

Physics I Honors, PHYS 1150

Fall 2009

lecture: **M,R 10:00-11:50am, Greene 120**
labs: sec 1: **W 10:00-11:50am, SC2C22**
sec 2: **W 2:00-3:50pm, SC2C22**

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course page: www.rpi.edu/~korniss/Teaching/

TAs: Adam Simbeck (labs), simbea@rpi.edu, office hours: M,R 3-4pm, SC1C13
Sun Xuan (HWs), sunx7@rpi.edu, office hours: T,W 1-2pm, SC1C28
Kevin Pedro, pedrok@rpi.edu
Claire Marvinney, marvic@rpi.edu

co-requisite: MATH 1010

learning outcomes: Students will be able to employ fundamental physics concepts and theories to set up and formulate problems and experiments, and analyze data in mechanics, thermodynamics, and special relativity at the introductory level; students will be able to apply concepts of differential and integral calculus to solve associated problems.

text: Robert Resnick, David Halliday, and Kenneth s. Krane
Physics, Vol. 1, 5th edition (John Wiley & Sons, 2002)

grading: **homework: 20%**
laboratory/lab report: 20%
three midterm exams: 3×10%
final exam 30%

The midterm exams are two-hour tests scheduled during regular class time:

Exam #1: October 1 (in class)

Exam #2: October 29 (in class)

Exam #3: December 3 (in class)

Final Exam (mandatory): TBA (scheduled by the registrar)

I plan to stick to the exam and course schedule as posted, but if for some reason I make some changes, I'll change the postings, and will notify everyone through the e-mail list.

Covered material:

Introductory physics for students seeking a more intensive experience. Newton's laws are introduced using *differential calculus*, with solutions based on *integral calculus*. Material on fluids, thermodynamics, and special relativity is included. Laboratory exercises are carried out emphasizing measurement uncertainty and clear, concise reporting.

Lectures:

I do not take attendance roll in the lectures. But occasionally, I will throw some short quiz problems unannounced for some extra credit, allocated to your overall HW scores. Besides, I think the most important source for the covered material is the lecture, your own notes (possible also reading mine which I post *after* the lecture), so I think it is extremely important that you show up, listen, take notes, and ask questions.

Homework assignments:

Most homework assignments are taken from the textbook, as indicated on the lecture schedule. Homework is due on the date indicated, ***at the start of class at 10am***. Late homework cannot be accepted without prior approval from the instructor.

Laboratories:

The laboratory schedule (posted on the course webpage) includes information on that day's laboratory exercise (with which you should be familiar ***before*** coming to class) as well as potentially useful links. Since labs involve data collection and analysis, you must bring your laptop to the lab activities.

You are to keep a laboratory notebook for recording data, analysis, and conclusions of your experiments. You are expected to take all of your data and begin some data analysis, during the laboratory class day for which the activity is assigned. We'll encounter the inevitable problems dealing with laboratory equipment, so we may need to do some rescheduling on the fly. Do not expect to be "all done" with the laboratory exercise when you leave class. Your lab book should reflect the work you've done on that exercise outside of the classroom. The completed lab activity should be turned in ***at the beginning of the following lab***.

Academic Integrity Policy:

Academic integrity is one of the cornerstones of RPI. Students taking courses at RPI have a right to expect that their work will be evaluated fairly with respect to other students. They have a right to expect that other students will not attempt to enhance their own grades or the grades of their friends by cheating. Professors have a right to expect that their students are honest and submit work reflecting their own efforts. In an atmosphere of academic integrity, students and professors are on the same team trying to achieve the same learning objectives.

Collaboration and discussion is allowed and encouraged in homework, lab activities, and lab reports. However, you must carry out and turn in your own write-ups. On exams, you're on your own and not allowed to discuss anything with your classmates. Thus, don't copy someone else's homework or lab report, and don't cheat on exams. If I suspect you of either, I'll ask for an explanation. If your explanation is unsatisfactory, you'll be given a grade of zero and reported to the Dean of Students. If this happens more than once, you will be given an *F* for the course