# PHY 132.90 (Studio) Spring 2026 Syllabus

*PHY 132 90 Classical Physics II (Studio), Physics for Scientists and Engineers* covers introductory electromagnetism, and is the continuation of PHY131.90 which concentrated on Newtonian physics. PHY132 is ideal for students who have done well in Classical Physics I and is taught at a very fast pace. It meets Monday, Wednesday and Friday from 2:00pm until 3:50pm in Physics 118 where the Monday and Wednesday classes will concentrate on introducing topics and problem solving, while most Friday classes will be reserved for Laboratory work. The lectures are not recorded. This course covers Chapters 21-35 of the textbook described below. You must have a subscription to Pearson's Mastering Physics for access to the textbook and the homework before the 2nd week of classes, see below.

*Two 80 minute midterm exams will be given during class on February 25th and April 15th, and a final exam will be given on Thursday, May 14th from 2:15 pm to 5:00 pm.* The registrar's policy is that students are responsible for avoiding exam conflicts, and exceptions will not be granted in this course.

This course is taught "in the round", and encourages interaction between you, the faculty, and the other students. You will be expected to participate in discussions, and may be asked to make simple presentations "at the board". The studio lectures and laboratory are closely integrated, and are not taught as distinct sections (students receive the same grade in both). You must register for PHY132.90, PHY132.R90 and PHY132.L90. Please note that there are several other PHY132 recitation and laboratory sections, but, because of the structure of the course, you must register for PHY132.R90 and PHY132.L90.

## Instructors

- Prof. Clark McGrew <clark.mcgrew@stonybrook.edu>
- Teaching Assistants: Yang-Yang Li, Kuunal Mahtani
- Office hours for the lecture and recitation will be held Monday and Wednesday in P-118 (one hour after class) or by appointment. The lab instructors will announce weekly office hours during the Friday laboratory session).

## Brightspace

Most of the course administration will be done via Brightspace. There are two Brightspace pages that you will need to watch:

- PHY132.R90 to access most of the course materials such as the homework, quizzes, grades, course calendar, and lecture notes.
- PHY134.L90 to access laboratory specific information run by your lab instructors. The laboratory grades will be posted on the PHY132.R90 pages.

Please make sure that you have access to your Stony Brook Brightspace account and that these courses are listed there (no later than the 1st week of classes), and that the email address listed in your Brightspace account is one that you monitor.

Brightspace will be used to administer in-class quizzes, so please make sure that you bring a laptop, or tablet that can be used to enter answers. The in-class quizzes will be proctored, and answers entered outside of the classroom will be ignored.

# Course Schedule

The schedule available on Brightspace shows the material that will be covered in each lecture, as well as the reading associated with each lecture. While adjustments are always necessary during the semester due to unforeseen circumstances (e.g. weather), this course is extremely fast paced, so the lecture schedule gives a very good idea of when material will be covered.

**Firsts for this Semester:**

- First lecture: **1/26/2025**
- First *in-class quiz* for credit: **2/4/2025**
- First *Homework* for class due (submitted online): **2/2/2025**
- First *Pre-Lecture Homework* due (submitted online): **2/2/2025 before class**
- First *Lab Session*: **2/6/2025**

# 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. The lectures will consist of a combination of slides, material presented at the board, and demonstrations. When practical, material will be posted on Brightspace. Since the lecture for this class also functions as a recitation, expect that about an hour a week will be spent on a quiz and problem solving practice. During the problem solving practice, you will be expected to work on a joint solution with other students in an assigned group. One group of students may be asked to present the solution (with assistance from Prof. McGrew, and you will not be graded on your ability to present, or the correctness of your solution).

**Required: A laptop/tablet or similar device** will be needed during both lectures and laboratory work to access quizzes and other materials. While I hope that it will not be necessary for the class to use, your device should be able to use the lock down browser.

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

**Required: A basic scientific calculator** will be needed for the exams, and it may not be shared with another student. You do not need a fancy graphing calculator, but it should support basic trigonometry, and the square root. Outside of exams, you may use a calculator app, but it is recommended to practice using the calculator you will use during an exam.

The registrar has allocated the course time as Lecture (PHY132.90), Recitation (PHY132.R90) and Laboratory (PHY132.L90), but these will not be treated as a distinct parts of the class. The course time will alternate between lecture like, recitation like and laboratory activities.

# Laboratory

The laboratory material is mandatory. We will devote nine Friday class sessions to laboratory experiments. All lab grades count; none are dropped. If you have an excused absence for a lab period, 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 at the end of the lab period. More information about the format and grading of the lab reports will be given in class.

**All students are required to complete all labs. Any student receiving a score of zero on more than three 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 will result in failing the entire course.**

# Homework and Electronic Textbook (e-text)

**Mastering Physics and Electronic Textbook:** This semester, we will primarily be following "Physics for Scientists and Engineers, 5th Edition" by Giancoli. You must have a Mastering Physics license for the course. This can be obtained through the Brightspace link on the course home page where you will find detailed instructions in the "Documents" section. To obtain credit for the homework you must correctly enter your Stony Brook student identification number when registering for the mastering physics course, and your name on the Mastering Physics roster must match your name in the Brightspace roster.

**Reading:** The reading for the course is assigned through Mastering Physics with suggested completion dates for each chapter. Notice that most of the reading should be completed before the topic is covered in lecture.

**Homework Problems:** Homework problems will be assigned using the Mastering Physics online system (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 to solve and should be completed before the start of the following lecture. They will become visible about one week before the lecture and a penalty will be applied if they are not completed within about a week after the lecture. Please check Mastering Physics for details.

Problem solving is an important skill to be learned, and can only be learned by doing. It is well known that solutions to the homework problems can be found on-line, but *you are strongly encouraged to solve the homework problems on your own*. While you should answer the individual homework problems independently, working with your peers is a powerful way to enhance your understanding and is strongly encouraged.

# Getting Help

To help you with questions related to your homework problems and the laboratory, a help-room will be available (Physics A-131). You may also arrange for help with the faculty and teaching

assistants and there are several resources available through campus organizations (SPS, WISE, and several others).

# Exams and Quizzes

**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 only grant makeup exams for exceptional University sanctioned conflicts. 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, discuss this with the instructor as soon as possible. For University approved absences (illness, University travel, etc) the weights of the other parts of the course changed accordingly, but, absent exceptional circumstances, a make-up exam will not be administered. 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. You will need to provide a College Board approved calculator and have a sheet of handwritten notes.

**Quizzes** will be given during class. The dates for the quizzes are shown on the course schedule. As noted above, you will need a laptop, tablet or similar device to enter the answers into a Brightspace answer sheet, and the questions will be discussed within the class. Because answering the quiz questions will be a group activity, the quizzes must be taken in-class (excepting specific agreed upon accommodations). Two quiz grades will be dropped without an excuse (including quizzes missed for medical, and other absences). If you miss more than two quizzes you will need to provide valid reasons for each missed quiz for it to be exempted from your grade.

# Grades

The final grade for PHY132.90 and PHY134.L90 will be based on the following.

- 10% Homework
- 10% In-class quizzes
- 15% **Each** for the two midterms
- 20% Labs Reports
- 30% Final Exam

  Notes:

  - No homework, exam, or lab scores will be dropped.
  - Make-up quizzes are not offered since they are part of a class activity
  - Up to 5% of extra credit will be available based on completing pre-lecture homework assignments
  - You must independently pass both the laboratory and the lecture portion of the class. Failing either will fail the course. You will receive the same grade in both sections.

The course is graded on an absolute scale:

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

Because the grading of the lab and preparation of the exams involve the subjective selection of material, the instructors reserve the right to *reduce* the required grade requirements. The grade requirements will not be raised.

# Standard University Policies

**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. If you have never worked with them, you will find that they are extremely helpful. 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: 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 need to be comfortable with algebra, trigonometry, and basic calculus. It is very important for your success that you have met 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 before the lectures, and turn in all 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. Because this class is very fast paced, you can expect that the time spent on the course will be toward the high end of the recommended range.
- Do the homework! Don't just use Chegg, Google, Bing, Course Hero, AI, etc. to look up the answer. It may be a quick way to finish the assignment, but it won't help your understanding, give you practice solving problems, and it very much will not help you to retain the concepts. Most of the exam and quiz problems are going to be very similar to the homework 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 on-line office hours, email us with questions, and visit the on-line Help Room!