

Physics 271 Laboratory Spring 2008

University of Maryland

Physics 271 Spring 2008 Guide: Contents

Faculty

Teaching Assistants (and their sections)

Meeting Times

Information about the course

BlackBoard

Grading

Lab Schedule

Missed Labs

Academic Integrity

CORE Requirements

Faculty

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Teaching Assistants

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Meeting Times of Labs for Physics 271 for Spring 2008

Time	Monday	Tuesday	Wednesday	Thursday
8:00 am		Sec: 0105		
9:00	Sec: 0102	Sec: 0105		Sec: 0114
10:00	Sec: 0102	Sec: 0105		Sec: 0114
11:00	Sec: 0102	Sec: 0107		Sec: 0114
Noon	Sec: 0103	Sec: 0107		
1:00 pm	Sec: 0103	Sec: 0107		Sec: 0116
2:00	Sec: 0103		Sec: 0112	Sec: 0116
3:00	Sec: 0104		Sec: 0112	Sec: 0116
4:00	Sec: 0104	Sec: 0108	Sec: 0112	
5:00	Sec: 0104	Sec: 0108	Sec: 0109	
6:00	Sec: 0106	Sec: 0108	Sec: 0109	
7:00	Sec: 0106		Sec: 0109	Sec: 0120
8:00	Sec: 0106			Sec: 0120
9:00				Sec: 0120

Labs meet in room 3220 of the Physics Building

Information about the course

Physics 271 is the laboratory associated with Physics 270 and meets in room Phys--3220. This course carries one credit. You must pass Physics 270 as well as 271. If you do not pass 271 you will be required to repeat both 270 and 271. The grade for Physics 271 will be identical to that of Physics 270 (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. The Physics 271 laboratory uses the Excel spreadsheet to analyze data while in the lab. If you have taken Physics 261 within the last few semesters and have learned to use the spreadsheet, you will be fine.

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 Excel file (via BlackBoard). 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 submit the answers to the prelab questions. If you do not submit your Excel file to BlackBoard by the deadline, unless there is a hardware failure, you will get zero points for that lab. You will be given credit for doing the lab.

Our aim in this lab is to enhance the 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. 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! More questions may be handed out during the semester.

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 271 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 labs 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>The Oscilloscope and Multimeter</u>
Feb 11-14	Experiment 2 --- <u>The Resistors and Capacitors</u>
Feb 18-21	Experiment 3 --- <u>Faraday's Law of Induction</u>
Feb 25-28	Experiment 4 --- <u>LR and LRC Circuits</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>Diffraction Experiment</u>
Mar 31- Apr 3	Experiment 6 --- <u>Polarized Light</u>
Apr 7-10	Experiment 7 --- <u>The Hydrogen Spectrum</u>
Apr 14-17	Experiment 8 --- <u>Radioactivity and the Geiger Counter</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. Most TA's will be accommodating. 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 instructor 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 student's 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 Honor Council (phone: 314-9154) and it is expected that you will comply with the Code throughout your participation in the P271 laboratory activities.

CORE Requirements

CORE Lab Science Requirement: Lecture and Lab Courses, PHYS 270: GENERAL PHYSICS: VIBRATIONS, WAVES, HEAT, ELECTRICITY, & MAGNETISM

(LECTURE) and PHYS 271: GENERAL PHYSICS: VIBRATIONS, WAVES, HEAT, ELECTRICITY, & MAGNETISM (LAB) must be taken in the same semester to count *for* CORE Lab Science. PHYS 270 taken alone will NOT count as a non-lab science for CORE

