PHY 122.69, Spring 2026 Syllabus

This course of PHY 122, Section 69, Physics for the Life Sciences will have lectures delivered in an online, asynchronous format.

The lectures will be recorded and the slides will be posted on Brightspace. The lecture recording will be automatically posted by the university, and should be available around 2:00 pm on the day of the lecture. No live stream will be available.

This course will cover Chapters 17-30 of the electronic textbook described below.

Two midterm exams will be given on February 23rd from 8:15 pm to 9:35 pm and April 6th from 8:15 pm to 9:35 pm, and a final exam will be given on May 14th from 2:15 pm to 5:00 pm. The location will be announced before each exam. The registrar's policy is that students are responsible for avoiding exam conflicts, and exceptions will not be granted in this course. This class is taught in an on-line and an in-person format covering the same material.

Instructors

- Prof. Hannah Arnold <hannah.arnold@stonybrook.edu>
- Prof. Ciro Riccio <ciro.riccio@stonybrook.edu>
- Prof. Richard Lefferts (laboratory) <richard.lefferts@stonybrook.edu>

- Office hours for the lecture instructors will be held in person in our offices or online through a ZOOM link posted in the combined course Brightspace page (PHY122.00).

Brightspace

Most of the course administration will be done via Brightspace. For the on-line course, there are 3 separate Brightspace pages that you will have to access:

- PHY122.00 to access section-independent information, such as the homework, the course calendar, recorded lectures and lecture notes, and the zoom link for the TA and Professors' office hours (website under construction)
- PHY122.69 to access section-specific information, such as clicker question scores (more below), clicker questions, and exam-scores.
- A lab course Brightspace run by Prof. Richard Lefferts

Please make sure that you have access to your Stony Brook Brightspace account, that these courses are listed there (in 1st week of classes for sure), and that the email address listed in your Brightspace account is one that you monitor for announcements. You have to register for the Mastering Physics homework and access clicker questions via Brightspace; see below.

Class schedule

The schedule can be found in the combined course Brightspace page (PHY122.00) and shows the material that will be covered in each lecture.

Firsts for this Semester:

- First lecture: **01/26/2026**
- First *Clickers* for credit (clicker must be registered in Brightspace): **02/02/2026**
- First *Homework* for class due (submitted online): **02/02/2026**
- First *Pre-Lecture Homework* due (submitted online): **02/02/2026 before 8:00 am**
- First week of *Lab Sessions*: **01/26/2026**
- First day the Help Room is staffed: **02/02/2026**

Format of course

Class Lectures will provide an introduction to the material, problem solving practice, and short answer questions to allow you (and the instructor) to ascertain your understanding of the material just after it is presented. You should **prepare for the lectures by reading the corresponding section of the e-text and completing the pre-lecture homework assignment**. Lectures are recorded on Tuesday and Thursday and are available for viewing after they are recorded on the course Brightspace page. The lecture slides will be available on Brightspace.

Please be sure to view the lecture prior to the homework deadline each week.

Required Homework problems will be assigned using an online system called *Mastering Physics*. Additional information is given in the Homework section below.

You should plan to use a calculator for the lectures. It should be able to do trig functions, square root, log, exponential notation. You do not need a fancy graphing calculator. You will also need your calculator for the exams. Your calculator is an important tool for the course, and you should be familiar with it. Calculators may not be shared in the exams. You may not use the calculator function of a mobile phone in the exams.

There are no recitations. The lecture functions as a recitation, insofar as you are guided towards learning how to solve problems on the material in the lecture notes and in the homework problems

Laboratory

The laboratory is mandatory. There are ten lab experiments during the semester. All lab grades count; none are dropped. If you have an excused absence for missing your lab, the due date will be extended

A lab write-up that completes all the items listed in the manual for each individual lab is due one week from the date of each lab. More information about the format and grading of the lab reports will be given by your laboratory instructor.

All students should complete all labs. Any student receiving a score of zero on more than two labs will fail the laboratory. While the grades for the lecture and laboratory will be averaged to find your final grade failing either part of the course (lecture *or* lab) will result in failing the entire course (lecture *and* lab).

“Clicker Questions”

During lecture, there will be several clicker and short answer questions. When these occur, you should pause the lecture and attempt the problems yourself. The answers to each question should

then be entered into the corresponding “clicker quiz” on Brightspace to register your answers. The clickers are located under Exams/Quizzes on Brightspace.

Homework and Electronic Textbook (e-text)

Homework problems will be assigned using an online system called Mastering Physics (see below). There is a link on the course Brightspace page through which you access and register for Mastering Physics. There will be two sets of online problems assigned for each lecture. The **pre-lecture problems** count as extra credit. If you have done the reading, they should take less than 10 minutes and must be completed before the lecture starts. The **post-lecture problems** are expected to take about 60 minutes. The post-lecture problems are due a few days after the lecture, so please check Mastering Physics for details. An additional **adaptive problem** set may be assigned based on the answers given to the post-lecture problems. The **adaptive problems** are triggered by wrong answers given during the main problem set and allow you to make up for wrong answers provided during the set. The adaptive problems count as extra-credit (If you are not assigned adaptive problems, you will automatically receive the extra-credit).

Problem solving is an important skill to learn and can only be learned with practice. We recognize that solutions to many of the homework problems can be on-line, but since the homework scores count for a significant part of the grade and you are expected to solve them independently. While you should solve the individual homework problems independently, **working with your peers is a powerful way to enhance your understanding and is strongly encouraged**.

Mastering Physics and Electronic Textbook: You must have a Mastering Physics license for the course. This is obtained via the Brightspace link for the course. Detailed instructions can be found in the “Content” section of the PHY122.00 course. This semester, we will primarily be following “College Physics, a Strategic Approach”, 4th edition, by Knight, Jones, and Field.

Getting help

To help you with questions related to your homework problems and the laboratory, a help-room with TAs will be available (Physics A-131 and online through ZOOM). The ZOOM link can be found on the PHY122.00 Brightspace, and the schedule will be posted before the 2nd week of classes.

Exams

Two midterm exams and a **final exam** will be given. See the dates at the top of the syllabus. You have to make sure there are no conflicts in your schedule – we will not grant makeup exams. The registrar's policy is that students are responsible for avoiding exam conflicts, and exceptions to the University policy will not be granted in this course. To pass the course, you must have a score for at least one of the two midterms and the final exam. If you cannot take a midterm due to exceptional circumstances (documented illness, death in the immediate family, etc), discuss this with the instructor as soon as possible. We will increase the weights of the other parts of the course accordingly, but, absent exceptional circumstances, will not have make-up exams. If you miss the final, or more than one midterm, with a valid excuse, you will receive an Incomplete in the course and you must contact the instructors to schedule an exam as promptly as possible after the end of the semester. **Taking at least two exams is required to pass the course**. The exams are scheduled by the registrar during the common exam periods for PHY122. You will

need to provide a College Board approved calculator and are allowed a sheet of handwritten notes.

There are 2 options for taking the exams:

- You can take the exam in-person, on-campus during the common exam period
- You can take the exam at a testing center (e.g. many public libraries offer this service). This allows you to take a proctored exam at a location outside of the University. If you take the exam at a testing center, the exam must be taken at the same time as the common exam period.

If you choose to take the exam at a testing center, you must provide the testing center information at least two weeks before the exam, and receive approval. We will contact the testing center to make sure they meet the appropriate criteria, and to provide a copy of the exam. More details will be provided on the course Brightspace page.

Grades

Your final grade will be based on the following.

- 10% Homework
- 10% Clicker score
- 17.5% **Each** of two midterms
- 25% Labs
- 20% Final Exam

  Notes:

  - The clicker score grade is based on providing a correct answer while you watch the video.
  - Up to 5% of extra credit is available based on completing pre-lecture and adaptive homework assignments. The first week of pre-lectures does not count for grading.
  - **You must independently pass both the laboratory and the lecture portion of the class. Failure to pass either component will result in failing the course.**

The grading scale will be adjusted to reflect the overall class performance.

- 90%: Guaranteed to be an “A”
- 75%: Guaranteed to be a “B” or better
- 60%: Guaranteed to be a “C” or better

Standard University Policy

A. Student Accessibility Support Services (SASC): If you have a physical, psychological, medical, or learning disability that may impact your course work, please contact the Student Accessibility Support Center, Stony Brook Union Suite 107, (631) 632-6748, or at sasc@stonybrook.edu. They will determine with you what accommodations are necessary and appropriate. All information and documentation is confidential.

Students who require assistance during emergency evacuation are encouraged to discuss their needs with their professors and the Student Accessibility Support Center. For procedures and information go to the following website: https://ehs.stonybrook.edu//programs/fire-safety/emergency-evacuation/evacuation-guide-disabilities and search Fire Safety and Evacuation and Disabilities.

B. Academic Integrity: Each student must pursue his or her academic goals honestly and be personally accountable for all submitted work. Representing another person's work as your own is always wrong. Faculty is required to report any suspected instances of academic dishonesty to the Academic Judiciary. Faculty in the Health Sciences Center (School of Health Technology & Management, Nursing, Social Welfare, Dental Medicine) and School of Medicine are required to follow their school-specific procedures. For more comprehensive information on academic integrity, including categories of academic dishonesty please refer to the academic judiciary website at http://www.stonybrook.edu/commcms/academic_integrity/index.html.

C. Critical Incident Management: Stony Brook University expects students to respect the rights, privileges, and property of other people. Faculty are required to report to the Office of Student Conduct and Community Standards any disruptive behavior that interrupts their ability to teach, compromises the safety of the learning environment, or inhibits students' ability to learn. Students not following University policies during class will be deemed to be “disruptive” (e.g. if the University chooses to require certain public health policies, the policies must be followed).

D. Student Participation in University-Sponsored Activities: Students may have to miss class as a result of their participation in an event or activity sponsored by the University. This course will operate in compliance with the University policy set forth at: https://www.stonybrook.edu/sb/bulletin/current/policiesandregulations/policies_expectations/participation_univsponsered_activities.php. In particular, you should notify us in advance, but definitely before the final date of the ‘add/drop’ period, of your intention to miss any class, exams, or labs that will arise due to such activities. At that time, we can discuss how you will be able to secure the work covered.

E. Religious Holidays: This course will operate in compliance with the University’s policy regarding religious holidays, set forth at: https://www.stonybrook.edu/commcms/faculty-pathways/pages/religious_holidays_policy.php. In particular, you should notify us in advance, but definitely before the final date of the ‘add/drop’ period, of your intention to be out for religious observance. At that time, we can discuss how you will be able to secure the work covered.

VIII. Some Important Tips for Success:

- Physics depends heavily on mathematics. At this level, you’ll need working familiarity with trigonometry and algebra, and a preparation to understand the ideas of calculus. So, it is very important for your success that you meet the course prerequisites. Actually, calculus was invented to solve physics problems, and so we hope this course helps you understand some of the math you may have struggled to see the point of.
- Be familiar with your calculator and use the same one for exams and the lab that you use for homework. You don’t want to be spending valuable exam time figuring out how to use your calculator!
- Keep up to date with the material. The class has to move fast to cover everything, and most material builds on earlier topics.
- Read the book along with the lectures and turn in as many of the homework.

- University guidelines state: “Students are expected to be ‘on task’ for 40-45 clock hours per credit, per semester. ‘On task’ pertains to all instructional activities (exams, homework, lectures, discussions, etc.).” That works out to ten to twelve hours per week for this four-credit course.
- Do the homework! Don’t just use Chegg, Google, Bing, Course Hero, etc. to look up the answer. It may be a quick way to finish the assignment, but it won’t nourish your understanding, and it very much will not help you to retain the concepts. Most of our exam problems are going to be very similar to the homework and the survey questions. If you’ve only looked at the solutions before the exam, you will have trouble with the exam. If you have solved the problems, you will be prepared.
- Most of the course administration will be done via Brightspace. Please make sure that you have access to your Stony Brook Brightspace account, that this course is listed there, and that the email address listed in your Brightspace account is one that you monitor. The detailed course calendar, and lots of other useful information is available in Brightspace.
- We encourage you to visit us in our office hours, email us with questions, and visit the on-line Help Room!