

## Syllabus for PHYS 112 (Sections 1-2) General Physics II – Fall 2020

**Class Location / Times:** MWF, 10 AM, Mostly Online Synchronously, sometimes in RITA 387

**Instructor Information:** Dr. Mike Larsen

**Phone:** 843-327-2372

**Instructor Email Address:** LarsenML@cofc.edu

**Office Location:** RITA 317

**Pre- and Co-requisites:** PHYS 111 or HONS 157 (Pre-req) and MATH 220 (Pre-req or Co-req)

**Course Webpage:** [http://larsenml.people.cofc.edu/phys112\\_fall20.html](http://larsenml.people.cofc.edu/phys112_fall20.html)

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

**Office Hours:** Mondays 12-1 PM, Tuesdays 8:30-9:30 AM, Wednesdays 8-9 AM, and Fridays 1-2 PM or by appointment. All office hours will be conducted via zoom; please contact me via email, text, or voice call to make further arrangements.

**Course Text:** The official recommended text is “Fundamentals of Physics Extended” by Halliday, Resnick, and Walker (any recent edition will do). Several of you may have had alternative textbooks for PHYS 111 (e.g. Serway and Vuille) and, if you already own that text, you will be able to get by with that text instead. We will discuss this at more length in our first class meeting.

### Course Description

A continuation of PHYS 111. Subjects covered are: electricity (electric fields, AC and DC circuits); magnetism; light (geometric and physical optics, spectra); and modern physics (relativity and nuclear physics). The Honors version of this course is HONS 158. Students may not receive credit for both.

### Plan for Course

This course is listed as a hybrid course, which means that the plan is to meet virtually sometimes and in-person sometimes. Your lecture instructor is in a high-risk group for COVID-19 complications if infected, so we are going to minimize the number of in-person meetings to the greatest extent possible. That means, if the university stays to its current instructional plan, the only dates we will be meeting in person will be midterm test dates (tentatively scheduled for September 23rd/25th, October 21st/23rd, and November 18th/20th). All other *lecture* class meetings will be synchronously via zoom. For those of you who have unstable internet, and to accommodate anyone who is sick or needs to take care of someone else, recorded versions of class lectures will be made available for asynchronous viewing. More details about our plan will be conveyed on the first day of class and on our course webpage.

## Grading

Grades will be based on timely completion of assorted homework assignments (50%), mid-term exams (30% total – currently expected to be 3 exams at 10% each but may be 2 exams at 15% each), and a final exam (20%).

In an effort to be as flexible as possible, we will not plan to have any unscheduled assessments in this course. Your two lowest homework assignments will be dropped, but it is in your interest to leave that cushion in place as long as possible in case you or someone you would need to take care of becomes unavailable for a portion of the semester.

If you are unable to make an exam due to illness or other obligation, a make-up assessment will be arranged; in most scenarios, this is expected to be an oral exam conducted through zoom.

**Grading Scale** The grading scale applied to this class will be *no more stringent than*:

A	91-100	B-	80-81	D+	69-70
A-	90-91	C+	79-80	D	61-69
B+	89-90	C	71-79	D-	60-61
B	81-89	C-	70-71	F	<60

## Attendance Policy

It is expected that you will attend class if possible. I will. You are responsible for any material missed in class, including announcements about homework/test date changes, etc. Since this course doesn't closely follow any text, missing class could be more detrimental for this class than most. If unable to attend class, please view recorded lectures prior to next course meeting.

## Required Objectives and Outcomes Statements

In order to meet assessment requirements, it is necessary to include course objectives and learning outcomes for every course. Here they are for this course.

### Learning Objectives

This course endeavors to aid the motivated student in the following tasks:

- Understand the basic ideas related to the study of electricity and magnetism.
- Understand ideas related to geometrical and physical optics.
- Learning about the basic ideas associated with modern physics, especially special relativity, photons and matter waves, atomic structure, and nuclear physics.
- Developing skill in quantitative problem solving within a physics context.

### Learning Outcomes

At the end of this course, successful students will be able to use the techniques of integral and differential calculus to:

- Apply conservation laws to analyze the motion of charges in electric and magnetic fields
- Describe the nature of electromagnetic phenomena
- Apply elementary physical and geometrical optics principles
- Describe the nature of the universe on the atomic and nuclear scale
- Describe the postulates of special relativity and their fundamental consequences
- Develop critical thinking and problem solving skills
- Demonstrate the ability to relate physics concepts to other disciplines

## Required Syllabus Statements

The university requires us to include some standard (so-called “boilerplate”) text into all syllabi. Since you presumably see the same text in all of your classes, I have grouped these statements together.

### **Honor Code and Academic Integrity**

Lying, cheating, attempted cheating, and plagiarism are violations of our Honor Code that, when suspected, are investigated. Each incident will be examined to determine the degree of deception involved.

Incidents where the instructor determines the student’s actions are related more to misunderstanding and confusion will be handled by the instructor. The instructor designs an intervention or assigns a grade reduction to help prevent the student from repeating the error. The response is recorded on a form and signed both by the instructor and the student. It is forwarded to the Office of the Dean of Students and placed in the student’s file.

Cases of suspected academic dishonesty will be reported directly by the instructor and/or others having knowledge of the incident to the Dean of Students. A student found responsible by the Honor Board for academic dishonesty will receive a XXF in the course, indicating failure of the course due to academic dishonesty. This status indicator will appear on the student’s transcript for two years after which the student may petition for the XX to be expunged. The F is permanent.

Students can find the complete Honor Code and all related processes in the *Student Handbook* at <http://studentaffairs.cofc.edu/honor-system/studenthandbook/index.php>

### **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.

### **Oaks**

OAKS, including Gradebook, will be used for this course throughout the semester to provide the syllabus and class materials and grades for each assignment, which will be regularly posted.

### **Continuity of Learning**

Due to social distancing requirements, this class will include a variety of online and technology en-

hanced components to reinforce continuity of learning for all enrolled students. Before the drop/add deadline, students should decide whether the course plan on the syllabus matches their own circumstances.

### **Recording of Classes**

Class sessions will be recorded via both voice and video recording. By attending and remaining in this class, the student consents to being recorded. Recorded class sessions are for instructional use only and may not be shared with anyone who is not enrolled in the class.

### **Inclement Weather, Pandemic, or Substantial Interruption of Instruction**

If in-person classes are suspended, faculty will announce to their students a detailed plan for a change in modality to ensure the continuity of learning. All students must have access to a computer equipped with a web camera, microphone, and internet access. Resources are available to provide students with these essential tools.

### **Fall 2020 General Syllabus Statement**

The College of Charleston is committed to promoting the health and safety of our campus community. To that end, all faculty and students must abide by public health guidelines that include practicing social distancing in the classroom and elsewhere on campus, following signage indicating the entrance, exit, and traffic flow in and around campus buildings, wearing a mask or cloth face covering while in the presence of others, washing or sanitizing hands frequently, sanitizing individual and shared learning and work spaces, and staying home when sick. These practices are mandatory. Students will not be allowed to attend class without an appropriate face covering or when showing symptoms of illness.

Due to social distancing requirements, the number of students allowed in the classroom at one time is significantly reduced. As a result, most in-person courses will include a variety of online and technology enhanced components to ensure continuity of learning for each student throughout the semester. These strategies will vary by course section and students are advised to read each syllabus carefully. Faculty have planned each course to enable all students, whether they are in the classroom or working remotely, to be fully engaged in the learning experience. Before the drop/add deadline, students should decide whether the course plan on the syllabus matches their own circumstance. All faculty will use OAKS to facilitate student access to the course syllabus, course materials, and the gradebook. The College of Charleston's standard grading system is in effect.

There is a possibility that the semester will be disrupted by weather or the pandemic. Every course syllabus will include a plan for a change in modality to ensure the continuity of learning in the event in-person classes must be suspended. Regardless of the method of instruction, all courses will move online for one week after Thanksgiving. Final exams will be administered online. Therefore,

all students must have access to a computer equipped with a web camera, microphone, and Internet access. Resources are available to provide students with these essential tools.

The College anticipates that some members of the community will fall ill or test positive for the coronavirus, and then be required to quarantine thereby missing class, assignments, and assessments. Faculty are expected to provide reasonable accommodations as determined by the content, level, and expectations of their courses for students who become ill or indicate a need to isolate themselves. To the extent possible, arrangements will be made for students with COVID-19 related absences to continue in the class. Faculty are encouraged to make explicit in their syllabus what sorts of accommodations students can expect with respect to missed course meetings, assignments, and assessments. However, students should be aware that extended absences for any reason cannot be accommodated in every course. Missed assignments and assessments may result in poor or failing grades. If a student is absent from class for an extended period, a withdrawal (W) before the deadline should be strongly considered. In all cases, assigning course grades is the responsibility of the instructor consistent with the grading policy published on the syllabus.