Physics 273
Spring 2017
Jan. 3, 2017

Course title: Introductory Physics: Waves

Meeting time: TuTh, 9:30-10:45, F 9:00-9:50 Phys. 1201; F 9:00-9:50, Phys Honors section meeting F 4:00-4:50, Phys. 0360.

Professor: Chris Lobb, room 1364, Center for Nanophysics and Advanced Materials (Entrance is in the plaza between the Math and Physics buildings.)
lobb@physics.umd.edu
Office phone: (301) 405-6130
Home phone: (202) 601-7789 (Call between 9:30 am and 9:30 pm. Leave a message and phone number if I'm not in; I will return your call.)

Teaching Assistant: TBA

Office Hours: To be determined during first week of class.

Required Texts: 1. *Introduction to Vibrations and Waves*, by H. J. Pain and Patricia Rankin, paperback ISBN: 9781118441084, 2015 edition (about $65). Do *not* buy an earlier version by H. J. Pain alone.

2. *Vibrations and Waves*, by A. P. French, paperback ISBN: 978-0-393-09936-2 (about $45). There is a less expensive edition of French available, but *caveat emptor*; I've seen complaints on line about the quality of the cheaper edition (about $13).

Recommended Texts: The introductory books that you used in Physics 171 and 272.

Web Site: www.elms.umd.edu

Homework
Assignments will be posted on ELMS approximately weekly, due in one week, hardcopy in class. Late homework is not accepted, but your lowest homework grade will be dropped.

Exams
Quizzes: there will be ~5 quizzes held on alternate Fridays. Your lowest quiz grade will be dropped, so there will be no make-ups.
Hour exams: There will be two hour exams, on March 3 and April 20.
Final: The final exam date will be announced.

Grading
Homework: 20%
Quizzes: 25%
Mid-terms: 30%
Final: 25%

Tentative course outline: 1. Simple and Damped Harmonic Motion, Introduction to Complex Variables [Ch. 1 and 2]; Driven Harmonic Motion and AC Circuits [Ch. 3]; Transverse Waves [Ch. 5]; Longitudinal Waves [Ch. 7]; Waves on Transmission Lines [Ch. 8]; Electromagnetic Waves [Ch. 9]; Fourier Methods [Ch. 11]; Wave Optics [Ch. 12 and 13].

Exam schedule: (If there is a snow day during one of the exams, the exam will be given on the next class day that the university is open.)

Tuesday, March 1	First Hour Exam
Thursday, April 14	Second Hour Exam

Honor section: Honor students are required to attend a one-hour meeting each week. More information will come to you via e-mail; please reply promptly so that the meeting can be scheduled.

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.
- Avoid the temptation to use online or printed solutions. And, while it is useful for some people to compare their work to others, solve the problems first on your own. *You learn physics by solving problems, not by copying them.*

"'…I haven't got brains enough to be a physicist; and if I had I wouldn't have strength to carry them around, unless I went on crutches.'

'Now drop that! When I say I'll learn you physics, I mean it. And you can depend on it, I'll learn you or kill you!'"

-With apologies to Mark Twain, *Life on the Mississippi*