

PHY 141 – Physics of Sound & Music

SPRING 2026 | A Scientific Exploration of How Sound Becomes Music

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General Info: This course is classified as “Zero Textbook Cost.” The material for the course is available at the course website.

Course website: <http://www.lehman.edu/faculty/anchordoqui/141.html>

Texts: No textbook required. Lecture notes available in the course website. You may use any textbook to complement the lectures.

Lectures: Mondays and Wednesdays 17:30 – 18:45, on line, lectures begin January 26, 2026

Labs: Four labs will be given during the semester: March 11, April 15, April 29, May 11

Final: There will be a comprehensive final exam; Monday May 18; Time: 18:15 - 20:15.

The final is mandatory and you are responsible for making sure that you can attend at this time.

Grading policy: The overall course grade will be determined as follows:

60 % - lab group assignments (15% each)

40% - comprehensive final exam

Letter grades will be assigned according to the guidelines

A.= 90 - 100

B.= 80 - 90

C.= 60 - 80

D.= 50 - 60

F = below 50

The cutoffs for +’s and -’s will be decided at the end of the semester.

Provisional Course Outline

– Physics of Sound & Music –

(Please note this may be revised during the course to match coverage of material during lectures, etc.)

MODULE 1: GENERAL PRINCIPLES OF EVERYDAY PHYSICAL PHENOMENA

1st week: Newtonian mechanics

2nd week: Basics of energy and its various forms

3th week: Macroscopic properties and microscopic models

MODULE 2: THE INS AND OUTS OF SOUND WAVES

4th week: Periodic motion

5th week: Pressure waves

6th week: Wave superposition

7th week: Standing waves

8th week: Crafting sound anatomy

9th week: Doppler effect

MODULE 3: ACOUSTIC LOGARITHMIC SCALES

10th week: Logarithm rules

11th week: Decibel scale

12th week: From wave to note

How to be successful in this course

PLEASE READ CAREFULLY

1. This is not a correspondence course. Attendance at lectures is highly encouraged.
2. Make sure you visit the course website regularly. Check the announcements.
3. FINAL EXAM: Multiple choice questions
4. Please contact me immediately if you think that a genuine mistake has occurred in the grading of labs. Clerical errors in grading will of course be rectified as soon as possible.
5. Students with special requirements/learning disabilities should contact me as early as possible during the semester. Note that it is the responsibility of students with special accommodations to contact the instructor as early as possible to make the appropriate arrangements for testing. Please note that I cannot allow students to take tests under conditions different from those experienced by the rest of the class (extra time, separate room, etc.) unless they have the appropriate paperwork (VISA form) from the Student Accessibility Center. The Student Accessibility Center will issue formal instructions to me about how students with disabilities are to be accommodated.
6. STATEMENT REGARDING AI AND CHAT GPT In this course, academic integrity and originality are paramount. Therefore, you are not permitted at any stage of your coursework to use. Generative AI tools, which are systems like ChatGPT that can create content such as text, images, or music based on input data. This includes activities like generating ideas, drafting, or finalizing assignments. However, tools designed to assist in grammar and spelling, such as Grammarly, are acceptable. If you have any uncertainties about the use of specific tools or need clarification on this policy, please consult the professor.