PHYS 152 Physics of Sound and Music Fall 2004

Class times: UH 12:00-13:20 Location: 110 WIL

Instructor: Miriam Deutsch  
Office: 275 WIL Tel: 6-5973  
Email: miriamd@darkwing  
Office hours: TBA

TA: Peter Hugger  
Email: phugger@darkwing  
Office hours: TBA

Course description: This is an introductory physics course designated for students with no scientific background. During this term we will get acquainted with some everyday (as well as some less ordinary) musical phenomena, and the physical principles behind them. Only elementary algebra will be required. We will learn how sound is produced by a variety of musical instruments, discover the rules governing the construction of various musical scales, and discuss the differences between music ("good" sound) and noise ("bad" sound). Classroom demonstrations will be a part of most lectures.


Other helpful texts: The Physics of Sound, Berg and Stork. 
The Science of Sound, Rossing, Moore and Wheeler.

The course text, as well as The Science of Sound are on reserve at the Science Library.

Course outline:

- Physical background – we will start with introducing the physical quantities and concepts related to sound phenomena. These include mechanically vibrating systems and the basics of wave propagation.

- The reception of musical sounds – a few words about the human hearing capabilities, and then characterization of music, scales and tones.

- Musical instruments – we will discuss a variety of musical instruments and how they produce their own unique sounds.
Course web site: 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.

Homework: Homework will be assigned weekly, usually on Thursdays. Assignments will be submitted in class directly to me. You should always make an effort to submit your assignments on time. Homework submitted up to 24 hours late will receive at most 80% credit. Assignments received later than that will not get credit. 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.

Grade determination:

Homework – 30%
Quiz (10/28) – 10%
Quiz (11/16) – 10%
Term Paper (Due 12/2) – 20%
Final Exam (12/9) – 30%