

Details: Unique # 61830 MWF 8:00-8:50 PAI 2.48

Instructor: Greg O. Sitz, Office: RLM 10.313, Office Hours: M 10:30-11:30, Tu 3:30-4:30, Phone: 471-0701, email: gositz@physics.utexas.edu

Text: *Physics Matters* by *Trefil and Hazen*, (John Wiley & Sons, 2004).

Brief Description: Physics 309K covers mechanics, waves, and heat: about 15 chapters in the text. No prior physics or math is required other than ordinary high school math and science. The succeeding course is PHY 309L; it covers electricity, magnetism and selected topics in modern physics. These courses are conceptual, not computational, and are designed for non-technical students. There are frequent demonstrations, some messy, and occasional films.

Grade Points: Grade points are assigned for **Homework**, **In-class Exams**, and the **Final Exam**. There will be a total of 100 grade points possible during the semester; your semester grade will be computed based on the following cutoffs:

- greater than 85 points = A
- greater than 70 but less than 85 = B
- greater than 60 but less than 70 = C
- greater than 50 but less than 60 = D
- less than 50 of the available points = F

Hour Exams: There will be three in-class exams at the dates listed below, and all three will count toward the final grade. Together the in-class exams will count for 45 grade points. The exams will consist of a mix of multiple choice, short answer and longer answer questions. Practice problems that are representative of the exam questions will be distributed periodically to help you prepare. If you are absent from an examination for the observance of a religious holy day you may complete the work missed within a reasonable time after the absence, if proper notice has been given. Notice must be given at least seven days prior to the exam.

Exam 1: Monday, September 24

Exam 2: Wednesday, October 31

Exam 3: Wednesday, December 5

Project: You have the option of replacing the score of *one* in class exam with a project. At the end of many of the chapters in the book are "Investigations". You may do one of these of your choosing during the semester and to write a short (2 to 3 page, prepared with a word processor) report on what you did and what you actually found (**not** what you think you were supposed to find). A second source of ideas for projects is the book "Conceptual Physics" by Hewitt, available in the library. Look at the end of chapters for "Projects." You are encouraged to discuss potential projects with the instructor prior to starting. Projects are due no later than Friday, November 30. Note that this due date is *before* the third in-class exam.

Final Exam: The Final will be a comprehensive exam similar in format to the hour exams and will count for 30 grade points. It is **required** to pass the course.

Final Exam: Wednesday, December 12, 2:00-5:00 PM.

Homework: will be distributed and due approximately weekly and will count for 25 grade points. You are encouraged to discuss homework with anyone you wish; however, all written homework must be prepared independently (by you). Homework is due at the end of class on the specified day. Homework that is between 1 minute and 1 week late will be accepted with a 50% penalty. Homework later than this will not be accepted.

Reference Cards: You may use 3"x5" cards with anything you have written on them as help cards on any exam (including the final), but no other reference may be used. You may use as many cards as

you want. Anything you personally write on the cards is allowed, but you are not allowed to use printed, xeroxed, or copied material and are not allowed to use others' cards. Organize your cards well right from the start!

Concept quizzes and attendance: Concept quizzes will be short, 1 or 2 question quizzes given intermittently during most classes. They will not be graded, but will be used to evaluate attendance. If you miss no more than two of the CQ's preceding each in-class exam, you will receive a bonus of 5% on your score for that exam. If you miss no more than five of the CQ's for the entire semester, you will receive a bonus of 5% on your score for the final exam.

Coaching: Available on the fifth level of RLM by the elevators. The coaches are graduate student teaching assistants. Insist they explain things without math. They will not like this: be firm, coaching hours are part of their job. Hours: 9:00-5:00.

Other: The last date to drop the course without possible academic penalty is September 26, 2007. The last day to drop the course for academic reasons is October 24, 2007.

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 Students' Office, in order that the most appropriate accommodations can be determined. Specialized services are available on campus through Services for Students with Disabilities.

Alternatives: This document as well as other course related material will be available through the UT Blackboard system

<http://www.utexas.edu/cc/blackboard>

Syllabus

Week of August 27:	Introduction, measurement (Chapters 1 & 2)
September 3:	Motion (Chapter 3)
September 10:	Newton's Laws (Chapter 4)
September 17:	Gravity (Chapter 5), Test 1
September 24:	Relativity (Chapter 28)
October 1:	Momentum (Chapter 6)
October 8:	Rotation (Chapter 7)
October 15:	Energy (Chapter 8)
October 22:	Matter (Chapters 9 & 10)
October 29:	Matter (Chapters 9 & 10), Test 2
November 5:	Temperature and Heat (Chapter 11)
November 12:	Thermodynamics (Chapters 12 & 13)
November 19:	Waves (Chapter 14)
November 26:	Sound (Chapter 15)
December 3:	Sound (Chapters 15), Test 3

Quotes

"You do not know anything until you have practiced" -R. P. Feynman

"90% of success is just showing up" - Woody Hayes

"How often have I said to you that when you have eliminated the impossible, whatever remains, however improbable, must be the truth?" - Sherlock Holmes (Sir Authur Conan Doyle)

"The paradox is only a conflict between reality and your feeling what reality ought to be." -R. P. Feynman