Physics 1 Honors, PHYS 1150

lecture:  M, R 8:00-9:50am, SAGE 3510
labs: sec 1: W 10:00-11:50am, SC2C30
       sec 2: W 2:00-3:50pm, SC2C30
       sec 3: W 10:00-11:50am, SC2C06

instructor: Gyorgy Korniss  office hours:  M, R: 1-2pm
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Grad TAs:
Andrew Fucarino  fucara@rpi.edu  office hours: TBA
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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: University Physics with Modern Physics, Young & Freedman, 14th Edition (Pearson)
grading: mentoring: 5%
         activity 5%
         homework 30%
         laboratory/lab report 20%
         two midterm exams 2x10%
         final exam 20%

The midterm exams are two-hour tests scheduled during regular class time (tentatively on):
midterm #1: Oct. 3 (in class)
midterm #2: Nov 14 (in class)
Final Exam (mandatory): TBD

Letter Grades:
A: 92-100%, A-: 90-91.999%; B+: 87-89.999%, B: 82-86.999%, B-: 80-81.999%;
C+: 77-79.999%, C: 72-76.999%, C-: 70-71.999%; D+: 67-69.999%, D: 60-66.999%;
F: 0-59.999%

(I reserve the right to move the cut-offs to be more lenient.)
Graded material:
It is your responsibility to pick up all returned and graded HWs, activities, labs, and exams, and to bring any discrepancies/contests to my attention. No contests will be considered after a week following the return of the material. Further, you must keep all your graded HWs and exams until the end of the semester in case there are any clerical errors in entering your grades into the spreadsheet.

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 there will be a number of short problems/activities (in-class or to be submitted next day) unannounced which counts 5% of your overall course total. Besides, I think the most important source for the covered material is the lecture, your own notes (possibly 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. 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 expected to take all of your data, keep notes, 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 report should also reflect the work you’ve done on that exercise outside of the classroom. The completed lab report should be turned in at the beginning of the following lab.

Make-up exams and labs:
There are no make-up exams or labs. If you have a valid excuse (official letter from Dean of Students or Office of Student Experience), you’ll be excused from the lab activities or the exams. Your overall score will be based on the remaining labs and exams (appropriately renormalized). There are ample opportunities (2 midterms, 1 final and 11 labs) to show your true potential in the remaining labs or exams.

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 homeworks, activities, lab activities, and lab reports. However, you must carry out, write up, and turn in your own solutions and lab reports. 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.