

PHY 122.01 – Physics for the Life Sciences II

– Spring 2022 –

General Course Information and Policies

This course meets on Tuesdays and Thursdays from 11:30 am – 12:50 pm in *Engineering 145*.

Two midterm exams will be given on Feb. 23 and Apr. 6 from 7:50 pm – 9:15 pm, and a final exam on May 12 from 2:15 – 5:00 pm. The course will cover Chapters 17–30 of the electronic textbook described below.

Instructors

- Prof. Radu Ionaş (radu.ionas@stonybrook.edu; please c.c. all correspondence intended for me to my TA, Anthony Mannino at anthony.mannino@stonybrook.edu, and specify in the email subject line the course number, PHY 122.01.)
- Prof. Dmitri Tsybychev (dmitri.tsybychev@stonybrook.edu)

Office hours for teaching assistants and the course instructors will be held online through the Zoom link in the combined course Blackboard page (PHY122.00).

Blackboard

Most of the course administration will be done via [Blackboard](#). **There are four separate Blackboard pages that you will have to access:**

1. PHY122.00 — to access section-independent information, such as the homework, the course calendar, exam scores, recorded lectures and lecture notes, and the Zoom link for the TA and professors' office hours.
2. PHY122.01 — to access section-specific information, such as clicker question scores (more below).
3. The main lab course Blackboard page, run by Prof. Richard Lefferts (richard.lefferts@stonybrook.edu).
4. A lab course Blackboard page, run by your lab TA.

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

Calendar

The calendar shows the material that will be covered in each lecture.

Firsts for this semester:

- First *Clickers* for credit (clicker must be registered in Blackboard): **2/01**
- First *Homework* for class due (submitted online): **2/04 at 11:59 pm**

- First *Homework bonus* deadline: **1/31 at 11:59 pm**
- First day the Help Room is staffed: **1/31**.

Format of the course

Class meeting time is used for a combination of lecture, problem solving practice, and short-answer questions for credit. You should come to the lecture prepared by reading the corresponding section of the e-text, and attempting (although perhaps not finishing) the homework assignment. The lecture will be used to review material; you will answer questions with response pads (or app) by Turning Point Technologies (“clickers”).

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 by attempting (although perhaps not finishing) the homework assignment. Lectures are recorded on Tuesdays and Thursdays between 11:30 am – 12:50 pm, and are available for viewing anytime afterwards on the course’s Blackboard page.

Required clickers (or app) are from Turning Point Technologies. The clickers are available in the campus bookstore. More information is given in the *Clickers* section below.

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

Bring a calculator to the lecture. 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, you must arrange to make up the lab with the course TAs.

A lab write up that completes all of 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 are required to complete all 10 labs. Any student missing one lab (and not making it up) will have the letter grade for PHY 122 dropped by one letter! Any student missing two or more in-lab sessions will fail PHY 122! This has happened to students in previous semesters, so please make sure it does not happen to you.

Clickers

The campus bookstore sells clickers, or you may download the Turning Point app for iPhone or Android. Whether you buy one new or reuse one from a previous semester you need to register it

through Blackboard. Follow the instructions (in the Blackboard documents area) to register your clicker. If your clicker breaks or you lose it, you must register the replacement again. We will have clicker dry runs (i.e. no credit) to check the registration process. All clicker problems must be sorted out by the first date for which clickers count for credit, as listed above. **We will not go back and retroactively transfer scores because of clicker problems.** This is in part why we drop a number of clicker days (see below).

During the lecture, when you are working on one of the clicker questions, you may discuss the problem quietly with your immediate neighbors. This is intended to help you understand the problem and solve it. “The answer is C” is not the kind of discussion intended here—you deprive yourself of the opportunity to learn and prepare yourself for the exams. You will receive full credit even if you enter the wrong answer, so please try to answer the questions based on your own understanding. Your answers are only used by the instructors to determine which questions have given the students the most difficulty.

One person operating more than 1 clicker/app (i.e. doing your friend’s clicker/app for them) is clear academic dishonesty, and will result in a report to the Academic Judiciary and a reduced grade for the owners of both clickers.

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 Blackboard page through which you access and register for Mastering Physics. There will be online problems assigned separately for each lecture (e.g. Ch25_1 and Ch25_2 for Chapter 25 material, with Ch25_1 associated with the first day of the material and Ch25_2 associated with the second. These are given in the course calendar). However, both homework assignments for a given week are actually due at 11:59 pm on Friday.

You should attempt the problems BEFORE each lecture so that you can get the maximum benefit from the material presented and questions posed in each lecture. To reward early effort, a 20% bonus is given for all problems submitted by 11:59 pm the day before the corresponding lecture, e.g. all Ch25_1 problems solved by 11:59 pm the day before the Ch25_1 material on the course calendar). It is a true bonus, applied at the end of the term after fixing the letter grade thresholds (i.e. your grade will never be affected by the amount of bonus points earned by any of your classmates). This bonus for each homework will not appear in Mastering or in Blackboard. The total bonus will appear in Blackboard at the end of the semester.

Mastering Physics and e-text: In order to be able to complete the online homework assignments you must have a Mastering Physics license valid until the semester end date. This is obtained via the Blackboard link for the course. This semester we will primarily be following the textbook *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, there is an online, Zoom help room that will be staffed during most time slots throughout the week. The Zoom link can be found on the PHY122.00 Blackboard webpage, and the schedule will be posted before the 2nd week of classes.

Exams

Two midterm exams will be given on Feb. 23 and Apr. 6 from 7:50 pm–9:15 pm, and a **final exam** on May 12 from 2:15–5:00 pm. You have to make sure there are no conflicts in your schedule—we cannot grant a make-up exam. The Registrar’s policy is that students are responsible for avoiding exam conflicts, and exceptions will not be granted in this course. If you cannot take a midterm due to exceptional circumstances (documented illness or death in the immediate family), discuss this with the instructor as soon as possible. We will increase the weights of the other parts of the course accordingly but not have make-up exams. If you miss the final with a valid excuse, you will receive an Incomplete in the course and a make-up final will be scheduled as promptly as possible after the end of the semester. The exams will be multiple-choice, graded via scantron sheets (fill in the bubble with a #2 pencil).

Grades

Your final grade will be based on the following:

- 15% Homework
- 10% Clicker score
- 15% each of two midterm exams
- 25% Labs
- 20% Final exam

Notes:

- The clicker score grade is based only on providing an answer (participation). The answer does not have to be incorrect.
- The lowest 5 clicker scores, and lowest 3 homework scores, will be dropped when grading. No lab scores will be dropped. There are no extra credit or other special supplementary assignments available, beyond the early-bird bonus described above.

Standard University Policy

A. Student Accessibility Support Center Statement: If you have a physical, psychological, medical, or learning disability that may impact your course work, please contact the Student Accessibility Support Center, 128 ECC Building, (631) 632-6748, or at sase@stonybrook.edu. They will determine with you what accommodations are necessary and appropriate. All information and documentation is confidential.

B. Academic Integrity Statement: 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](#).

C. Critical Incident Management: 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. Until/unless the [latest COVID guidance](#) is explicitly amended by SBU, during Spring 2022 “disruptive behavior” will include refusal to wear a mask during classes.

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 [here](#). 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 [here](#). 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.

Some Important Tips for Success:

- Physics depends heavily on mathematics. At this level, you will 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 problems as you can early for bonus credit, as explained above.
- 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 10–12 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 really won’t help you 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 them before, you’re in trouble. If you’ve solved them before, you’re prepared.
- Most of the course administration will be done via Blackboard. Please make sure that you have access to your Stony Brook Blackboard account, that this course is listed there, and that the email address listed in your Blackboard account is one that you monitor. The detailed course calendar and lots of other useful information are available in Blackboard.
- We encourage you to visit us in our online office hours, email us with questions, and visit the online Help Room!