General Information

PHYS 103: Physics of Music Laboratory

Spring 2012

Textbook: Physics 103 Laboratory Manual
June 2011 Edition

Instructor: Dr. Suresh Tonwar

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TA's: Dennis Wang and Rian You

Laboratory Schedule

Section 0701: Wed 3:00 - 4:50 (TA: Dennis Wang)
Section 0101: Thu 11:00 - 12:50 (TA: Rian You)
Section 0201: Thu 1:00 - 2:50 (TA: Dennis Wang)
Section 0301: Thu 3:30 - 5:20 (TA: Dennis Wang)
Section 0401: Fri 9:00 - 10:50 (TA: Rian You)
Section 0501: Fri 12:00 - 1:50 (TA: Dennis Wang)
Section 0601: Fri 2:00 - 3:50 (TA: Dennis Wang)

PHYSICS 103: PHYSICS OF MUSIC LABORATORY is a one credit-hour course that must be taken concurrently with **PHYSICS 102: PHYSICS OF MUSIC** to receive CORE credit, and may not be taken for credit by physics majors. The lab meets for two hours weekly, giving students hands-on in-depth experience with some of the topics covered in the Physics of Music lecture class.

This is a participatory activity; it is mandatory that you attend all labs. It is also important that you prepare for your lab period by reading over the lab instruction sheet and doing the pre-lab questions. Pre-lab questions serve both as a review of important ideas and preparation for lab activities. If you do not do the pre-lab questions before you come to lab, points will be subtracted from your grade. If you do not understand the questions or have difficulty completing the assignment, you may ask questions. Lab reports are completed in lab, submitted to the TA at the end of the lab period for grading, and will be returned to students during the next lab session, so that writing (and grading) long and detailed lab reports is avoided.

If you miss a lab, the reasons for the absence must be submitted to the instructor in writing. If your absence is due to any of the University approved acceptable excuses, as given in the UMD Undergraduate Catalog, you will be permitted to make-up the missed lab without any loss of credit. You are encouraged to make-up the missed lab by attending any other lab session during the same week (see the laboratory schedule below). You may also make up the missed lab/s by attending one or more lab sessions during one of the the two Make-Up weeks during the semester. However, you shall get only half the credit for any make-up lab which you missed during your regular lab session for unacceptable excuses.

Grading will be based on total point accumulation for the 11 labs, each having 40 points. A histogram of total scores will be made, and letter grades assigned approximately as follows:

Top 20% -- A; Next 40% -- B; Next 30% -- C and Bottom 10% -- D or F

To qualify for an A, you must distinguish yourself among your peers.

> **It is mandatory to do all labs. Missing one lab will lower your grade by one letter grade; missing two labs will result in D grade and missing more than two labs will result in F grade.**

Preparation for Lab #1: (a) Obtain your lab manual; (b) Read the Introduction and Lab Experiment #1, and come prepared to ask questions if you do not understand the material; (c) Answer the pre-lab questions on the first page of the lab report (Data Sheet) for Lab #1 before coming to the lab.

Honors Code : The Student Honor Council respectfully requests that faculty members place the following passage in their course syllabi in order to inform students of the consequences of academic dishonesty: "The University of Maryland, College Park has a nationally recognized Code of Academic Integrity, administered by the Student Honor Council. This Code sets standards for academic integrity at Maryland for all undergraduate and graduate students. As a student you are responsible for upholding these standards for this course. It is very important for you to be aware of the consequences of cheating, fabrication, facilitation, and plagiarism. For more information on the Code of Academic Integrity or the Student Honor Council, please visit http://www.studenthonorcouncil.umd.edu/whatis.html

PHYS 103 - Spring 2012 : Experiment Schedule

Jan 25 – Jan 27	No Lab	
Feb 01 – Feb 03	Experiment # 1	Simple Harmonic Motion
Feb 08 – Feb 10	Experiment # 2	Introduction to Electronic Instruments
Feb 15 – Feb 17	Experiment # 3	Sound Quality and Wave Shape
Feb 22 – Feb 24	Experiment # 4	Speed of Sound in Air
Feb 29 – Mar 02	Experiment # 11	Audio Equipment
Mar 07 – Mar 09	Experiment # 6	Standing Waves in Air Columns
Mar 14 – Mar 16	Make-Up Week # 1	
Mar 21 – Mar 23	Spring Break	
Mar 28 – Mar 30	Experiment # 7	Fourier Synthesis
Apr 04 – Apr 06	Experiment # 8	Fourier Analysis
Apr 11 – Apr 13	Experiment # 5	Standing Waves in Stretched Strings
Apr 18 – Apr 20	Experiment # 9	The Musical Synthesizer
Apr 25 – Apr 27	Experiment # 10	Psychoacoustics
May 02 – May 04	Make-Up Week # 2	
May 10	Last Day of Classes	
May 11	Reading Day	
May 12-18	Final Exams	
May 20	Main Commencement Ceremony	

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