**Physics 123**
**Waves and Modern Physics**
**Spring 2009**

Prof. Lynne H. Orr
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BL451, x58528
Office hours: Tuesday 2:00–3:00 pm and by appointment

**Topics to be covered:**
1. Waves
2. Optics
3. Special Relativity
4. Quantum Mechanics
5. Elementary Particle Physics and Cosmology

**Organizational details:**

- Teaching Assistants

  **Alexander Shvonski** (ashvonsk@pas.rochester.edu) is the graduate teaching assistant and **Adi Robinson** (arobin10@u.rochester.edu) and **Zhen Qi** ((zqi@u.rochester.edu) are the undergraduate teaching interns for this course. Their office hours will be announced in class and posted on the course website.

- Class Sessions

  **Lectures:** MW 12:30 – 1:45 pm, Hoyt Hall

  **Recitations** will be held weekly. You are strongly encouraged to attend one of the following sessions, which you should already have signed up for through the registrar's website:
  Monday 3:25-4:25pm, Hylan 202
  Tuesday 3:25–4:25pm, Hylan 206
  Tuesday 4:50-5:50pm, Bausch and Lomb 270
  Tuesday 6:15–7:15pm, Bausch and Lomb 269
  Wednesday 6:15 – 7:15pm, Bausch and Lomb 315

  Recitations will begin on Monday January 26.

  **Labs** will be held biweekly; you must attend the session for which you signed up through the registrar's website. For information about the labs and to access the lab manual, go to `http://www.pas.rochester.edu/~physlabs/` and for inquiries about the labs send mail to **physlabs@pas.rochester.edu**.

  There will be a mandatory lab lecture on **Friday, January 16, 3:25-5:25 pm in Hoyt Auditorium.** Labs begin the week of February 2.

You must receive a passing grade on all five lab reports to pass this class. Scores on your prelab assignments will be folded in with your homework grades.

- Text and books on reserve

  The text is *Physics for Scientists and Engineers with Modern Physics,* 4th edition, by Douglas C. Giancoli, volumes 2 and 3, with some selections from volume 1. If you get the version with the volumes combined, be sure it contains 44 chapters.

  The main text and the following books are on reserve at the Physics, Optics, and Astronomy library (Bausch and Lomb 374):

  *The Feynman Lectures on Physics, Volumes I, II, III*, by R.P. Feynman

  *Modern Physics*, by P.A. Tipler and R.A. Llewellyn

- Requirements and Grading

  The final grade will be determined as follows:

  - **30% Homework.** There will be weekly homework assignments, which will be due in the homework locker labeled Physics 123. Homework will be due on Fridays at 4pm; the first assignment will be due on Friday January 30. *Late homework will not be accepted.* The lowest homework grade will be dropped. Graded homework will be returned in the recitations.

    **Lab.** You must receive a passing grade on all five lab reports to pass this class. Scores on your prelab assignments will be folded in with your homework grades.

  - **40% Midterm Exams.** There will be two mid-term exams; each will count 20% of the final grade. The exams will be given in class on **Wednesday, February 25** and **Wednesday, April 1**.

    We will make every attempt to grade exams fairly. However, if you believe there is a mistake in the grading, you may submit a brief *written* request for a regrade to Prof. Orr. Please note that we will regrade the entire exam and your score may go up or down as a result. No requests for regrades will be accepted later than the class period one week after the graded exams are returned.

  - **30% Final Exam.** The final exam will be held as scheduled by the Registrar:

    **Tuesday, May 5, 8:30 am.**

    There will be no makeups or early exams, so plan your travel accordingly.

- Course Web Page

  `http://www.pas.rochester.edu/~orr/p123.html`