University of California, Berkeley, Department of Physics
Physics 7B, Lecture 1: Course Information Sheet, Fall 2019

Lecture 1 Instructors	Lecture Info	Instructor Office Hours
Robert Birgeneau	Mon/Wed/Fri	Birgeneau:
Office: 303 Birge	11:00 AM – 12:00 PM	Wed, 2:00PM – 3:00PM
Email: robertjb@berkeley.edu	1 LeConte Hall	

First two weeks: Discussion and lab (D/L) section begin on the first day of instruction. You **must** attend your discussion and laboratory (DL) sections during the first two weeks of class to remain enrolled in the class. Any enrollment changes **must** be done via CalCentral. You must attend your enrolled DL section. If you still have a problem, then contact the Head GSI.

Drop Deadline: **September 6th**

Head Graduate Student Instructor: Jacob Leedom, leedoj@berkeley.edu

Any and all administrative issues should be addressed directly to the Head GSI.

7B Course Center: 107 LeConte (GSI office hours and work with other students)

Course Webpage: bcourses.berkeley.edu

Prerequisites: Physics 7A, Math 1A and 1B; Math 53 should be taken concurrently.

Texts:

- D. C. Giancoli, *Physics for Scientists and Engineers*, Volume 2 (custom edition for the University of California, Berkeley), 4th edition. You will generally be expected to read those sections of the book relevant to a given lecture before class. This is a **required** text.
- *7B Workbook*, by Hedeman, which will be packaged with Giancoli at the student bookstore. These will be used in section and are **required**.
- Mastering Physics. The workbook and Giancoli, along with Mastering Physics, are being sold as one unit. An access code to Mastering Physics is **required.**
- Elby, *Portable TA: Problem Solving Guide, Volume 2*. Students who wish to try extra problems may find this resource useful, which contains practice problems about electricity and magnetism with completely worked-out solutions. It is meant to be *worked*, not read. These practice problems are for your own benefit; we will not collect your work on them. We suggest working through at least some of the problems in Elby before attempting each week's homework assignment. This is a **suggested** text.

Exams and grades: There will be two midterm examinations and a final exam. Dates and times are listed on syllabus. Exams cannot be rescheduled and must be taken at the scheduled time.

Anyone with an unresolvable conflict with exam dates (like another prescheduled exam in a different class) needs to contact the Head GSI immediately. 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 40%
Homework 10%
Laboratory 10%

In addition, **up to five (5)** bonus points will be given for attendance at discussion sections. You will receive the full 5 points for attending 50% of discussion sections; **if you attend fewer than 50% of discussion sections, you will receive no bonus points**

A grade of "Incomplete" will only be given under dire circumstances beyond a student's control, and only when work already completed is of at least C quality. University guidelines specify that in lower division courses, the total percentage of students getting an A should be roughly 25%, the percentage of students getting a B should be roughly 40%, and the percentage of students getting a C should be roughly 35%. We will be following these approximate guidelines. The grade of D or F will also be given to a small percentage of students displaying especially poor performance.

Homework Subscription: All of our homework will be done through an internet subscription service, Mastering Physics. You can register for your Mastering Physics subscription by either purchasing a registration card along with your textbook, or online at the Mastering Physics site with a major credit card when you log on. Duplicate subscriptions will be deleted. You can log on to our homework service at this address: http://www.masteringphysics.com .

To log in to Mastering Physics, you need:
Student Access Code: purchase at the bookstore or on the Mastering Physics website
Student ID: Your 8-digit Cal student ID
Course ID: **PHYSICS7BFALL2019**
UC Berkeley Zip Code: 94720

We strongly encourage you to try logging on to Mastering Physics today! If you have any problems logging in, email the Head GSI immediately, include the phrase "Mastering Physics" in the subject.

Homework: Working on homework problems is central to your learning the course material. You will have a weekly problem set of approximately 10 problems of varying difficulty, due as listed on the Mastering Physics website (generally **Friday at 11:00pm**). Assignments will appear on your Mastering Physics account approximately 7 days before they are due. Generally, homework will be due by **11:00pm on Fridays,** with possible exceptions when there is a midterm that week. The first assignment "Introduction to MasteringPhysics" is not graded, and is really a worksheet on using Mastering Physics. The due date for the first assignment is September 6, 2019, at 11:59pm. The second assignment "Homework 1" is your first real

homework set of the semester. **Late homework will not be accepted.** We will, however, drop your lowest homework score.

We encourage you to work with your peers on homework and learn from each other. However, when you submit an assignment online, you are stating that the solutions that you are presenting are *your own*, and not copied from any source. 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.

Solution sets to all of the problems will be available on the website after the due date.

MasteringPhysics is an online physics homework system, and thus by extension it would seem that students should do their homework online, in front of the computer. You are discouraged from doing so. Rather, we strongly recommend that every week, after the homework is posted, you print out the homework from the computer, and then you go away from the computer and complete your homework assignment on white paper. After you have completed the assignment, go back to the computer, and input your answers. Then, for those problems that you got wrong, go back to your written work and look to see where a mistake was made. Make sure that you write a coherent argument for each problem on your written solutions so that you can check your work. After you have completed a homework assignment, save your written solutions, and this way you will have a written record of how you did the homework problems that you can refer to later when studying for exams.

Note, with Mastering Physics you have six chances to submit each homework part for grading, with a penalty for each submission. Hints are available online, but you will receive a little extra credit for not using them.

Discussion/Laboratory Sections: Learning physics means *doing* physics—discussing physics concepts, working in the laboratory, and working (many) physics problems. Your Discussion/ Laboratory Sections ("DLs") are designed to help you learn the course material by working with it in as many ways as possible. In most of your DL sessions you will be working in groups, with help from your GSI, on materials that we have developed to do the following: 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. The goal is for *you* to learn how to do physics, and 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, but you will not be graded on your performance in solving worksheet problems; they are, rather, for your practice.

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. You will get your labs listed as parts of the workbook available at the bookstore. **Lab sections meet every week** regardless of whether there is a lab for that week. 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 your DL section's lab time, alert your GSI and try to complete the lab with another DL section during that same week.** We will also leave one set-up in the room for an additional week, so if necessary one time during the semester with approval from your GSI, you may make up a lab in a different DL section the

following week. **Uncompleted labs will count as a "zero" in computing your course grade, and your final course grade will be further reduced by 1/3 letter (B+ to B, etc.) for each missing lab. If you are in trouble** (behind in homework, doing worse in the course than you would like, etc.) for whatever reason, please let us know. We'll try to help! Additional help is available through the Student Learning Center (Golden Bear Center), the Honors Society, the Society of Physics Students, and the Physics Scholars Program. Inquire in the Physics Department Undergraduate Student Services Office (368 LeConte Hall) for further information.

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.