Physics 171, Fall 2014
August 25, 2014

Course: Introductory Physics: Mechanics and Relativity
Meeting time: TuTh, 9:30-10:45 lecture, F 9:00-9:50 section for all students, M 9:00-9:50 section (mostly) for 171H students. Classes meet in Phys. 1201. *All students should keep the Monday section time free in your schedule to allow for review and makeup classes.*

Professor: Chris Lobb, room 0368, Center for Nanophysics and Advanced Materials (Entrance is in the plaza between the Math and Physics buildings.), lobb@squid.umd.edu
Office phone: (301) 405-6130
Home phone: (202) 546-0818 (You may call between 9 am and 9 pm. Please leave a message if I'm not in; I will return your call.)

Text: *Physics for Scientists and Engineers,* Douglas Giancoli, 4th edition, including Mastering Physics internet access at http://www.masteringphysics.com/site/login.html. Register using the course name MPLOBB28503.

Grading: Homework will count for approximately 25% 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 prevent you from handing it in on time.

There will be two ***hour exams***, *tentatively* on ***Thursday Oct. 9*** and ***Tuesday Nov. 25*****,** which will each count for approximately 20% of the course grade. The final exam will cover the entire course, and will count for approximately 25% of the course grade. No notes, books or electronic devices 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 in groups, with help from me. Participation in the problems sessions is a required part of the course and will count for approximately 10 % of your grade.

Students taking 171H will spend one additional class period per week (Mondays) in a special honors section. Participation in the honors section will contribute to 171H grades.

Tentative course outline:

1. Chapter "0": Length and time defined.
2. Chapters 2 and 3: Kinematics.
3. Chapter "3.5": Mass defined, introduction to momentum conservation.
4. Chapters 4 and 5: Forces and Newton's laws.
5. Chapter 7: Work-energy.
6. Chapter 8: Energy conservation.
7. Chapter 9: Applications of conservation of momentum.
8. Chapter 10: Rotational kinematics.
9. Chapter 11: Rotational dynamics.
10. Chapter 6: Gravity.
11. Chapter 36: Special relativity.
12. Chapters 17-20: Heat and thermodynamics (brief overview).

Some 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.*

"LEARNING THE RIVER."

"'…I haven't got brains enough to be a pilot; 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 a man the river, I mean it. And you can depend on it, I'll learn him or kill him!'"

-Mark Twain, *Life on the Mississippi*