Physics 252  Foundations of Physics  Winter 2010

Instructor: Raymond Frey, Wil 405, 346-5873, rayfrey@uoregon.edu

Lectures: MTuWF 10:00-10:50, Wil 110

Office hours: tba

Text: Giancoli, Physics for Scientists and Engineers with Modern Physics, 4th Ed.
(same as that used in 251)

Co/Pre-requisite: Math 252 (or equivalent)

Labs: Physics 290 (recommended)

WWW: http://www.uoregon.edu/~rayfrey/252/
(this page)

Grading: Midterm Exams I and II (35%), Homework (30%), Final Exam (35%)

TAs (office hr): tba

Other Resources: Drop-in Help | Homework Solutions | Exams and Exam Solutions | Quizzes

News/Announcements:

Lecture/Homework/Exam Schedule (to be updated continuously):
Solutions are available here: homework | exams and practice exams | quizzes

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Course Description:

This term we will study a few different topics:

- Angular momentum and torque as vectors - 0.5 week (Ch 11)
- Mechanical equilibrium, strength of materials - 1 week (Ch 12)
- Fluids - 1 week (Ch 13)
- Oscillations and waves - 4.5 weeks
- Simple harmonic oscillator, damped and forced oscillations (Ch 14)
- Application of complex math to the above
- The wave equation (Ch 15)
- Applications of the wave eqn to sound (Ch 16) and electromagnetic waves (Ch 31)
- Interference and diffraction - 1 week (Chs 34,35)
- Ray and geometric optics - 2 weeks (Chs 32,33)

**Homework:**

- Weekly homework will be assigned from the text and will be due as posted above.
- Students are required to show their work and reasoning as appropriate to receive full credit.
- You are welcome to work on the homework with your classmates, and please feel free to seek help from me. The work you turn in must be entirely your own, of course. (Note that the Physics Reading Room in Willamette Hall is available to use to collaborate on assignments, discuss deep thoughts, etc.)
- Complete solutions will be available from this web site soon after the due date. Please refer to these.
- Late homework penalties.

**Exams:**

There will be two midterms and one final exam. Exams will be closed book, but the generally useful equations and information will be provided. Problem solutions need to include all work necessary to demonstrate the result.

Practice exams and solutions will be provided approximately one week before an exam. The dates for midterms will be announced at least 8 days before the exam.

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