PHY132.01 – Classical Physics for Scientists and Engineers II

Spring 2026

General Course Information and Policies

Last updated: January 20, 2026

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 qualifiers in the Bulletin description are not an exaggeration: this course will have a fast pace, require strong mathematical skills, and cover a substantial amount of challenging material. A successful outcome requires self-motivation, commitment, and sustained effort.

Learning Objectives

Upon completion of the course students will demonstrate quantitative mastery of the fundamental principles and concepts of Electromagnetism, Electric Circuit theory and Optics — and will accumulate a significant amount of experience in applying these principles and concepts to describe in mathematical terms a range of physical phenomena from these fields, and in solving the resulting equations using elements of algebra, trigonometry and single-variable calculus.

Instructor

Cyrus Dreyer
Email: cyrus.dreyer@stonybrook.edu

Email reserved for personal issues; course material questions handled in office hours. Please specify in the subject line the course number, PHY 132. Allow between 24 – 48 hours for a reply. Recitation-related inquiries should be addressed directly to your recitation instructor.

Office hours (held in Physics B104):
Mon 9:30–10:30 am

Thur 1:30–3:30 pm

UGTA Office Hours (Physics Help Room, A-129)

The undergraduate TA *Chuqi Fan* will have office hours: Mon and Wed 12:30–2:00 pm.

A slack workspace is available for HW questions here.

Lectures

MWF 8:25–9:20 am, Frey Hall 104.

Lectures will be livestreamed and recorded available under *Video Streaming and Recordings* module in Brightspace. Attendance is not mandatory but strongly recommended.

With all technology, there is the possibility of a hardware/software failure. Students should not rely on these recordings as their sole source of instruction. Failure for a recording to occur does not count as a legitimate excuse for lack of student performance.

Course Administration

The course will be administered through Brightspace. Important course announcements will be posted in the *Announcements* section, or broadcast via class email. Lecture slides and various other course materials will be posted regularly in the *Course Documents* module. Video captures of the lectures will be available in the *Video Streaming & Recordings* module.

Required Materials

1. **Pearson Mastering Physics subscription** A subscription (Student Access Code) to Pearson | Mastering Physics is required to complete online homework assignments. To purchase a subscription and/or register for our Mastering Physics course go to the course home folder in Brightspace, select the Mastering Physics module, then the Pearson link, and follow the instructions there. (You can also purchase the subscription directly from the Pearson website, but **you must register for the course via Brightspace.** If, in particular, you are being asked for a course ID, that is usually a sign that you have not done that.) Before proceeding with this please read the important information collected under the heading *Mastering Physics FAQ & Troubleshooting* at the end of this document. Regular homework assignment will begin on the first day of the course, and **it is imperative that you set this up in a timely manner.**

2. **A scientific calculator** This should have: addition, subtraction, multiplication, division, inverse power, trigonometric, inverse trigonometric, and logarithmic functions. Graphing

calculators are acceptable.

Textbook

Douglas C. Giancoli, *Physics for Scientists and Engineers*, 5th ed. ISBN-13: 9780137488179.

A digital copy of this book is included in your Pearson subscription, so you should not acquire it separately. We estimate to cover to various degrees chapters 21 (Electric Charge and Electric Field) through 35 (Diffraction).

Help Resources

- The office hours of the course instructor, teaching assistant (listed above) and your recitation instructor (contact them directly for time & location).
- Free tutoring services offered by the university:
  - The Physics Help Room — Physics Building, room A-129, Mon – Fri 9:00 am – 6:00 pm. Graduate and undergraduate teaching assistants, teaching staff and faculty hold office hours at this location and are open for questions from everyone who drops by.
  - The Academic Success and Tutoring Center (ASTC) — one-on-one and small-group tutoring, by appointment.
- Your Pearson subscription gives you access, in addition to the textbook, to a number of learning resources such as flashcards, videos, practice tests, and so on. You can find these by selecting *Pearson eText* and following the links there.
- An excellent and freely-available 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.
- Another very useful collection of solved problems — this time in book form — with brief reviews, lots of diagrams and detailed explanations can be found in Eugene Hecht, Schaum's Outlines of College Physics (not required, but greatly recommended).
- Finally, for a few ideas on how to develop successful academic strategies read these tips suggested by educational experts from our university.

Recitations

Weekly small-group classes focusing on applications and problem-solving. Sections and instructors are:

R01: Mon 11:00–11:55 am, LGT ENGR LAB 154, Prof. Korepin (vladimir.korepin@stonybrook.edu
R02: Wed 11:00–11:55 am, STALLER CTR 3216, Prof. Winters (gillian.winters@stonybrook.edu)

R03: Fri 11:00–11:55 am, MELVILLE LBR N3063, Prof. Winters
R04: Tue 9:30–10:25 am, FREY HALL 222, Prof. Mendez (emilio.mendez@stonybrook.edu)
R05: Thu 9:30–10:25 am, EARTH & SPACE 181, Prof. Korepin
R06: Fri 9:30–10:25 am, MELVILLE LBR N3063, Prof. Korepin
R07: Wed 9:30–10:25 am, FREY HALL 224, Prof. Mendez
R08: Wed 2:00–2:55 pm, FREY HALL 316, Prof. Mihaly (laszlo.mihaly@stonybrook.edu)

Recitations start on the second week of class.

Recitation classes meet once a week. They complement the lectures with a small-class environment designed to foster a closer interaction with both your instructor and your colleagues. While lectures emphasize to a greater extent the concepts and general theory, recitations are 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. Mastering Physics 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 encounter difficulties 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 score counting towards your final grade. To account for possible differences in grading rigor between different recitation instructors your recitation score may be normalized.

Homework

Homework will be assigned every week online through Mastering Physics. Before you begin working on your first assignment click on the Grading Policy link on the upper right corner of the pop-up window and read carefully how your score is calculated. As a rule, homework is assigned on the Monday before the relevant material is covered in the lecture and has a due date on the next Monday at 11:00 pm. Note that homework deadlines are soft, with a small penalty of half a percentage point per hour overdue; this amounts to a penalty of 12% per day overdue, 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 handle possible unexpected delays. The assignments marked "optional" do not carry credit and are not required. Apart from the introductory assignments meant to get you accustomed with Mastering Physics and recall some basic physics notions, they consist of additional sets of problems intended to help you practice problem solving and self-test your understanding of the material in each chapter.

Exams

There will be two midterm and one final exam. Their dates and times are listed in the *Course Schedule* section below; exam locations will be announced in advance. The first midterm exam will cover the material discussed in the lecture from the beginning of the semester until the time of the

exam. The second midterm exam will cover the material discussed from the first midterm exam until the time of the exam. The final exam will be comprehensive (i.e., from the whole semester). Note that the exam scores will not be "curved". All students will be expected to take the exams on the dates scheduled, so please plan accordingly. **Only exceptionally serious and adequately documented reasons for missing an exam will be considered.**

Grading

Your *course score* will be calculated at the end of the semester based on these percentage weights:

Midterm 1	20%
Midterm 2	20%
Final Exam	30%
Online Homework	15%
Recitation Grade	15%

The following table will then be used to convert the course score into a letter grade:

Grade	A	A-	B+	B	B-	C+	C	D	F
%≥	87	85	83	72	70	68	55	45	< 45

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

Chapters covered are tentative and subject to change. See the Brightspace calendar for sections covered each class.

1/26–1/30	21.1–8
2/02–2/06	21.9–10, 22.1–3 (Withdraw without W by 2/06)
2/09–2/13	23.1–5, 7, 8
2/16–2/20	24.1–6
2/23–2/27	25.1–6 (Midterm 1: 2/23 8:15–9:35 pm)
3/02–3/06	26.1–5, 7
3/09–3/13	27.1–4, 7–9 (Drop down by 3/13)
3/16–3/20	Spring Break
3/23–3/27	28.1–6
3/30–4/03	29.1–4, 6, 7 (Midterm 2: 4/06 8:15–9:35 pm)
4/06–4/10	30.2–9
4/13–4/17	31.1–8
4/20–4/24	32.1–8
4/27–5/01	33.1–4, 8
5/04–5/08	34.1–3, 35.1 (Last lecture 5/08)
5/11–5/15	Final Exam: 5/14 2:15–5:00 pm

Standard University Policy

A. Student Accessibility Support Center 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. They will determine with you what accommodations are necessary and appropriate. All information and documentation is confidential.

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.

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 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.

D. Religious Holidays This course will operate in compliance with the University's policy regarding religious holidays, set forth here. In particular, you should notify the instructor in advance, but definitely before the final date of the 'add/drop' period, of your intention to be out for religious observance.

E. Student Support Students must communicate and work directly with their faculty members

in the event of an illness or other circumstance that leads to a short-term absence. If a student is struggling with an extended absence due to a hospitalization, family illness or death, they can refer to the Student Support Team.

F. Course Materials and Copyright Statement Course material accessed from Brightspace, Zoom, Echo 360, etc. is for the exclusive use of students who are currently enrolled in the course. Content from these systems cannot be reused or distributed without written permission of the instructor and/or the copyright holder. Duplication of materials protected by copyright, without permission of the copyright holder is a violation of the Federal copyright law.

Mastering Physics FAQ & Troubleshooting

- *What is the course ID?* If you follow carefully the registration instructions given above you will *not* need a course ID.
- *I already have a subscription from a previous course, should I purchase a new one?* If your subscription is still active and not due to expire before the semester end date it should do, and you should definitely not purchase a new one.
- *I am not sure yet whether I want to stay in this course, can I avoid committing to a subscription until I make up my mind?* In this case you may want to consider signing up for temporary access. This will need to be upgraded to full access after the grace period expires (by following the instructions here).
- *What subscription plan should I choose?* The minimum requirement is that the subscription should last for at least the duration of the semester. However, when making the choice, you may also want to take into account your future plans for the introductory physics sequence, and perhaps other personal factors.
- When signing up, spell your name exactly as it appears in SOLAR, including letter capitalizations.
- If you experience problems or receive error messages while signing up or signing in, try
  - enabling pop-up windows
  - switching to another browser: Google Chrome, Microsoft Edge, Safari ...
  - changing the trust settings of your browser
  - clearing the website data
  - logging-in from a different device (this is the method most likely to succeed in unwieldy situations).

  Also, on rare occasions, the Pearson servers may suffer outages or undergo scheduled maintenance. You can check their real-time status on this webpage. Should all these measures fail, contact Pearson's Customer Support here.