

Physics 371 Spring 1998
Acoustics for Musicians

Lectures: T and R 9:55-10:45 Rm 1313 Sterling Hall
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Office hours: T and R 11:00-12:00 (other times as necessary)

A short term paper (length approximately 5 pages) on a topic of your choosing in the area of musical acoustics is due at the end of the term. A list of suggested topics will be provided later to assist you. Short exercise assignments will be made approximately weekly. These should help prepare you for the exams.

Tentative Syllabus

Text: John Backus The Acoustical Foundations of Music
supplement: W.F. Fry Notes "Acoustics for Musicians"

Jan. 20	Fundamental Physical Quantities	Chapt. 1
Jan. 22	Oscillations	Chapt. 2; Fry VII
Jan. 27	Waves	Chapt. 3
Jan. 29	Waves	Chapt. 3
Feb. 3	Standing waves/ Resonances	Chapt. 4; Fry VII
Feb. 5	Vibrating Strings	Chapt. 4
Feb. 10	Pipes	Chapt. 4
Feb. 12	Perception of sound	Fry II, IV
Feb. 17	Perception of sound	Fry II
Feb. 19	FIRST EXAM (Chapt. 1-4)	
Feb. 24	Ear and hearing	Chapt. 5; Fry III
Feb. 26	Ear and hearing	Chapt. 5; Fry III
Feb. 26	Tone Quality	Chapt. 6
Mar. 3	Tone Quality	Chapt. 6
Mar. 4	Pitch and frequency	Chapt. 7
Spring Break		
Mar. 17	Scales	Chapt. 8
Mar. 19	Scales	Chapt. 8
Mar. 24	Woodwinds	Chapt. 11
Mar. 26	SECOND EXAM (Chapt. 5-8)	
Mar. 31	Woodwinds	Chapt. 11
Apr. 2	Voice	Chapt. 11
Apr. 7	Brass	Chapt. 12; Fry XVI

Apr. 9	Violin Family	Chapt. 10; Fry XV
Apr. 14	Violin Family	Chapt. 10; Fry XV
Apr. 16	Piano	Chapt. 13
Apr. 21	Piano	Chapt. 13
Apr. 23	Percussion	Chapt. 14; Fry XVII
Apr. 28	Instruments	Chapt. 10-14
Apr. 30	Acoustics of Rooms	Chapt. 9; Fry XVIII
May 5	Acoustics of Rooms	Chapt. 9; Fry XVIII
May 7	Acoustics of Rooms	Chapt. 9; Fry XVIII
May 12	FINAL EXAM (Chapt. 10-14,9)	