

Physics in the Arts
Physics 109 – Spring 2007

Class location: 2241 Chamberlin Hall.

Class times: Tuesdays and Thursdays 12:05 pm and 1:20 p.m.

Exam location: 2241 Chamberlin Hall

Lab location: 3124 Chamberlin Hall

Instructors:

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office hours are held
in 3124 Chamberlin Hall
Times TBA

Textbook and Lab Instructions:

The Lab instructions can be purchased at the University Bookstore. The book **Physics in the Arts**, by P.U.P.A Gilbert and W. Haeberli is also available at the University Bookstore. You should also purchase a bound quadrilled (slim) notebook for the laboratory. A simple calculator that displays square-roots is helpful for homework and lab.

Prerequisites:

There are no prerequisites. Homework and lab work require that you can do simple computations, including fractions and very elementary high school algebra. Some of you will be out of practice: don't freak out, we will help, but **do** overcome your embarrassment and ask questions when you have trouble.

Homework:

Homework will be assigned on the web page on Thursday and is due in class the following Tuesday. Turn in the homework problems even if you get only partial answers. You can receive help from us on your homework.

Labs:

All labs meet in Room 3124 Chamberlin. Come to the section to which you were assigned. Record lab notes in a bound notebook. Keep the notebook on the shelves in the lab. It is **essential** that you attend **all** the labs. Attendance will be taken. If you are forced to miss a lab, arrange with your TA to make up that lab the same week or the following week. Photography and Musical Instruments Labs must be made up the same week. An unexcused failure to do each lab results in the loss of 1/2 grade point per lab (i.e. BC to C).

Grades and Exams:

Based on exams and labs. **Exams:** Some questions will be closely patterned after assigned homework problems. Some questions cover the work performed

in the lab. **Labs:** The evaluation of your lab work will be based primarily on lab attendance and the effort you make in the laboratory. To complete each experiment is of secondary importance. You are encouraged to deviate from the written lab instructions if you have ideas of your own which you would like to follow. Your instructor will grade your lab notebook and lab work.

Exams:

There will be 3 exams during the semester, at class time, and no final exam.

Under no circumstances can make-up exams be given.

Exam dates, times and location are:

February 27th, 2007 12:05 pm or 1:20 pm in 2241 Chamberlin Hall

March 27th, 2007 12:05 pm or 1:20 pm in 2241 Chamberlin Hall

May 8th, 2007 12:05 pm or 1:20 pm in 2241 Chamberlin Hall

Schedule of the Labs:

Week #	Begin on	LAB EXPERIMENT
1	22-Jan	Classes meet, NO LAB
2	29-Jan	Principles of loudspeaker, microphone,...
3	5-Feb	Oscilloscope and oscillator, hearing
4	12-Feb	Harmonic oscillator, resonance
5	19-Feb	Strings
6	26-Feb	Pipes
7	5-Mar	Sound Analysis
8	12-Mar	Musical Scales
9	19-Mar	Musical Instruments
10	26-Mar	Reflection and Refraction
11	2-Apr	Spring Break, NO LAB
12	9-Apr	Lenses
13	16-Apr	Photography
14	23-Apr	Additive Color Mixing
15	30-Apr	Subtractive Color Mixing
16	7-May	Exam, NO LAB