University of California, Berkeley, Department of Physics

Physics H7B Course Information Sheet, Fall 2013

Instructor	Lecture Info	Instructor Office Hour
Dr. Shannon McCurdy	MWF 9-10:00 am	Tuesdays, 10:30-11:30 am,
Email: smccurdy@berkeley.edu	3 LeConte	395 LeConte

Enrollment Changes: All enrollment changes must be made via Tele-BEARS.

Prerequisites: MATH 1A or 1As, MATH 1B or 1Bs, and H7A.

Discussion Section: Tuesday 1-2 pm, 55 Evans. Attendance is strongly recommended.

Laboratory Section: Wednesday 4-7 pm, 245 LeConte. **The laboratory is a required part of the course.** A passing grade will not be assigned unless the laboratory portions are completed.

Graduate Student Instructor: Zach Fisher <zfisher@berkeley.edu>. Office hour is during the lab section, 6-7 pm, 245 LeConte.

Course Webpage: bSpace

Required Texts:

- D. C. Giancoli, *Physics for Scientists and Engineers*, Volume 2 (custom edition for the University of California, Berkeley). Covering Ch. 17-20, on thermal physics.
- E.M. Purcell and D.J. Morin, *Electricity and Magnetism,* 3rd edition. Covering the entire book. This edition has SI units and additional homework problems.
- Physics *7B Workbook*, 2007 revisions by Austin Hedeman. Available at the Copy Central, and used for labs.

Recommended Texts:

- R. Feynman, R. Leighton, and M. Sands, *The Feynman Lectures on Physics*, Vol. 1, Ch. 39-46. On reserve at the Physics and Astronomy Library.

Exams and grades: There will be two midterm examinations and a final exam. Dates and times are listed below. Exams cannot be rescheduled and must be taken at the scheduled time. Anyone with an unresolvable conflict with exam dates (e.g. another pre-scheduled exam in a different class) needs to contact me immediately.

Midterm 1	Thursday, October 3, 6:00-7:30P
Midterm 2	Thursday, November 7, 6:00-7:30P
Final	THURSDAY, DECEMBER 19, 2013 7-10P

Grades will be determined from a weighting of all the elements of the course approximately as follows:

1st midterm exam	20%
2nd midterm exam	20 %
Final exam	35 %
Homework	15 %
Laboratory (Must be completed for a passing grade.)	10 %

Homework: Physics is a subject learned by doing: in this course this means doing physics problems. Working on homework problems is critical to your learning the course material. You will have a weekly problem set of approximately 5-7 problems of varying difficulty, generally due **Friday 5:00 pm, 251 LeConte**. Assignments will be posted on bSpace a week before they are due. In this course, we encourage you to work with your peers on homework and learn from each other. In fact, group learning has been shown to be more effective than learning alone.[1] However, when you submit an assignment, you are stating that the solutions that you are presenting are *your own*, and not copied out of a book, from

[1] Lunetta, V.N., ``Cooperative learning in science, mathematics, and computer problem solving." In M. Gardner, J.G. Greeno, F. Reif, A. H. Schoenfeld, A. diSessa, and E. Stage (Eds.), *Towards a scientific practice of science education*.

a solutions manual, from a friend, etc. In particular, Ch. 12 of Purcell contains all of the solutions to all of your Electricity and Magnetism homework problems. You may look at the solutions for the homework problems only after the homework assignment has been turned in. You will only learn from doing the problems, if in the end, you can formulate your *own* solutions! Violation of this policy is considered cheating and will result in, at the minimum, a zero on the assignment. On the front of every assignment, please include the signed statement, "These solutions are my own."

Late homework will not be accepted. We will, however, drop your lowest homework score. The lowest-homework drop is designed to cover normal circumstances such as illness, a family emergency, etc.

Discussion/Laboratory (DL) Sections: In most of your DL sessions you will be working in groups, with help from your GSI, on materials that we have developed to help improve your conceptual understanding of the course material, see how the material relates to everyday life, and build strong problem solving skills for each topic covered in the course. The goal is for *you* to learn how to do physics. The sections will thus not be based on your GSI lecturing or solving sample problems on the board while you just watch. We expect all students to attend and participate in sections. You will not be graded on your performance in solving problems; they are, rather, for your practice, and to assist and guide you in learning the material.

Labs: In some weeks, as shown on the Course Syllabus, you will complete laboratory exercises that are also designed to help you explore the main course concepts. **Lab sections meet every week regardless of whether there is a lab for that week.** (On weeks that there is no lab scheduled, your lab section will be run like a discussion section.) Your work for the labs will be completed on handouts that can be found in your Physics 7B Workbook. You will hand in your work before you leave the lab. Because our labs are closely integrated with the rest of the course, they must be completed when scheduled. **If for a valid reason (e.g., illness) you must miss a scheduled lab, email both me and your GSI ahead of time to arrange for a make-up that same week with a 7B DL section. There are no make-ups at the end of the semester.**

Academic Honesty[2]: "As a member of the UC Berkeley community, I act with honesty, integrity, and respect for others." Honesty and integrity are of great importance in all facets of life. They help to build a sense of self-confidence, and are key to building trust within relationships, whether personal or professional. There is no tolerance for dishonesty in the academic world, for it undermines what we are dedicated to doing – furthering knowledge for the benefit of humanity. Your experience as a student at UC Berkeley is hopefully fueled by passion for learning and replete with fulfilling activities. And we also appreciate that being a student may be stressful. There may be times when there is temptation to engage in some kind of cheating in order to improve a grade or otherwise advance your career. This could be as blatant as having someone else sit for you in an exam, or submitting a written assignment that has been copied from another source. And it could be as subtle as glancing at a fellow student's exam when you are unsure of an answer to a question and are looking for some confirmation. One might do any of these things and potentially not get caught. However, if you cheat, no matter how much you may have learned in this class, you have failed to learn perhaps the most important lesson of all.

A good lifetime strategy is always to act in such a way that no one would ever imagine that you would even consider cheating. Anyone caught cheating on an exam in this course will receive a failing grade in the course and will also be reported to the University Center for Student Conduct. In order to guarantee that you are not suspected of cheating, please keep your eyes on your own materials and do not converse with others during the exams. For exam studying, please do use old exams and additional books as a resource for problems. If you happen to have already solved problem that later appears on an exam, that is not considered cheating.

Accommodations: If you need disability-related accommodations in this class, if you have emergency medical information you wish to share with me, or if you need special arrangements in case the building must be evacuated, please inform the instructor immediately. Please see me after class or arrange to meet me at my office.

If you are in trouble (e.g. behind in homework, doing worse than you would like), please let us know. We'll try to help! Additional help is available through the Student Learning Center, the Honors Society, the Society of Physics Students, and the Physics Scholars Program. The department also keeps a list of private tutors. Inquire at 368 LeConte Hall for further information on resources. **There is quite a lot of material in this course, and not a lot of time to learn it. There are many resources available to help you. We strongly encourage you to take advantage of them.**

---

[2] Adapted from http://www.asuc.org/honorcode/resources.php.