PHYS 391: Physics of Sound and Music
(renamed PHYS 307)
Spring Semester 2001
TR 9:30 – 10:45

Dr. Alison A. Baski Oliver Hall North 2017
Dr. Marilyn F. Bishop Oliver Hall North 2016


Prerequisites: An introductory physics course, such as PHYS 101, PHYS 107, PHYS 201, PHYS 207, or a high school physics course.

A basic knowledge of music, including the ability to read music and the ability to sing or play an instrument.

Tentative List of Topics:
1. Simple Harmonic Motion, Driven Oscillators and Resonance (Ch. 1)
2. Waves and Sound, Interference and Beats (Ch. 2)
3. Standing Waves, the Overtone Series and Resonance (Ch. 3)
4. Synthesis of Complex Waves, Tone Quality of Musical Instruments (Ch. 4)
5. Electronic Synthesizers, Sound Recording and Reproduction (Ch. 5)
6. The Human Ear and Voice, Human Perception of Sound (Ch. 6)
7. Musical Temperament and Pitch, Methods of Tuning Musical Instruments (Ch. 9)
8. Woodwind Instruments (Ch. 10)
9. Brass Instruments (Ch. 11)
10. String Instruments (Ch. 12)
11. The Piano and Harpsichord (Ch. 13)

Grading:
Class Participation 10 %
Homework 30 % (lowest score dropped, no late or makeup HW)
Quizzes 20 % (lowest score dropped, no makeup quizzes)
Midterm 20 %
Final Project 20 %