

# PHY 132.01 – Classical Physics for Scientists and Engineers II

★ Spring 2021 ★

## General Course Information and Policies

**Important Note:** Every effort will be made to avoid changing the course schedule, but the possibility exists that unforeseen events will make syllabus changes necessary. It is your responsibility to check Blackboard for corrections or updates to the syllabus. Any changes will be clearly noted in course announcements or through Stony Brook email.

Last updated: [2021-01-10 14:21](#)

## Course Description (from the [Undergraduate Course Bulletin](#))

*Second part of a two-semester physics sequence for physical-sciences or engineering majors who have a strong mathematics background and are ready for a fast learning pace. It covers electromagnetism, electric circuit theory, and optics. Calculus is used concurrently with its development in MAT 132. Three lecture hours and one recitation hour per week. The Laboratory component, PHY 134, may be taken concurrently. Not for credit in addition to PHY 122, PHY 127, or PHY 142. This course has been designated as a High Demand/Controlled Access (HD/CA) course. Students registering for HD/CA courses for the first time will have priority to do so.*

*Prerequisite: C or higher in PHY 131 or PHY 141*

*Corequisite: MAT 132 or MAT 142 or MAT 126 or MAT 171 or AMS 161*

**DEC: E      SBC: SNW      3 credits**

The *Bulletin's* description, I want to stress this, is very accurate, and no exaggeration: this course will indeed have a fast pace, will require strong mathematical skills, and will cover a substantial amount of often challenging material. A successful outcome requires self-motivation, a serious level of commitment on your part, and a sustained, dedicated effort throughout the semester.

## Learning Objectives

Upon completing the course you should be able to demonstrate a solid conceptual understanding of the fundamental principles of Electricity, Magnetism, DC and AC circuits, Electromagnetic Waves and Optics. You should also have accumulated a significant amount of experience in describing a range of physical systems from these fields in mathematical terms, as well as in solving quantitative physics problems using elements of algebra, trigonometry and single-variable calculus.

## Instructor

Radu Ionaş

Email: [radu.ionas@stonybrook.edu](mailto:radu.ionas@stonybrook.edu)

Office hours: MWF from 9:00 – 10:00 am, immediately following the lectures, on a dedicated Zoom link when privacy is required.

## Lectures

The lectures will be live-streamed online through Blackboard-integrated Zoom on MWF from 8:00 – 8:55 am. Video recordings of the lectures will be available for subsequent viewing.

## How We Will Communicate

The course administration will be done mainly via [Blackboard](#). Course announcements will be posted there or sent to you via class email. You will also have access to lecture slides and various other course materials.

Course-related questions should be posted in the General Questions Forum in the Discussions section of Blackboard. For personal/private issues, email me directly. Please allow between 24–48 hours for an email reply. Your Stony Brook University email must be used for all University-related communications.

## Required Materials

1. A subscription to [Pearson | MasteringPhysics](#) to complete online homework assignments. You must purchase a student access code to create a MasteringPhysics account, and then link it to your Blackboard account by following the instructions provided. (Before you attempt that, though, please read the important information in the MasteringPhysics FAQ section at the end of this document.) Homework will begin to be assigned in the first week of classes, and **it is imperative that you set this up in a timely manner.**
2. Textbook: Douglas C. Giancoli, *Physics for Scientists and Engineers with Modern Physics*, 4th edition (Pearson Prentice Hall). We estimate to cover to various degrees sections 21 (Electric Charge and Electric Field) through 35 (Diffraction and Polarization). MasteringPhysics offers the option of purchasing an integrated digital copy of the textbook. I recommend it, but if you get the textbook by other means that is fine as well.
3. An electronic device with a video camera and microphone, supporting Zoom, with an internet browser meeting the requirements for the MasteringPhysics platform, and a reliable internet connection capable of streaming video.
4. A calculator. This should have: addition, subtraction, multiplication, division, square root, trigonometric and logarithmic functions.

## Help Resources

For a list of ways in which you can get help with this course, including a link to the Help Room, a free online tutoring service offered by the Physics and Astronomy Department, follow this [link](#).

An excellent and very useful collection of problem-solving videos can be found on Professor Thomas Hemmick's YouTube channel [here](#). They are organized in playlists by topic—look for the playlists titled Solving Physics II: Chapters 02 through 19.

## Recitations

Recitation classes meet once a week, online as well. They complement the lecture with a small-class environment designed to foster a closer interaction with both your instructor and your colleagues. While lectures will emphasize to a greater extent the theory, recitations will be focused on applications and problem solving. Take advantage of the interactive format, be active, ask questions about the concepts discussed in the lecture and the problems assigned in the homework. MasteringPhysics does not offer detailed explanations for the solutions to the homework problems, and the recitation class is *the* place to have those details filled in. Try as much as possible to have the homework problems that you had trouble with discussed in class. Before the exams there will likely not be enough time to review them all.

Recitation instructors will evaluate your progress with occasional quizzes or by other means, which they will establish at the beginning of the semester. At the end of the semester you will receive a cumulative recitation grade counting towards your final grade. To account for possible differences in grading rigor between different recitation instructors your recitation grade may be normalized.

	Office Hours
Recitation instructor 1	
Recitation instructor 2	
Recitation instructor 3	

### Homework

Homework will be assigned every week online through MasteringPhysics. Before you begin working on your first assignment click on the Grading Policy link located on the upper right corner of the page and read carefully how your score is calculated. As a rule, homework will be assigned on the Monday before the relevant material is covered in the lecture and will have a due date on the next Sunday at 9:00 pm. Given the large enrollment of this class I will not be able to process the many demands for deadline deferral that I know from experience are going to come my way every Sunday evening. **So I will institute a strict no-deferral policy, regardless of whether you have justifiable reasons for missing it or not.\*** However, in counterpart I will not consider it as a hard deadline, and set instead a small penalty of 0.5% per hour overdue (this amounts to a penalty of 12% per missed day, which, to be clear, affects only the credit earned after the due date). It is always good practice to start working on your assignments early enough to allow yourself time not only to finish, but also to process unexpected problems, which are sure to happen.

### Exams

There will be two 60-minute midterm exams and one longer final exam (see the Course Schedule section below for the precise dates and times). Each midterm exam will be administered through the MasteringPhysics platform during one of our regular Monday lecture hours. The first midterm exam will be from the material covered since the beginning of the semester, and the second midterm exam from the material covered since the first midterm exam, until the time of the exam. The final exam will be administered in a manner to be announced at a later date, and will be comprehensive (i.e. from the whole material). **All students will be expected to take the exams on the dates scheduled, so please plan accordingly.** Programming an exam into MasteringPhysics is extremely demanding and time-consuming, and only very serious and documented reasons for missing an exam will be considered, [in accordance with university policies](#).

### Grading

Your total final score will be calculated based on the following percentages:

	Percentage
Midterm exam 1	15%
Midterm exam 2	15%
Final exam	35%
Online homework	15%
Recitation grade	20%

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\* Exceptions will be made for truly serious reasons, such as medical emergencies.

The grades will be curved, which means that your performance with respect to the rest of the class will be an important factor in determining your grade. In this grading system it is important that you earn as many points as possible. To help you assess your progress, an approximate curve will be released after each midterm exam. Your course grade will be determined by the final (and only definitive) curve, which will be calculated similarly to the partial curves, but out of the total final scores.

**Course Policy on ...**

- **Exam schedule conflicts:** If you register for this course it is your responsibility to make sure that there are no schedule conflicts for the midterm and final exams with other courses or activities that you may undertake. A schedule conflict will *not* constitute a valid reason for a make-up exam to be given.
- **Extra credit:** There will be no extra credit, or any other possibility to round up a letter grade at the end of the course. It is up to you to monitor your progress during the semester and take timely action to improve your score while such an action can still be taken.

**Course Schedule**

Week	Projected sections from Giancoli to be covered ( <b>updated weekly</b> )
02/01 – 02/05	21
02/08 – 02/12	22
02/15 – 02/19	23
02/22 – 02/26	24
03/01 – 03/05	25
03/08 – 03/12	26
03/15 – 03/19	27 <b>Midterm 1: 03/15 8:00 – 9:00 am</b>
03/22 – 03/26	28
03/29 – 04/02	29
04/05 – 04/09	30
04/12 – 04/16	31 <b>Midterm 2: 04/12 8:00 – 9:00 am</b>
04/19 – 04/23	32
04/26 – 04/30	33
05/03 – 05/07	34, 35 <b>Final exam: 05/13 2:15 – 5:00 pm</b>

**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 [sasc@stonybrook.edu](mailto:sasc@stonybrook.edu). They will determine with you what accommodations are necessary and appropriate. All information and documentation is confidential.

## 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 at

[http://www.stonybrook.edu/commcms/academic\\_integrity/index.html](http://www.stonybrook.edu/commcms/academic_integrity/index.html)

## 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 University Community Standards any disruptive behavior that interrupts their ability to teach, compromises the safety of the learning environment, or inhibits students' ability to learn. Faculty in the HSC Schools and the School of Medicine are required to follow their school-specific procedures. Further information about most academic matters can be found in the Undergraduate Bulletin, the Undergraduate Class Schedule, and the Faculty-Employee Handbook.

## MasteringPhysics FAQ

- Before registering for MasteringPhysics close all your email accounts in the browser. When registering use your sunysb.edu email address. Also, spell your name exactly as it appears in Blackboard.
- If you are not sure whether you want to stay in this course you may want to consider signing up for temporary access. This will need to be upgraded to full access after the grace period expires.
- After purchasing a MasteringPhysics student access code do not log in to your account directly, but rather *via Blackboard*, by following the instructions provided. In this way you will *not* need a course ID; this course has no course ID.
- MasteringPhysics offers as well the option of purchasing an integrated digital copy of the textbook. I recommend it, but if you obtain the textbook by other means that is fine as well.
- If you experience error messages while signing up or signing in, try
  - enabling pop-up windows
  - clearing browsing data
  - restarting your device
  - switching to another browser: Firefox, Google Chrome, Edge, or other
  - logging in from a different device.

To see more suggestions or to contact Customer Support, follow this [link](#).