

Syllabus for PHYS 111 (Section 1)
General Physics I – Fall 2022

Class Location / Times: MWF, 8:00-8:50 AM in RITA 387

Instructor Information: Dr. Mike Larsen

Phone: 843-953-2128

Instructor Email Address: LarsenML@cofc.edu

Office Location: RITA 317

Prerequisite or Corequisite: MATH120 or equivalent or permission of the instructor

Course Webpage: http://larsenml.people.cofc.edu/phys111_fall122.html

(Please see course page for full description of course, rationale, topic/course schedule, and additional information).

Office Hours:

- Problem Solving Sessions on Monday, Wednesday, and Friday at 7 AM in RITA 387 (no appointment needed)
- Live Walk-In Office Hours on Wednesdays from 9-11 AM in RITA 317 (no appointment needed)
- Zoom Office Hours by appointment on Thursdays from 10 AM - noon (sign up at https://calendly.com/mikelarsen/officehours_fall2022. Note that you need to sign up for zoom office hours at least 8 hours before the scheduled meeting time.)

Official Catalog Course Description

Introduction to principles of physics primarily for scientists and engineers. Subjects covered are mechanics (vectors, linear and rotational motion, equilibrium and gravitational fields); heat (mechanical and thermal properties of solids, liquids, and gases); and wave motion.

Attendance Policy: It is expected that you will attend class if you are healthy. I will. We are holding this class in person and plan to continue to do so unless I'm either told by my superiors that we have to pivot in instructional modality or I am physically unable to lecture in person. (If we have to pivot either due to changing modality or because of my health, information about the instructional modality will be conveyed to you via email and/or through a news post in Oaks).

If you miss an in-person class, you are still responsible for any material missed including course content, announcements about homework, test date changes, etc.

In the event that you need to miss class for an extended period of time (due to a major life disruption like serious illness (COVID or otherwise), serious injury, military service, legal obligations, etc), it is your responsibility to contact me to discuss what reasonable accommodation we can arrange.

Course Text: The textbook for this course is Fundamentals of Physics by Halliday, Resnick, and Walker, 10th edition. (Walker’s name is biggest on the front cover and highlighted because he’s the author that is still alive and making updates, but most people call this the Halliday text or the Halliday and Resnick text.) You will not need any codes for on-line homework/web-assign/mastering physics or any other supplementary add-on products. More information will be given on the first day of class.

Plan for Course

As of the moment I am writing this syllabus, the plan is for this course – and all other courses in the Physics and Astronomy department in Fall 2022 – to be fully face-to-face. That being said, we’re still in the midst of a global pandemic that has interrupted all of our plans for nearing 2.5 years now. Prior to the pandemic, we frequently had semesters that were disrupted due to other world events (most frequently hurricanes or tropical storms) which altered our expected course schedule. At this point, not acknowledging that our plans can sometimes change would be irresponsible.

I maintain hope (perhaps foolishly) that we can have something akin to a “normal” semester with minimal interruptions. However, I will keep the tools necessary to transition to on-line instruction ready in case we have to pivot. Keep plugged into the on-line resources relevant to this course (the course webpage, the course Oaks page, and the course slack) so that we will be able to switch modalities when or if we need to.

While we are face-to-face, please come to class (when able); I think we have all learned about the value of in-person instruction after all of our experiences with “zoom university”. Homework assignments will be turned in live – unless you are quarantining, in which case I will try to make sure there’s an Oaks dropbox available to you to upload your scanned PDFs.

If you have to miss class, please get notes from a classmate. This is the fourth time I have taught this course and I have been fluent in this content for about 25 years, so there’s a lot of short-hand, missing steps, and incomplete ideas in my own notes – they are reminders to me about what to present, not a full accounting of what is talked about – a classmate’s notes will be far better for your use than mine. Attendance is not part of your grade, so there is no need to contact me to let me know you will be absent. Absence from the class does not excuse you from due-dates.

As stated earlier, if you have to be absent from class for an extended period of time, you need to reach out to me so we can discuss a reasonable accommodation.

Grading

Grades for this class will be based on homework (30%) and exams (70%).

Homework will be assigned approximately weekly and will be due most Fridays at the beginning of class. Because your instructor intends to start grading homework immediately after class on Friday, late work will not be accepted – but I *will* be dropping your two lowest homework grades for the semester. Note that this is the accommodation I am preemptively making for external complications due to illness or any other conflicts; no additional homework drops or other accommodations regarding homework grades will be made for anyone, even if a student has a major life event preventing them from coming to class. Homework can be completed by diligently reading the text, and homework can be turned in through OAKS if class attendance is not possible on the day homework is due. Note also that if homework is submitted online through OAKS, students are responsible for ensuring that their upload has been successfully processed and that a single readable pdf with all of their work to be graded is successfully entered into the system; the instructor is not responsible for technical problems with OAKS. The safest solution is always to turn in a hardcopy of your work in class. **No makeup or extra credit work will be offered and work turned in late will not be graded for anyone.**

We plan to have four exams for this class – three midterms and a final exam. Each midterm exam will be worth 20% of your grade, and the (cumulative) final exam will be worth 10%. Your poorest midterm grade will be replaced with your final exam grade if your final exam grade is better than your poorest midterm (this effectively makes your final worth 30% of your course grade and the poorest midterm worth 0%).

Please do not come to class to take an exam if you are ill. If a student misses a midterm and needs to make it up, your instructor will contact you near the end of the semester to schedule a makeup exam. The makeup midterms will be on the same topics as the missed midterms but most students will probably find the exams more challenging than the normally scheduled midterms. (Students missing the normally scheduled midterm have a graded midterm on the same topic to study from and have an opportunity to study until the end of the semester to prepare for the associated exam; an exam of equal difficulty would give students missing an exam an unfair advantage). If a student misses multiple midterm exams, it is probably in their best interest to consider withdrawing from the course but the option will still be available for such a student to take multiple makeup midterms in quick succession at the end of the semester. If a student misses the final exam, you need to contact the instructor immediately to discuss your options – but likely an incomplete will be the best viable option.

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

In practice, it is frequently the case the actual final grading scale applied to the course will be more generous than what is noted above.

Recording of Classes

At this point, I do not plan to maintain a regular archive of recordings of our classes. However, it is possible that the only reasonable accommodation I am able to make for someone with an extended absence might include audio and/or visual recording of the class for use by students unable to come. By attending and remaining in this class, enrolled students consent to being recorded. Recorded class sessions are for instructional use only and if you are given access to them you may not share them with anyone who is not enrolled in this section of this class.

The rest of this syllabus consists of statements that are required for assessment or the specific language used is mandated by CofC administration. I believe some of this information is very important, but I assume you get the same information in every syllabus so I have put the remaining content on its own portion of the syllabus to make it easier for you to distinguish between the items specific for this course and the items that appear on all syllabi.

Required Learning 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.

General Education Student Learning Outcomes The General Education Student Learning Outcomes below will be directly assessed in the second course of the introductory sequence.

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

Student Learning Outcomes The student learning outcomes will be directly assessed for each student throughout the course via homework and exams.

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

- Use kinematic equations to study translational and rotational motion
- Apply Newton's Laws for translational and rotational motion
- Demonstrate conservation laws related to energy and momentum
- Apply laws of physics to fluids
- Investigate fundamental laws and concepts of thermodynamics
- Demonstrate an understanding of the basic phenomena/concepts of waves and simple harmonic motion
- 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://deanofstudents.cofc.edu/honor-system/studenthandbook/>

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 will be used for certain elements of this course throughout the semester to provide the syllabus and class materials and grades for each assignment, which will be regularly posted.

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.

Mental and Physical Wellbeing

At the college, we take every students' mental and physical wellbeing seriously. If you find yourself experiencing physical illnesses, please reach out to student health services (843-953-5520). And if you find yourself experiencing any mental health challenges (for example, anxiety, depression, stressful life events, sleep deprivation, and/or loneliness/homesickness) please consider contacting either the Counseling Center (professional counselors at <http://counseling.cofc.edu> or 843-953-5640 3rd Robert Scott Small Building) or the Students 4 Support (certified volunteers through texting "4support" to 839863, visit <https://counseling.cofc.edu/s4s/index.php>, or meet with them in person 3rd Floor Stern Center). These services are there for you to help you cope with difficulties you may be experiencing and to maintain optimal physical and mental health.

Food and Housing Resources

Many CofC students report experiencing food and housing insecurity. If you are facing challenges in securing food (such as not being able to afford groceries or get sufficient food to eat every day) and housing (such as lacking a safe and stable place to live), please contact the Dean of Students for support (<http://studentaffairs.cofc.edu/about/salt.php>). Also, you can go to <http://studentaffairs.cofc.edu/student-food-housing-insecurity/index.php> to learn about food and housing assistance that is available to you. In addition, there are several resources on and off campus to help. You can visit the Cougar Pantry in the Stern Center (2nd floor), a student-run food pantry that provides dry-goods and hygiene products at no charge to any student in need. Please also consider reaching out to Professor Larsen if you are comfortable in doing so.