SYLLABUS PHYSICS 4BL: ELECTRICITY, MAGNETISM AND OPTICS
FALL 2010

FACULTY COORDINATOR: Troy Carter, tcarter@physics.ucla.edu
4-909 PAB, (310) 825-4770, office hours by appointment

LEAD TA/LAB 3 (M 5PM) TA: Hossein Fard, hfard@ucla.edu
LAB 1 (M 9AM)& 4 (T 9AM) TA: Nathan Tung, uncertainty@dctunginc.com
LAB 2 (M 2PM) & 7 (W 9AM) TA: Mary Scott, maryscott@ucla.edu
LAB 5 (T 2PM) TA: Matthew Buchovecky, mbuchove@ucla.edu
LAB 6 (T 5PM) & 8 (W 2PM) TA: Tong Zhou, refreshingmind@hotmail.com
LAB 9 (W 5PM) TA: TBA

Due to the large total enrollment in this laboratory course, your primary point of contact and instruction will be the Teaching Assistant who leads your lab session. **All questions regarding course material, grading, or scheduling should be first addressed to your TA**. Any questions regarding enrollment should be addressed to **Elaine Dolalas, edolalas@physics.ucla.edu**. The faculty coordinator will be available for office hours, by appointment, if there are questions or concerns that can not be addressed by your TA.

Schedule of Lab Sessions

Dates	Experiment Performed	Assignment Due
Sept 23-24	NO MEETING	
Sept 27-Oct 1	NO MEETING	
Oct 4-8	Statistics and Error Propagation	
Oct 11-15	DC and AC circuits	Statistics & error prop. report
Oct 18-22	DC and AC circuits	
Oct 25-29	Magnetic fields	AC/DC circuits report
Nov 1-5	Magnetic fields	
Nov 8-10	Acoustic and electromagnetic waves	Magnetic fields report
Nov 15-19	Geometric Optics	Acoustic/EM waves report
Nov 22-24	Diffraction and Interference	Geometric Optics report
Nov 29-Dec 3	NO MEETING	Diffraction/Interference report

Notebook

You will work in groups in the laboratory as you take data, but each individual student is responsible for keeping a complete laboratory notebook. This notebook should contain a record of the experiment being performed, including notes on measurement techniques, apparatus, observations and analysis. Your notebook will be checked by the TAs periodically throughout the quarter.

Reading Quizzes

In order to make most efficient use of lab time, you will be expected to read the section of the laboratory manual associated with each lab *before* coming into the lab to do the experiment. To help reinforce this good practice, reading quizzes will be given online (using the course website

at ccle.ucla.edu) prior to the start of each new lab. The quizzes will be short and will cover material included in the lab manual and basic theory underlying each lab. **There will be a reading quiz due before every lab session**.

Lab reports

Although data will be taken in groups, lab reports must be written up and handed in *individually*. They will be due one week after the completion of each experiment (nominally due at the beginning of the lab session the following week, or at the time the lab session would be held if no meeting takes place that week). The report should contain: a brief introduction explaining what is being measured and why; a summary of the data taken and analysis results; and a brief conclusion for each measurement made. Your TA will give more specific instructions on what should be addressed in the lab report for each experiment. **Note: you must attend and participate in the lab session and data taking in order to turn in a lab report (you may not use data taken by lab partners or others in your absence to generate a report, it must be your own data).**

In order to facilitate good record keeping and ease the grading duties of the teaching assistants, we ask that reports be handed in *both in hardcopy and electronically*. You will be asked to upload a PDF version of your lab report to the website of your lab section as well as hand in a hardcopy at the start of the lab session in which it is due. You may make use of printers in the lab room to print out your lab. PDF is an open format and there are free PDF writers available for most wordprocessing software (e.g. Microsoft provides a free download to enable PDF export in Word in Windows; PDF export is supported by default in all Mac applications). *Note that lab reports will not be accepted late, except in cases with documented medical excuses*.

Grading

Lab reports will be worth 76%, 12% for notebooks and participation, and 12% for reading quizzes. We will use an absolute grading scale for this course: 94-100%=A, 90-93%=A-, 87-89%=B+, 83-86%=B, 80-82%=B-, 77-79%=C+, 70-76%=C, 65-70%=C-, $<$65%=F.

Course Websites

Each lab section has its own website, where information, announcements and reading quizzes will be posted and completed. You will also upload lab reports to these sites. Please be sure that you are able to login to these sites and can view posted materials. The pages are:
http://ccle.ucla.edu/course/view/10F-PHYSICS4BL-1 (Lab 1)
http://ccle.ucla.edu/course/view/10F-PHYSICS4BL-2 (Lab 2)
http://ccle.ucla.edu/course/view/10F-PHYSICS4BL-3 (Lab 3)
http://ccle.ucla.edu/course/view/10F-PHYSICS4BL-4 (Lab 4)
http://ccle.ucla.edu/course/view/10F-PHYSICS4BL-5 (Lab 5)
http://ccle.ucla.edu/course/view/10F-PHYSICS4BL-6 (Lab 6)
http://ccle.ucla.edu/course/view/10F-PHYSICS4BL-7 (Lab 7)
http://ccle.ucla.edu/course/view/10F-PHYSICS4BL-8 (Lab 8)
http://ccle.ucla.edu/course/view/10F-PHYSICS4BL-9 (Lab 9)