

PHY 121.01, Fall 2024 Course Syllabus

This course of PHY 121, Section 01, Physics for the Life Sciences meets in person Tuesday and Thursday from 9:30 - 10:50 am in the ESS bld, room 001.

Two midterm exams will be given on September 25 and November 5 (from 8:15 pm to 9:35 pm), and a final exam will be given on December 12th (from 2:15 pm to 5 pm, this time includes 15 min for administration). This course will cover Chapters 1-16 of the electronic textbook described below.

Required Materials

- Textbook (see below)
- MasteringPhysics license for homework
- TurningPoint license for clickers
- A scientific calculator

Instructors

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 brightspace page (PHY121.01) and in the help room A131 in physics building

Brightspace course management

Most of the course administration will be done via Brightspace. There are 3 separate Brightspace pages that you will have to access:

- PHY121.01 to access information, such as the homework, clicker question scores (more below), exam scores, recorded lectures and lecture notes, and the zoom link for the TA and Professors' office hours
 - The main lab course Brightspace page, run by Prof. Richard Lefferts <richard.lefferts@stonybrook.edu>
 - A lab course Brightspace or blackboard run by your lab TA (inquire with them)
- Please make sure that you have access to your Stony Brook Brightspace or Blackboard accounts, 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. You have to register for the mastering physics homework and your "clicker" via Brightspace; 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 Brightspace): **09/10**
- First *Homework* for class due (submitted online): **09/01 at 11:59 pm**
- First *Homework bonus* deadline: **09/02 at 11:59 pm.**
- First day the Help Room is staffed: **09/02**

Format of the course

Class meeting time is used for a combination of lecture, problem solving practice, and short answer questions in class for credit (given at professor's discretion). 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, and for questions you answer 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 attempting (although perhaps not finishing) the homework assignment. Lectures are recorded and live streamed on Tuesday and Thursday mornings, and are available for viewing anytime after they are recorded on the course Brightspace page.

Required clickers (or app) are from Turning Point Technologies. Short quiz questions during the lecture you answer with response pads (or app) by Turning Point Technologies (“clickers”). More information is 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 121 dropped by one letter! Any student missing two or more in-lab sessions will fail PHY 121! This has happened to students in previous semesters, so please make sure this does not happen to you.

Clickers

The 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 Brightspace. Follow the instructions (in the Black Board 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) for a week at the beginning of the semester 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, likewise operating clicker/app while not attending the lecture, and will result in a report to the Academic Judiciary and a reduced grade for the owners of both clickers.

Homework and Electronic Textbook (etext)

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 online problems assigned separately for each lecture (e.g. Ch3_1 and Ch3_2 for Chapter 3 material with Ch3_1 associated with the first day of the material and Ch3_2 associated with the second. However, both homework assignments for a given week are actually due at 11:59 PM on Sunday.

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 Ch3_1 problems solved by 11:59 pm the day before the Ch3_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 Brightspace. The total bonus will appear in Brightspace at the end of the semester.

Mastering Physics and Electronic Textbook: You must have a Mastering Physics license for the course (a license is good for two semesters!). This is obtained via the Brightspace link for the 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, there is a help room, located at the A131 in Physics department building that will be staffed during most time slots throughout the week. The schedule will be posted before the 2nd week of classes.

In addition, there is tutoring help available through the university tutoring service. Free academic support services including one-on-one and small group course-based tutoring, one-on-one skill-based tutoring, peer assisted learning (Supplemental Instruction), and group study sessions before select exams are available for undergraduate students. Learn more about these services by visiting www.stonybrook.edu/tutoring.

Exams

Two midterm exams will be given on September 25 and November 5 (from 8:15 pm to 9:35 pm), and a **final exam** will be given on December 12th (from 2:15 pm to 5 pm). You have to make sure there are no conflicts in your schedule – we cannot grant a makeup 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 or similar circumstances), 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 exam with a valid excuse, you will receive an Incomplete in the course and a makeup 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 midterms
- 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 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-guid e-disabilities](https://ehs.stonybrook.edu//programs/fire-safety/emergency-evacuation/evacuation-guid-e-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. Until/unless the **latest COVID guidance** is explicitly amended by SBU, during Fall 2021 "disruptive behavior" will include refusal to wear a mask during classes. For the latest COVID guidance, please refer to: <https://www.stonybrook.edu/commcms/strongertogether/latest.php>

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_univspnsored_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: http://www.stonybrook.edu/commcms/provost/faculty/handbook/employment/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 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 ten to twelve hours per week for this four-credit course.
- Do the homework! Don't just use Chegg, Google, Bing, Course Hero, ChatGPT 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 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 them before, you're in trouble. If you've solved them before, you're 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 on-line office hours, email us with questions, and visit the on-line Help Room!