

**Syllabus for PHYS 101L**  
**Introductory Physics I Lab (Section 6) – Fall 2018**

**Class Location/Times:** Tuesdays, 4:00-7:00 PM, RITA 373

**Instructor Information:** Dr. Mike Larsen

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

**Office Hours:** Mondays, Wednesdays, and Fridays from 7-8 AM (in room RITA 387), Mondays from 5-6 PM and Tuesdays from 8-9 AM (both in RITA 317). If you need help outside of “official office hours”, try to find me and most often I’ll happily drop what I’m doing to help you. If I’m not where you expect me to be, check my office door. I will try to have some sort of sign indicating where I am.

**Office Location:** RITA 317      **Larsen Research Lab Location:** RITA 392

**Email address:** LarsenML@cofc.edu (please use sparingly; I’d rather talk to you in person before or after class if you have a question or a concern).

**Co-requisite:** PHYS 101

**Course Webpage:** [http://larsenml.people.cofc.edu/phys101L\\_fall18.html](http://larsenml.people.cofc.edu/phys101L_fall18.html)  
(Please see course page for full description of course, rationale, and supplementary information).

### **Course Description**

A laboratory program to accompany PHYS 101.

## 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.

## Necessary Materials

- Closed-Toe Shoes
- College of Charleston 101 Fall 2018 Section 6 Lab Manual
- Pen
- Physics 101 Text
- Scientific Calculator (will be needed for quizzes; the free ones we loan you are sufficient, but likely inferior to what you might buy for yourself) Note – cell phone calculators will not be allowed during quizzes!

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.

## **Lab Groups:**

You will have assigned lab groups that may change periodically. It is your responsibility to exchange contact information with your 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.

## **Classroom Policies**

This class is a science laboratory – a general rule for life is to not have food or beverage in a science lab if you plan on staying healthy. 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** Your grade will be based on four components. Expectations for each of these components will be handed out or discussed separately.

1. Quiz Average (35%). Each week (except the first and last weeks of lab) a quiz will be given based on the previous week's lab. You will have approximately 20-30 minutes to complete this quiz. (The lowest quiz score for the semester will be dropped).
2. Lab Reports (50%). Depending on the week, your lab report can take one of three different formats.
  - Formal Lab Reports (20% of total grade; 40% of lab reports). 3-5 times during the semester, your instructor will inform you that you are expected to complete a formal lab report on one of the previously completed labs. Some of these formal reports may be offered as a group report, at the instructor's discretion.
  - Shoot for your Grade (10% of total grade; 20% of lab reports). 2-3 times during the semester, your instructor will ask each group to complete a task. Based on the accuracy of your prediction, ability to complete the task, and/or success in answering some questions your group will receive a holistic grade for the activity for the week.
  - Informal Lab Reports / End of Lab Results/Analysis (20% of total grade; 40% of lab reports). In the weeks where you are not tasked to complete a formal lab report or are graded based on a "shoot for your grade" protocol, you will be asked to turn in data, analysis, computations, answers to questions, graphs, error-analysis, and/or brief summaries of lab activities to the instructor. These will be turned in before leaving lab for the day, and graded one per group.
3. Prelab Activities (5%). The week before each lab (except, of course, the first week of lab) you will be given a handout with questions that can be answered by reading through the lab manual. These questions are due at the beginning of the following week's lab (first thing when you come into the room), and are designed to ensure that you come to lab already having a general idea of what you will be doing each week. These are done individually.
4. Attendance/Participation (10%). You are graded for attending the labs, coming on-time with all necessary materials, and working productively and cooperatively with your fellow group-mates. Despite the fact that this portion of your grade only counts for 10% of your lab grade, more than 2 absences will result in an additional lowering of your lab grade for the semester by an additional letter grade per absence.

Note that your lowest quiz, formal lab report, shoot for your grade, informal lab report, and prelab score will be dropped from your grade.

**Grading Scale:** The formal numerical scale might move around a little bit depending on the class performance (though not much; historically the lab sections have not needed much of a curve – if any), but the final grading scale will be *no more stringent* than:

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

**TENTATIVE Schedule** The following is the planned experiment schedule. Please come to office hours to discuss with your instructor well in advance if you have any known conflicts with any of these meeting dates.

8/28	Introduction / Measurements
9/4	Velocity and Acceleration
9/11	Vectors
9/18	Projectile Motion
9/25	Atwood Machine
10/2	Friction
10/9	Mechanical Efficiency
10/16	Angular Motion
10/23	Mass on a Spring
10/30	Torque
11/6	Fall Break (No Lab!)
11/13	Archimedes Principle
11/20	Simple Pendulum
11/27	Standing Waves on a String

## **General Education Natural Science Learning Objectives**

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

## **Course Learning Objectives**

- Perform measurements of kinematics, dynamics, fluids, and wave phenomena.
- Perform objective observations of physical phenomena.
- Draw conclusions based on observations and data.
- Analyze quantitative information using sketches, graphs, tables, and statistics.
- Conduct basic quantitative and qualitative discussions of observational errors.
- Enhance scientific writing skills.
- Enhance teamwork and communication skills.
- Learn lab safety.