

# PHY142 Classical Physics II - Honors

## Syllabus

Spring 2020

### Course Description

**PHY141/142 Honors Classical Physics** is the honors section of a fast-paced, two-semester long, survey of classical physics, primarily for students majoring in Mathematics, Engineering, and Physics. Topics for the first semester include classical mechanics, oscillations and (sound) waves, fluids, and thermodynamics. The second semester discusses electricity, DC and AC currents, magnetism and electromagnetic waves, light, optics, and a few topics in modern physics. The course has three 55-minute lectures per week with clicker quizzes and assigned homework. Homework (online) will be graded and counts towards the final grade.

Prerequisite: a grade of C or higher in PHY141 or permission of the department. Co-requisite for PHY141 is PHY133. Co-requisite for PHY142 is PHY134; MAT 132 or 142 or 127 or 171 or AMS 161.

Because the course covers all of classical physics in only two semesters, students should expect a **heavy workload**. To succeed this course, students should be well-prepared and should devote about **8-12 hr/week** to homework and laboratory preparation.

### Blackboard

Stony Brook's [Blackboard \(BB\) Website](#) is the location where course information and files are available. The course is listed under PHY142 Classical Physics II Honors - Spring 2020. Files for lecture notes, etc. are posted in the BB "Course Documents". Lecture notes (in pdf format) will be posted a few days in advance of the lecture, beginning January 27, without the embedded clicker questions. After the lecture, the updated lecture notes (including the clicker questions&answers) will be posted.

All course information is found in this page and in the Schedule, also reachable via [Blackboard](#). All **grades** will be accessible on the [Blackboard](#).

### Required Materials

- **Text Book:** "Physics for Scientists and Engineers", D. Giancoli, **4th edition**, Pearson Publishers. ISBN10: 0321879724/ ISBN-13: 9780321879721. The text is available in multiple formats: **loose leaf, hard/soft cover, separate volumes (Vol I needed for PHY141, Vol II for PHY142), and eText**. Make sure that you also acquire the *access code* to the "Mastering Physics" tutorial and on-line homework web site: [WWW.MasteringPhysics.com](http://WWW.MasteringPhysics.com); the on-line access code can be purchased separately and is valid for three semesters. Register for course **PHY142S20**.  
(e)Text and "Mastering Physics" access is available directly from the publisher, from (online) resellers, or in the [Campus bookstore](#).
- **CPS RF Response Pad ("RF Clicker")** from [Turning Technologies](#), which must be registered on its cloud-based system via the BB course page, see "Tools" in the main menu. Available in the [Campus bookstore](#).
- **Scientific Calculator** (with trigonometric functions, etc.) to be used in lecture, lab, and exams.
- **Laboratory notebook**, preferably with graph paper on one side of each page; available in the [Campus bookstore](#) or elsewhere. Pencils, ruler.

**Forbidden:** During Exams and lectures cell phones **MUST** be switched off and out of sight; iPhone, PDA, Tablets, Pocket PC, and other "smart" devices are **NOT** allowed!

### Lectures & Clickers

- **Lectures:** MoWeFr 12:00PM-12:53PM in Harriman Hall112
- **Recitation:** Tu 10:00AM - 11:20AM in Harriman Hall111
- **Lecturer:** see "Contacts" in the main menu.

**Clicker quizzes** in Lecture count towards the course grade and are given to check students' understanding and to encourage discussions and class attendance. Each clicker question is worth 3 points when answered correctly, and 1 point if answered incorrectly. Unanswered questions count for zero. This *includes* clicker questions missed due to absence or faulty clicker operation: it is your responsibility to ensure your clicker is operational and charged. For clicker problems, consult the manufacturer or Stony Brook DoIT.

**Posted lecture material should be read before class**, and class starts with a clicker quiz early in the lecture. You cannot be excused from attendance unless absent for a valid medical reason!

### Homework

The [Physics Help Room](#) (Physics A-131) is staffed all week during business hours. There is a [Homework Forum](#) in the main menu that serves both the lecture and homework parts of the course: consult it first in case of problems.

### Web Homework and Web Access

Included with the text book comes access to [www.MasteringPhysics.com](http://www.MasteringPhysics.com). All homework (HW) problems will be assigned using this web-based system, which provides smart feedback and context-sensitive help and optional hints. If you do not purchase the textbook, then you **must** purchase the access codes separately (valid for three semesters). With your Access Code go to: <http://www.masteringphysics.com/> and Register. To let us connect your HW grade with [Blackboard](#), you **must** enter your **Stony Brook ID number** when requested. When asked for the text book, click on the book for this course (see [above](#)). The class/course code is **PHY142S20**. If you have a valid access (MasteringPhysics access remains valid for 3 semesters), just use your existing password and register for the class.

Homework Blog or the [Physics Help Room](#) (room A-131 Physics Building) for HW and Lab and discuss HW problems with your colleagues or blog your professor for help.

However, *you only hurt yourself* if you simply copy answers. It is to your own benefit that we assign carefully chosen HW problems so you can exercise your knowledge and gain better understanding: true understanding only comes via solving real-world problems (as I hope you know by now), and HW problems reflect (pieces of) real-world problems. Exam problems will be *based on Clicker Quizzes, Lecture examples, and HW problems*, so fully understanding the solutions is key to passing this course. Therefore, it is crucial (even if HW only counts for a small fraction of the course grade), that you do all problems *on your own* (even after having discussed them at length with colleagues or TAs). Beware: in the past, we have seen excellent correlation between success in HW and success in the exams. There are, however, a few outliers - poor course results with almost perfect HW scores - and we strongly suspect (reviewing the other course components in these cases) that these are instances of blindly copied HW solutions.

### Homework Blog

A "Homework Blog" on the main course menu on [Blackboard](#) is available for discussions/questions on Lecture, Homework, and Laboratories. Please consult it first in case of problems. Your instructor will monitor the site regularly and pitch in with (hopefully) helpful hints.

### Exams and Grading

**Three exams** are scheduled; see the "Exams" directory in the "Documents" menu item. The exams will consist of Word Problems similar to problems discussed in class and done in the Homework. Exams are cumulative, but relatively more problems will be from the newer material.

**All laboratories MUST be completed** to pass PHY141/142. The total grade for the course will be determined by weighting the various course components as indicated below. All grades will be accessible via the [Blackboard](#) site for this course.

Exam	Relative Weight
Midterm I	20%
Midterm II	20%
Final	30%
Lecture Quizzes	5%
WebHW	15%
Recitation Quizzes	10%
Special Project (Extra Credit)	5%

Grading will **NOT** be on a curve.

Letter grade correspondence to numerical grade: A(80%<Grade<100%), A- (75%<Grade<80%), B+ (70%<Grade<75%), B (65%<Grade<70%), B- (60%<Grade<65%), C+ (55%<Grade<60%), C (45%<Grade<55%), D+ (40%<Grade<45%), D (35%<Grade<40%), F (Grade<35%).

During Exams telephones **MUST** be switched off and put away; iPhone, PDA, or Pocket PC devices are **NOT** allowed! Only bring: scientific calculator, two No.2 pencils (for scan-tron sheets), and a ruler. Formulae sheet and scrap paper are provided by the instructor.

## Help and Other Information

**Physics Help Room:** The Laboratory Teaching Assistants, undergraduate TAs (all of whom earned an A- or better in PHY141 last semester), and the course Faculty will staff the PHY141/142 Help Room (Physics A-131) for business hours in the Mo-Fr period, and the Faculty and TAs will have posted office hours in their respective offices, see the "Contacts" menu.

The [Society of Physics Students](#) may be contacted for tutoring information.

Course administration and grading issues need to be discussed with the teacher. For problems with registration, contact the teacher or contact Mrs. Diane Diaferia in the Main Office, Physics Building. For mediation or for general questions regarding Physics courses, please contact the Physics and Astronomy Department Office P-110, Phone 2-8110.

## 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 and unfair towards other students in the class.

Academic dishonesty will not be tolerated. In this course, the standards are as follows. **Instances of copying and plagiarism will lead to an automatic F;** Faculty are required to report any suspected instance of academic dishonesty to the Academic Judiciary. In lecture, when a "clicker" question is posed, you may discuss it with your neighbors. When you are found clicking for another person in Lecture **all users/owners of the clickers involved will automatically fail this 4-credit course and will be brought before the Academic Judiciary.**

You may work with your colleagues on the homework problems, the clicker quizzes during lectures, and the laboratory preparation and execution. **However**, please note that you only hurt yourself if you submit answers that you get from somebody else and you do not understand, or provide answers to someone else who does not understand.

In lab, you and your partner are collecting the same data, and you may discuss subsequent steps of analysis with your partner and others. **However**, you may not use data that you did not participate in collecting as if it were your own. Doing so will result in a course grade of F. In an exam, copying answers from another person or use of materials or communication other than what is allowed by the instructors will result in an F in the course.

For more comprehensive information on academic integrity, including categories of academic dishonesty, please refer to the academic judiciary website at <http://www.stonybrook.edu/uaa/academicjudiciary/>.

## Electronic Communication

Email to your University email account is an important way of communicating with you for this course. For most students the email address is 'firstname.lastname@stonybrook.edu'. **It is your responsibility to read your email received at your University account;** if you choose to forward your University email to another account, we are not responsible for any undeliverable messages.

## Religious Observances

See the policy statement regarding religious holidays at <http://www.stonybrook.edu/registrar/forms/RelHolPol%20081612%20cr.pdf>. Students are expected to notify the course professors by email of their intention to take time out for religious observance. This should be done as soon as possible but definitely before the end of the 'add/drop' period. At that time they can discuss with the instructor(s) how they will be able to make up the work covered.

## Disability

If you have a physical, psychological, medical, or learning disability that may impact your course work, please contact Disability Support Services [DSS], 128 ECC Building, (631) 632-6748/9. DSS will review your concerns and determine, with you, what accommodations are necessary and appropriate. All information and documentation of disability is confidential. Students who require assistance during emergency evacuation are encouraged to discuss their needs with their professors and Disability Support Services. For procedures and information go to the website <http://www.ehs.sunysb.edu> and search Fire Safety and Evacuation and Disabilities.

## 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 Judicial Affairs any disruptive behavior that affects their ability to teach, compromises the safety of the learning environment, or inhibits students' ability to learn. Faculty are required to follow school-specific procedures as described in [http://www.stonybrook.edu/commcms/emergency/critical\\_incident.shtml](http://www.stonybrook.edu/commcms/emergency/critical_incident.shtml)

