

# Syllabus: PHY 141, Fall 2016

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## Overview

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This course is the Honor's version of the two semester sequence on Classical Physics. The topics covered (Mechanics, Fluids, Oscillations and Thermodynamics) will be the same as in PHY131, but if you choose to take this course you should expect to be challenged. We will be going into greater depth, dwelling more on conceptual foundations, calculus will be used extensively, and significant effort will be required outside of classes and recitations. But if you like Physics, it will be well worth the effort! This course is highly recommended for those of you who are contemplating Physics as a major and also those of you pursuing other majors who want to develop a deep and fundamental understanding of classical physics.

## Class Meetings

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The class group will be the same for lecture and recitations and we will meet in the following times and places.

- **Lectures** – Monday, Wednesday, Friday 9:00 AM – 9:53 AM **Physics P112**
- **Recitation** – Thursday 2:30 PM – 3:50 PM **Physics P112**

Attendance at all class meetings is expected.

## Required Materials

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The textbook for this course is Giancoli, Physics for Scientists and Engineers, 4th Edition. You should make sure that you get this with access to the Mastering Physics [<http://www.masteringphysics.com/>] homework system which we will be using. The version of the book at the campus book store is a loose leaf version, we chose this one as it is cheaper and so that you do not need to carry the whole book around with you.

The “bookstore” is now essentially online [<https://stonybrook.amazon.com>]. Instructions on how to use the system are available here [<http://www.stonybrook.edu/commcms/fsa/bookstore/students/index.html>]. If you have trouble finding your textbook material on Solar, just search in Amazon (once you have turned on Stonybrook benefits) for the following ISBN number: 9780321712592. You can confirm by viewing all courses attached to the book that this is what is recommended for PHY 141.

The book store version should come with Mastering Physics already (make sure to check this carefully if you buy it used!). You may also choose to purchase a hardcover copy of the book either new or used. If you buy a used book without an access code you can purchase access to Mastering Physics separately online. Please refer to the instructions for getting access to Mastering Physics on the course website on Blackboard. Note that you will have the additional choice of purchasing Mastering Physics access with the option of an eBook, or without. Getting the eBook option is yet another way for you to own the text book if you choose not to purchase a new or use hardcover or loose leaf copy.

## Assessment

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The grades for this course will be determined according to the following breakdown

- Midterm 1: 17.5%
- Midterm 2: 17.5%
- Final Exam: 35%
- Homework: 20%
- Recitation Problems: 10%

The distribution of letter grades for the course will be skewed to reflect the fact that this is a highly challenging course. What this means is that a relatively high fraction of the class can expect to receive an A or A-, but every student who does will have worked hard to do so!

## Homework

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There will be Mastering Physics problems assigned for homework once or twice a week. Homework sets will be due by **midnight** on the date which they are due (due dates are on the course calendar and can also be seen in Mastering Physics). All the homework sets will be listed under the category "Homework" on Mastering Physics. Each question is worth 1 point independent of how difficult they are. Some homework sets are longer than others and therefore will be worth more than others!

As well as the homework sets, sets for practice (basic tutorial style questions), and review will be made available before midterms. The additional question sets will not earn you **any** credit directly, but the practice questions may help you grasp concepts and the review questions will help prepare you for exams. Both practice and review problems will be listed under the category "Practice" on Mastering Physics, but they are not the same difficulty level. The practice problems for each chapter are fairly easy and are a good warmup for the homework problems, while the review problems are more challenging and help prepare you for the exams.

All problem sets will be available roughly 10 days in advance of the due date. It is recommended that you solve a few of the problems after each lecture to reinforce the points learned, rather than waiting till right before the homework is due and trying to work out the answers in a rush. The hope is you will come to recitation having already tried some of the problems and know which ones you want to get help with before they are due.

## Lectures

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There will be 3 lectures a week. Lecture notes will be posted at the end of each class.

Attendance at lectures will not be recorded, however, attendance is considered mandatory and you will be considered to be aware of all material and information presented in class. If you cannot attend a lecture because of a religious holiday, official university sporting commitment or other similar events you will not be penalized, but as a summary of each lecture will be posted online you will be responsible for catching up on any lectures you miss.

Learning physics is not a passive exercise and regular attendance at class and interaction with the professor and other students is the best way to master the material.

## Labs

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You must enroll in a PHY133 section of your choice. You must take PHY133 simultaneously with PHY141.

## Recitations

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Recitation sessions on Thursday afternoons will focus on problem solving. This year, I will experiment with a group problem-solving format. The idea is that you solve a selected set of problems in groups for the first hour of the recitation and then the last half-hour of the recitation will have one problem to be solved individually in an exam format and then submitted for grading. The cumulative grade from these submitted problems count towards the final grade for the course (10%).

If you cannot attend a recitation because of a religious holiday, official university sporting commitment or other similar events you can request a way to make up the problem assigned, but I would appreciate it if you let me know in advance.

## Exams

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There will be two midterm exams one in early October and one in early November, most likely held during the recitation session.

There will also be a final exam in accordance with the calendar put forth by the registrar's office.

All exams are cumulative, in the sense that we will continually build concepts one on top of the other as we move through the course. You may bring a single letter size sheet of hand written notes to all exams. You can write on both sides of the sheet.

## Academic Integrity

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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 are required to report any suspected instance of academic dishonesty to the Academic Judiciary. 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/> [<http://www.stonybrook.edu/uaa/academicjudiciary/>]

## Disability Support Services (DSS)

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If you have a physical, psychological, medical, or learning disability that may impact your course work, please contact Disability Support Services, ECC (Educational Communications Center) Building, room 128, (631) 632-6748 or <http://studentaffairs.stonybrook.edu/dss/> [<http://studentaffairs.stonybrook.edu/dss/>]. They will determine with you what accommodations are necessary and appropriate. All information and documentation is confidential.

## Critical Incident Management

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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 interrupts their ability to teach, compromises the safety of the learning environment, and/or inhibits students' ability to learn.

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