group submits a single report and all grades are shared. (Not all labs will be graded this way). Absence hurts not only yourself, but your lab group members. Please be considerate to your classmates and come to class.

## **Necessary Materials**

- Closed-Toe Shoes
- College of Charleston 157 Fall 2015 Lab Manual
- Lab Notebook
- Pen
- HONS 157 Text
- Scientific Calculator (*not* on your cell-phone!).

Coming to class prepared is expected; if you are missing any of these required materials, Dr. Larsen will penalize your attendance grade up to 25% for the day.

## **Classroom Policies**

This class is a science lab; a general good rule for life is to not have food or beverage in a science lab if you plan on staying healthy. (“Don’t lick anything in a science lab.”) Please do not bring food or drink to lab.

Open toed shoes are also forbidden in lab. If you are wearing open-toed shoes (sandals, flip-flops, etc.) the instructor may be required to remove you from class. At the very least, you may be offered (non-optional) alternative footwear for safety purposes. You also will lose attendance points for the day if you forget your closed-toe shoes.

There are also a number of safety concerns in a lab. Your safety is always your instructor’s top priority. It is expected that you will follow the instructor’s verbal announcements regarding all classroom behavior, and follow the safety guidelines as set out at the beginning of the semester at all times. If necessary, your instructor may – at his discretion – require you to leave lab for the day (and forfeit all points associated with the lab activities) in the interest of the safety of everyone in the room. No safety risks of any kind will be tolerated by the instructor.

## **Honor Code / Code of Conduct**

It is expected that you will adhere to the university’s honor code and student code of conduct, as can be found in your student handbook.

### **Students with Disabilities**

The College will make reasonable accommodations for persons with documented disabilities. Students should apply at the Center for Disability Services/SNAP located on the first floor of the Lightsey Center, Suite 104. Students approved for accommodations are responsible for notifying your professor as soon as possible and subsequently contacting your professor again at least one week before any specific accommodation is needed.

### **Grading**

Grades will be based on four (4) components.

- Attendance (10%). You will be expected to sign into lab each week. Your grade will be penalized if you are tardy, come unprepared, or do not wear closed-toe shoes to lab. Note that, in addition to explicitly counting as part of your grade, more than 2 absences will result in your semester lab grade being lowered an additional letter grade for each absence.
- Formal Lab Reports (45%). 4 times throughout the semester, your instructor will inform you that you are expected to complete a formal lab report on one of the labs you have completed. Expectations for these formal labs will be distributed separately (and are posted on the course webpage). The formal lab reports will be due at least one week after the lab is conducted to give you time to prepare the report.
- Shoot-for-your-grade Labs (15%). Some of the labs during the semester are “shoot for your grade” labs, where your grade is determined by your group’s performance on a specified task.
- Semi-Formal Labs (30%). Most weeks, your instructor will ask your group to submit some results at the end of the lab session for the day. Expectations for what is required will vary substantially from week to week. You may be asked to answer a series of questions, supply a data table, complete a series of calculations based on acquired data, draw conclusions, etc. When a semi-formal quantitative lab is expected, your instructor will make it clear what is expected. If more time is required to complete the computations, you/your group may turn in your semi-formal computation the next day in lecture without penalty.

Your lowest score (including absences as 0s) will be dropped from each of the above four categories. This does mean that if you miss two labs (a shoot for your grade and a formal lab, for example) you will be fortunate to be able to drop the absence for both the missing formal lab report and the shoot for your grade. Because we do not have the facilities to reschedule labs, **NO MAKEUP LABS WILL BE GIVEN FOR ANY REASON**. This follows general Physics department policy, based on the availability of rooms and equipment.

You will not be doing the exact same labs as students in other sections of PHYS 101 or PHYS 111,

thus attending another lab section to make up an absence will not be possible. Because of this restriction, I am dropping several of your grades as described above.

Your lowest score (including absences as 0s) will be dropped from each of the above six categories, except I will drop your two

If you do not miss any classes, you get to drop your lowest scores as well, but you won't have the "0" from an absence to deal with. Showing up will benefit your grade positively.

Grading Scale: The final grading scale will be *no more stringent* than:

A	≥91	B+	89	B-	80	C	71-78	D	60 - 69
A-	90	B	81-88	C+	79	C-	70	F	<60

**TENTATIVE Schedule:** We will be adapting the labs in your lab manual to varying degrees, often including components of multiple labs in a single session. Below is the TENTATIVE schedule planned by your lecture instructor:

Date	Lab
8/25	Measurement and Vectors
9/1	Velocity and Acceleration
9/8	Projectile Motion
9/15	Force
9/22	Friction
9/29	Lecture Test 1 (During Lab)
10/6	Mass on a Spring
10/13	Momentum and Ballistic Pendulum
10/20	No Lab – Fall Break
10/27	Angular Momentum and Torque
11/3	Lecture Test 2 (During Lab)
11/10	Bernoulli
11/17	Simple Pendulum
11/24	Standing Waves
12/1	Lecture Test 3 (During Lab)

## **General Education Student Learning Outcomes**

- Students apply physical/natural principles to analyze and solve problems.
- Students explain how science impacts society.

## **Student Learning Objectives**

- Enhance observational and analytical skills
- Learn about measurement errors and error estimation methods
- Improve the ability of students to articulate their thoughts and ideas
- Enhance scientific writing skills

## **Student Learning Outcomes**

At the end of this course, successful students will be able to:

- Use basic scientific tools to make measurements and estimate any uncertainty associated with each measurement.
- Draw conclusions from observations and measurements from an experiment and prepare a formal lab report following disciplinary standards.
- Manually collect data from an experiment and use this data to analyze a new physical system.
- Design and carry out a simple experiment to determine a physical property of an object.