

Physics 261 Laboratory Spring 2008

University of Maryland

Physics 261 Spring 2008 Guide: Contents

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Faculty

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Meeting Times of Labs for Physics 261 for Spring 2008

Time	Monday	Tuesday	Wednesday	Thursday
9:00 am		Sec: 0105		Sec: 0109
10:00		Sec: 0105		Sec: 0109
11:00		Sec: 0105	Sec: 0107	Sec: 0109
Noon	Sec: 0102		Sec: 0107	
1:00 pm	Sec: 0102		Sec: 0107	
2:00	Sec: 0102	Sec: 0104	Sec: 0108	
3:00	Sec: 0103	Sec: 0104	Sec: 0108	Sec: 0110
4:00	Sec: 0103	Sec: 0104	Sec: 0108	Sec: 0110
5:00	Sec: 0103	Sec: 0106	Sec: 0101	Sec: 0110
6:00		Sec: 0106	Sec: 0101	Sec: 0111
7:00		Sec: 0106	Sec: 0101	Sec: 0111
8:00				Sec: 0111

Labs meet in room 3219 of the Physics Building

Information about the course

Physics 261 is the laboratory associated with Physics 260 and meets in room

Phys-3219. This course carries one credit. You must pass Physics 260 as well as 261. If you do not pass 261 you will be required to repeat both 260 and 261. The grade for Physics 261 will be identical to that of Physics 260 (as required by the Engineering College). The labs meet for three hours a week and you will be expected to complete eight regular experiments and two culminating laboratory activities. You must complete all of the labs, including the culminating labs, in order to pass the course. You are expected to attend each class and will be allowed to make up labs only under exceptional circumstances. Lab 0 is also required and must be uploaded before you will be permitted to attempt Experiment 1.

During the three hour laboratory period, you will have a brief introduction about the lab, perform the experiment, do your analysis and write-up and upload your report. The experiment should take less than two hours to perform (including the introduction), but in order for you to complete your work in the allotted time you must read the lab write-up before coming to class and answer and upload the answers to the prelab questions.

The Physics 261 laboratory uses spreadsheets (Excel) to analyze data. You will therefore be expected to use the spreadsheet in the same manner as any other tool in the lab.

Our aim in this lab is to enhance your understanding of the laboratory experiments you perform while at the same time minimizing the amount of time spent on analysis and write-ups. This means that it is not necessary to do extensive write-ups. You will have to submit the spreadsheet file that you assemble during the lab session. Each week's lab includes a prelab assignment. The culminating labs are special labs where you will be given questions about the experiments you performed during the semester. The list of possible questions is included in the lab manual and you should review the ones for each lab after you have completed that experiment. This will make the culminating lab much easier!

BlackBoard

This course will use BlackBoard. Course materials will be provided to you through BlackBoard, emails sent to you through BlackBoard, and you will have to submit[upload] your pre-lab question answers and the spreadsheet files that you assemble during lab sessions to BlackBoard. BlackBoard will have a submission deadline for each assignment. If you miss the deadline, you will not be credited with having done the work and will be assigned zero points for that assignment.

Grading

The course grade for Physics 261 will be determined as follows:

8% for prelabs

16% for the eight regular labs

76% for the two culminating laboratories.

The scoring on the prelabs will be as follows:

0 No or minimal submission

1 Complete answers to questions

The scoring on the regular labs will be as follows:

0 Experiment mostly not done

1 Experiment mostly done

2 Experiment done completely

You will work with one lab partner with whom you will share data.

However, you will be responsible for doing your own analysis and write-up.

Each person in the partnership will also be required to demonstrate proficiency with the spreadsheet. You must buy the current lab manual available at the bookstore.

The first course meetings will be held the week of January 28.

Lab Schedule for Spring 2008

Jan 28-31	Experiment 0 --- <u>Introduction to Uncertainty</u>
Feb 4-7	Experiment 1 --- <u>Introduction to Error Analysis</u>
Feb 11-14	Experiment 2 --- <u>The Pendulum</u>
Feb 18-21	Experiment 3 --- <u>Forced Harmonic Motion</u>
Feb 25-28	Experiment 4 --- <u>The Vibrating String</u>
Mar 3-6	Make-up week
Mar 10-13	First Culminating Lab. (Experiments 0-4)
Mar 17-23	Spring Break

Mar 24-27	Experiment 5 --- <u>Position Velocity and Acceleration</u>
Mar 31- Apr 3	Experiment 6 --- <u>Centripetal Force and Acceleration</u>
Apr 7-10	Experiment 7 --- <u>The Ideal Gas Law and Absolute Zero Temperature</u>
Apr 14-17	Experiment 8 --- <u>Equipotentials and Fields</u>
Apr 21-24	Make-up Week
Apr 28-May 1	Second Culminating Lab. (Experiments 5-8)

Missed Labs

You must do and write up all labs. If you have missed a lab for an excused reason (illness, religious holiday, etc) try if possible to attend another lab that same week. TA's will be accommodating if there is space in their section. If this fails, you may, with permission of the Professor, perform the lab during make-up week for that lab. Make sure that your write-up gets to the TA of your regularly scheduled section. Let your regular TA know when and with whom you carried out a make-up lab. It is your responsibility to ensure that you are credited for all lab reports.

Attendance and Make-Up Policy

Reasons for an absence must be submitted to your TA in writing. What the Undergraduate Catalog says about acceptable excuses:

"It is the policy of the university to excuse the absences of students that result *from* the following causes Illness of the student, or Illness of a dependent as defined by Board of Regents policy on family and medical leave; religious observance (where the nature of the observance prevents the student *from* being present during the class period); participation In university activities at the request of university authorities; and compelling circumstance beyond the students control. Students claiming excused absence must apply in writing and furnish documentary support *for* their assertion that absence resulted *from* one of these causes."

Academic Integrity

The University is one of a small number of universities with a student-

administered Honor Code and an Honor Pledge, available on the web at www.jpo.umd.edu/aca/honorpledge.html. The Code prohibits students *from* cheating on exams, plagiarizing papers, submitting the same paper *for* credit in two courses without authorization, buying papers, submitting fraudulent documents, and forging signatures. Compliance with the code is administered by the Student Hour Council (phone: 314-9154) and it is expected that you will comply with the Code throughout your participation in the P261 laboratory activities.

CORE Requirements

CORE Lab Science Requirement: Lecture and Lab Courses, PHYS 260: GENERAL PHYSICS: VIBRATIONS, WAVES, HEAT, ELECTRICITY, & MAGNETISM (LECTURE) and PHYS 261: GENERAL PHYSICS: VIBRATIONS, WAVES, HEAT, ELECTRICITY, & MAGNETISM (LAB) must be taken in the same semester to count *for* CORE Lab Science. PHYS 260 taken alone will NOT count as a non-lab science *for* CORE.