

The University of Iowa, College of Liberal Arts and Sciences
Department of Physics and Astronomy

Physics of Sound: 29:044 A/B
(PHYS:1410)

Section B includes a lab component. Section A is w/o lab.

Spring, 2014

MWF 9:30-10:20 AM, Van Allen Hall: Room 70

Labs on Thursday (see schedule on lab syllabus)

Course web page: <http://www.physics.uiowa.edu/29/44.html>

Some of the policies relating to this course (such as the drop deadline) are governed by its administrative home, the College of Liberal Arts and Sciences, 120 Schaeffer Hall.

Department of Physics General Office: Room 203 Van Allen Hall

Drop/add slips are to be signed in the general office only. (This includes late registration forms.)

Instructor: Professor F. Skiff

Office location 504 VAN. Office hours: *MWF 10:20-11:20 and by appointment.*

Phone:335-0564

Email address: frederick-skiff@uiowa.edu

DEO: Professor *M. H. Reno*, 203 VAN

Lab TA [*only for Section B*]: Feng Chu

Office and hours: 658A VAN

Phone and email: 335 2950; feng-chu@uiowa.edu

Description of Course

The goal of this course is to explore acoustics: the basic principles of sound generation and propagation. The course is designed to teach fundamental principles of physics and physical science in the context of the practical application of physics to understanding sound. The application of physics to understanding musical instruments, electronic music, sound recording and reproduction, human speech and hearing, and the fundamentals of room acoustics is also surveyed. The course is approved as a GER natural science elective either with (Section B) or without (Section A) a laboratory component.

As a laboratory science, physics involves both formal reasoning as well as experimental method. A General Education goal of the course is to communicate how questions are framed and resolved in physics as well as to illustrate with the example of acoustics both the strength and the limitations of experimental science.

Texts

Required text: Physics of Sound (3rd edition) by R. Berg and D. Stork, Prentice Hall (2005).
(available, for example at Iowa Book and the University Book Store)

Grading System

The plus or minus grading system is used in this course.

Components of the course grade

The course grade will be based on several components and weighted as follows:

Homework: 10 assignments counting 10 points each. Total : **100 pts.**

Participation: 10 worksheets and three quizzes (drop lowest one), 4 points each. Total **48 pts.**

Mid-terms: 2 mid-term exams 100 points each. **Total 200 pts.**

Final exam: 200 pts

Labs: 150 pts (for Section B - those taking the lab)

Section A: **548** total possible points. Section B: **698** total possible points (each section is graded as a separate course).

A Word about the Date and Time of the Final Exam:

The final examination date and time will be announced during the first half of the semester. Watch for an email from the Registrar containing the final exam information for this class and for all of your classes. I will announce the final examination date and time for this course on the course web page once it is known (note that the course web page is not on ICON but the link is given above). Do not plan your end of the semester travel plans until the final exam schedule is made public.

Course Policies

Course attendance: *Lecture demonstrations, in-lecture worksheets, quizzes, and exams are important components to the course and require student attendance during regular lectures.*

Timely completion of assignments: *Solutions to the homework assignments will be posted on the web after the assignment due date. After the solutions are posted, late homework assignments will be worth 2 points rather than 10.*

Resources for Students

In addition to details/ schedules for course assignments, other materials including review sheets, and web links to additional course material will be made available through the course web page.

Calendar of Course Assignments and Exams

Homework will be assigned on Fridays (except over vacations or during weeks where there are course exams) and collected at the start of lecture the following week. Quizzes will occur in the lectures before an exam.

Dates for the mid-terms and final: Wednesday February 26 and Wednesday April 9 during the usual lecture time (9:30-10:20 AM) and at the usual location (Room 70 VAN).

The final exam will be on Thursday May 15 at 7:30-9:30 AM in room 203 BCSB (Becker Communications Studies Building)

The College of Liberal Arts and Sciences

Administrative Home

The College of Liberal Arts and Sciences is the administrative home of this course and governs matters such as the add/drop deadlines, the second-grade-only option, and other related issues. Different colleges may have different policies. Questions may be addressed to 120 Schaeffer Hall, or see the CLAS [Academic Policies Handbook](#).

Electronic Communication

University policy specifies that students are responsible for all official correspondences sent to their University of Iowa e-mail address (@uiowa.edu). Faculty and students should use this account for correspondence (*Operations Manual*, [III.15.2](#). Scroll down to k.11).

Accommodations for Disabilities

A student seeking academic accommodations should first register with Student Disability Services and then meet privately with the course instructor to make particular arrangements. See www.uiowa.edu/~sds/ for more information.

Academic Honesty

All CLAS students have, in essence, agreed to the College's [Code of Academic Honesty](#): "I pledge to do my own academic work and to excel to the best of my abilities, upholding the [IOWA Challenge](#). I promise not to lie about my academic work, to cheat, or to steal the words or ideas of others; nor will I help fellow students to violate the Code of Academic Honesty." Any student committing academic misconduct is reported to the College and placed on disciplinary probation or may be suspended or expelled (CLAS [Academic Policies Handbook](#)).

CLAS Final Examination Policies

The date and time of every final examination is announced during the fifth week of the semester; each CLAS student will receive an email from the Registrar stating the dates and times of the student's final exams. Final exams are offered only during the official final examination period. **No exams of any kind are allowed during the last week of classes.** All students should plan on being at the UI through the final examination period.

Making a Suggestion or a Complaint

Students with a suggestion or complaint should first visit with the instructor (and the course supervisor), and then with the departmental DEO. Complaints must be made within six months of the incident (CLAS [Academic Policies Handbook](#)).

Understanding Sexual Harassment

Sexual harassment subverts the mission of the University and threatens the well-being of students, faculty, and staff. All members of the UI community have a responsibility to uphold this mission and to contribute to a safe environment that enhances learning. Incidents of sexual

harassment should be reported immediately. See the UI [Comprehensive Guide on Sexual Harassment](#) for assistance, definitions, and the full University policy.

Reacting Safely to Severe Weather

In severe weather, class members should seek appropriate shelter immediately, leaving the classroom if necessary. The class will continue if possible when the event is over. For more information on Hawk Alert and the siren warning system, visit the Public Safety [web site](#).

Required Time

The College standard for a three credit course is 6 hours per week of time outside of the lectures. It is 8 hours per week for a four credit course. This should be ample time to complete the assigned readings and homework. There will not be homework assigned in the week before a mid-term exam and there will not be homework assigned over spring break. There will be no laboratory during the weeks when there is an exam. Further information on student rights and responsibilities can be found in the academic handbook.