

PHYSICS 309K, FALL 2010

Instructor:

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Office Hours: Wednesdays 12:00 noon - 1:30 pm

Announcements will be regularly posted on Blackboard: <http://courses.utexas.edu/>

Assistant:

TA's: tba

Textbook:

W.Thomas Griffiths and Juliet W. Brosing: "The Physics of Everyday Phenomena, A Conceptual Introduction to Physics" Mc Graw Hill 2009

Physics 309K covers particle mechanics (Unit One and Chapter 20), fluid mechanics and heat (Unit Two). No prior physics or math is required beyond the usual high school math and science. This course is conceptual with some computational elements, it is designed for non-technical students. There are demonstrations and occasional labs.

In particle mechanics, the concepts associated to Newton's laws will be discussed and the application of these laws to the motion of particles developed. Motion in various number of dimensions will be described and the use of conservation laws described. Both relativistic and non relativistic motion will be studied.

The organization of the chapters is as follows:

- 1) Describing motion.
- 2) Newton's laws.
- 3) Falling objects and particle motion.
- 4) Circular motion, planetary motion and gravity.
- 5) Momentum and impulse.
- 6) Energy.
- 7) Rotational motion of solid objects.
- 8) Special Relativity.
- 9) The behavior of fluids.
- 10) Temperature and heat.

The order of subject matters will roughly follow the book but may deviate at times and additional material not covered in the book might be presented. The students will be notified in class what the subject matter for the next class will be so that they can read in advance relevant material. Attendance:

Class attendance is not mandatory but is strongly recommended. Class interruptions such as arriving late, leaving early, or chatting, are unacceptable. Your cooperation in maintaining a good atmosphere for learning is required.

Grades:

The grades will be based upon homeworks (40%), three in class exams (25%) and one mandatory final exam (35%). The worst two homework grades will be dropped and the worst test will be dropped. The exams will consist of questions similar to those on the homework.

Exam 1: Friday, September 24, 9:00 am - 10:00 am (in class)

Exam 2: Friday, October 22, 9:00 am - 10:00 am (in class)

Exam 3: Friday, November 19, 9:00 am - 10:00 am (in class)

Thursday, December 9, 9:00-12:00 noon

Reference Cards: You may use one 5x7-inch card with anything you have written on it as a help card on any exam (including the final), but no other references may be used.

Homeworks:

Will be posted on blackboard approximately weekly with due date. You are encouraged to discuss homework with anyone you wish; all homework can be prepared in a group (max 4). Homework is due at the beginning of class on the specified day.

Other:

The last date to drop the course without possible academic penalty is September 22. Please notify me of any modification/adaptation you may require to accommodate a disability-related need. You will be requested to provide documentation to the Dean of Student's Office, in order that the most appropriate accommodations can be determined. Specialized services are available on campus through Services for Students with Disabilities.