PHYS 351  Foundations of Physics II  Fall 2008

Class times: Tuesday and Thursday, 10:00-11:50.  Location: 30 Pacific

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Office hours: Monday 2-4pm, Wednesday 3-4pm or by appointment.

TA: Yan Sang  Office: 215 WIL  Tel: 6-7589  Email: ysang@uoregon.edu
Office hours: Wednesday 1-2pm, Friday 3-4pm or by appointment.

Attendance policy: Attendance is not required, nevertheless recommended. Lectures will cover materials which are mostly in the textbook and follow the order of chapters in the book, but will address different approaches to solving problems, expand on examples in the text and solve problems not necessarily from your book.

Course text: The required text is *The Physics of Waves* by H. Georgi. The book is available free online at [http://www.people.fas.harvard.edu/~hgeorgi/new.htm](http://www.people.fas.harvard.edu/~hgeorgi/new.htm) For your convenience, I requested the bookstore to print and bind copies for purchasing. All printed copies have sold out. If you would like to purchase a copy you need to request one at the bookstore. It takes 24 hours to get any additional copies printed and bound. The cost is about $35.

Course outline: The course will follow the chapters in the textbook, with a few exceptions. We will begin with simple harmonic motion, forced oscillations, resonance and normal modes. These first three chapters set the foundations for understanding and analyzing numerous periodic phenomena. I will spend a significant amount of time solving examples and problems. Classroom demonstrations will be an integral part of the lectures. We will then start discussing wave phenomena, with emphasis on how they differ from the periodic oscillatory phenomena introduced earlier in the term. I will select appropriate topics for study from the remaining chapters. Some of these will include introduction to optics, sound waves, polarization, interference and diffraction.

Many subsections in the book are accompanied by a simple computer animation which illustrates the subject discussed. You will find these in the text labeled with computer icon and the program number. The programs can be downloaded from the textbook website (the file has the funny name ALLSLOW.EXE) Although their graphics leave much to be desired, these animations will help elucidate some of the topics. You will occasionally be assigned homework which will require computer use. If you have a problem obtaining access to a computer please let me know in advance and I will arrange access.

Homework: Homework will be assigned weekly and will be collected the following week. Assignments will be submitted in class directly to me. *Assignments may not be submitted by email unless you are instructed to do so.* Solutions to the homework problems will also be provided. It is important you review them, as they might hold additional information to what we do in class. You should always make an effort to submit your assignments on time. Homework submitted up to 24 hours late will receive 50% credit. Assignments submitted later than that will not be graded and will be recorded as missed. Special circumstances and emergencies may be accommodated on a case-by-case basis. In such cases you should contact me as soon as possible to discuss your specific needs.
**Course web site:** [http://blackboard.uoregon.edu/](http://blackboard.uoregon.edu/) I will post homework assignments, course announcements and handouts. Solutions to homework problems will also be posted. You will need to check regularly for updates.

**Exams and Grade determination:** There will be one midterm exam, several quizzes, and of course, the much anticipated final exam. Your grade will be calculated using the following weights:
- Homework – 40%
- Midterm exam – 20%
- Quizzes – 10%
- Final exam – 30%

**Students with Disabilities:** If any aspects of the program hinder you from fully participating in this course, please notify me as soon as you become aware of them. You may also contact Disability Services in 164 Oregon Hall, Tel: 346-1155.