

**Course title:** Introductory Physics: Waves

**Meeting time:** TuTh, 9:30-10:45 Phys. 1201; F 9:00-9:50, Chem. 0115

**Professor:** Chris Lobb, room 1365, Center for Nanophysics and Advanced Materials (Entrance is in the plaza between the Math and Physics buildings.)

[lobb@squid.umd.edu](mailto:lobb@squid.umd.edu)

Office phone: 405-6130

Home phone: (202) 546-0818 (Call between 9 am and 10 pm. Leave a message and phone number if I'm not in; I will return your call.)

**Teaching Assistant:** TBA

**Office Hours:** Wednesdays 2-4 and by appointment.

**Texts:** *The Physics of Vibrations and Waves*, 6th ed., by H. J. Pain. Recommended books: The introductory texts that you used in Physics 171 and 272.

**Web Site:** [www.elms.umd.edu](http://www.elms.umd.edu)

**Grading:** Homework will be posted at elms and will count for approximately 20% of the grade. Homework will be assigned roughly weekly. Homework is due *in the beginning of class*, on days to be announced. You are responsible for obtaining assignments and knowing when the homework is due. Note that changes and corrections to the homework assignment may be made in any class. Late homework will be accepted only if serious problems arise.

There will be two hour exams, which will each count for approximately 20% of the course grade. The final exam will cover the entire course, and will count for approximately 30% of the course grade. No notes or books will be allowed in the exams. Absence from exams will be dealt with according to standard university policies.

Students will spend one class period per week (usually Fridays) solving problems on the board in groups, with input from me. Attendance will be taken on the problem session days. This is a required part of the course; excessive absence from problem sessions will result in a lower grade. Class participation will count for approximately 10% of the grade.

Students taking Physics 273H will be required to attend one honors office hour per week.

**Tentative course outline:** 1. Simple and Damped Harmonic Motion, Introduction to Complex Variables [Chs. 1 and 2 ]; Driven Harmonic Motion and AC Circuits [Ch. 3]; Transverse Waves [Ch. 5]; Longitudinal Waves [Ch. 6]; Waves on Transmission Lines [Ch. 7]; Electromagnetic Waves [Ch. 8]; Fourier Methods [Ch. 10]; Wave Optics [Ch. 11 and 12]; The Schrödinger Equation [Ch. 13].

**Office hours:** To be arranged to fit your schedules. For the first two weeks of class, I will be in my office for one hour after class, and Tuesday 1-2. You are *always* welcome to call or drop by.

**Advice:** The only way to learn anything is to do it; just listening to me, or reading the book, is insufficient. *Do derivations yourself, do the homework, keep up with the class, ask questions, and come to office hours.* Let me know if I am going too fast. *People with the courage to ask questions in class and to come to office hours will be rewarded!*