

COLLEGE OF CHARLESTON

PHYS 102–INTRODUCTORY PHYSICS II

Instructor: T. R. Richardson

Spring 2018
Harbor Walk West, Room 112
Tuesday, Thursday 5:00–6:15 PM

Lecture Syllabus

Physics 102 INTRODUCTORY PHYSICS II

Contact Information:

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Office Hours:

Check the web link on the right for the latest listing of my office hours. http://richardson.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. I choose not to text back and forth when a call will be simpler.

Pre-requisite/Co-requisite:

This course is the second in a two-semester survey of contemporary astronomy. The course is designed to accompany PHYS 102L and that lab course is a pre-requisite or co-requisite to this lecture.

Goals:

In the instructor views this course has a number of goals. They are to provide the student with:

1. A broad understanding of the nature and scope of the field of physics.
2. An understanding of a few crucial physics quantities, together with some knowledge of appropriate physical laws.
3. An understanding that physical laws and processes are universal.
4. An understanding that the world is knowable, and that we are coming to know it through observations, experiments, and theory.
5. An understanding of the types, roles, and degrees of uncertainty in science.
6. An understanding of the evolution of physical systems.
7. Some knowledge of related subjects and a set of useful "tools" from related subjects such as mathematics.
8. An acquaintance with the history of astronomy and the evolution of scientific ideas.
9. One last goal is to have a reasonably good time accomplishing the previous ones.

General Education Objectives and Learning Outcomes:

At the end of the syllabus are the College general education objectives and learning outcomes as well as the departmental learning outcomes for this course. Expect me to direct your attention to specific ones as the course progresses through its topics. You will be tested on the general education learning outcomes the lab this semester

Textbooks:

Our textbook, *College Physics*, by Serway & Vuille, 11th edition is a good text. We will follow the contents in order beginning with Chapter 15.

Attendance:

Roll will be taken. The wise student will attend all classes since lecture is intended to supplement rather than duplicate the reading of the textbook. Be there or be left out.

Tests:

There will be four major tests. The lowest test grade will be dropped in the computation of the final grade. If a student is absent from a test, that absence is normally treated as that student's dropped grade depending on the circumstances.

Little Grades:

There will be reading quizzes, in-class graded activities and homework. The reading quizzes will allow the use of your written notes both from lecture and from your reading at home. All of these activities are averaged together and constitute a student's Little Grade average. Two (or more at the instructor's discretion) Little Grades will be dropped in the computation of the Little Grade average. Make-ups are not available for these Little Grade activities since the instructor expects a student to attend all classes. The dropped grades are intended to correct for illness and unplanned absences.

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Makeup Assignments:

It is the policy of this class to allow makeup work when the request for makeup is accompanied a signed and notarized endorsement by the sitting president of the Republic of Palau. Otherwise such requests are considered on a case-by-case basis and the decision depends on the timing and reason for the request. On assignments where a grade can be dropped, that may be the best option although there are often other possibilities to be considered.

Grading:

There will be a final exam. It will be comprehensive. The final grade in this course has the following components:

- Major tests 60% (14% each)
- Little grade average 20%
- Final exam 20%

Grading Scale:

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

Important Dates:

If you keep a calendar, then you will want to put these dates on it now. If you don't keep a calendar, consider getting one and using it to stay organized.

- Test Dates See the online Schedule
- Final Exam Mon, Apr. 30 4 – 7 PM, in our regular classroom

Disabilities and SNAP:

This class is SNAP friendly. If your situation comes 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. 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. Every individual has rules of their own to guide their life. Make your rules consistent with the College Honor Code and trust that I have done the same. Please visit the College Student Handbook online at <http://www.cofc.edu/generaldocuments/handbook.pdf> for details about the Honors Code and see my summary of the Honor Code in our classroom at http://richardsont.people.cofc.edu/shared_folder/00_honor_code.pdf.

Online Resources:

My webpage: <http://richardsont.people.cofc.edu/>

Course webpage: http://richardsont.people.cofc.edu/02a_p102_s18.html

The course webpage is the source for course comments and links to the course schedule and supplemental material. You can access the link through your account on OAKS. However you can access all the material for this course without having to login by using the link above or the link on my homepage found on the college people server.

Some Study Tips:

1. Have a special place to study.
2. Take breaks for 5–10 minutes each hour.
3. Switch subjects every hour or at some interval that works for you.
4. Review your class notes right after lecture, before the next lecture and every day until the test.
5. Get some vigorous exercise every day.
6. Eat your vegetables and stop eating junk.

General Education Natural Science Learning Outcomes:

The following general education learning outcomes will be assessed in the **laboratory section** of this course where you will:

1. Students apply physical/natural principles to analyze and solve problems (*This outcome will be assessed by writing a report of the Lens lab. It will count as one lab report in your final lab grade.*)
2. Students explain how science impacts society (*Assessment will be accomplished with an assignment involving writing a letter to a public official about a physics-related current event. It will count as one quiz grades in your final lab grade.*)

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Introductory Physics Course-Specific Learning Outcomes:

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

1. Apply conservation laws to analyze the motion of charges in electric and magnetic fields
2. Describe the nature of electromagnetic phenomena
3. Apply elementary physical and geometrical optics principles
4. Describe the nature of the universe on the atomic and nuclear scale
5. Describe the postulates of special relativity and their fundamental consequence
6. Develop critical thinking and problem solving skills
7. Demonstrate the ability to relate physics concepts to other discipline