University of California at Berkeley
Department of Physics

Physics 8A Course Information – Spring 2021

Lecture 1 Information	Lectures: MWF, 3-4 PM, Zoom	starting 1/20
Nathan Lowhorn nlowhorn@berkeley.edu	Office hours: To be determined	starting week of 1/25

As you know, the entire course will be taught remotely this semester. Some components will be delivered synchronously to encourage students' participation, but attendance is not mandatory in order to provide more flexibility.

Please note that all dates and times in this document (and for the class as a whole) are listed in Pacific time. If you are in a different time zone it is your responsibility to ensure that you properly convert each time to your local one. Furthermore, please note that CA follows daylight savings time changes. This means that, after March 14th, the conversion to your local time zone may change.

"Semester in The Cloud" pilot program
This semester, Physics 8A will be part of a pilot program intended to produce reusable video content for future semesters. These videos will not be produced by your primary lecturer but rather by Professor Michael DeWeese. The ultimate goal of the "Semester in the Cloud" program is to use these videos as a primary method of delivering course material. However, this project will be incomplete for the current semester. Therefore, videos from the program may be made available as supplemental materials but students *will not be held responsible* for materials found exclusively in these videos. These videos are intended as an additional optional resource and are not mandatory viewing.

First two weeks: The early-drop deadline still holds, so you must attend ALL your discussion/laboratory (DIS/LAB) sections during the first two weeks of class to remain enrolled, including those scheduled before the first lecture. Depending on where you live, it might not be convenient to attend the DIS/LAB sections synchronously; but you are still required to watch the recordings which will be posted to a section Box folder. **The Drop Deadline is Friday 1/29**. Please contact Heather Makiharju (hmakiharju@berkeley.edu) for more detailed enrollment information.

Course website: Once you are registered in the class, you should have access to the course website on bCourses (https://bcourses.berkeley.edu/). The site will contain all course information throughout the semester. Make sure your email address is correct as all course communications will be distributed through bCourses emails. It is your responsibility to check for announcements regularly in order to ensure that you do not miss any important information.

Head Graduate Student Instructor: Nick Aldana <nick_aldana@berkeley.edu>

Required Materials:
- **Textbook:** *University Physics, Vol. 1* & 2 (free download)
  University Physics, Vol. 1 (https://openstax.org/details/books/university-physics-volume-1)
  University Physics, Vol. 2 (https://openstax.org/details/books/university-physics-volume-2)
- **Lab manual/Workbook**: *Physics 8A Student Workbook (worksheets and lab instructions will be uploaded to bCourses)*
- **Homework software:** *Expert TA* ($32.50 registration fee)

Readings: Reading the textbook and working problems is very important. Be prepared for lecture and section by reading the assigned material in advance. Lectures and sections both assume that some of the basic material has been learned from the text already.

Teaching/learning philosophy:
My purpose as the instructor is not only to teach you some physics but also to help you develop some skills like thinking critically, acquiring a logical thought process, and focusing on the concepts more than applying some recipes. As students, it is crucial to realize that your academic performance is enhanced if

you cultivate the following mindset: **curiosity, desire to learn, tenacity, and interactions with your peers**.

Lectures: **Lectures will be delivered synchronously via Zoom using the link provided on bCourses at the officially scheduled lecture time (starting at Berkeley time)**. You are encouraged to attend; however, considering that not everyone has the same learning style and some of you will be living abroad, the lectures will be recorded and posted to bCourses. If you are not able to attend lecture in real time but have questions, you are strongly encouraged to ask questions in **office hours** which will be held by your lecturer as well as all the GSIs.

Lectures are meant to present the course material but that doesn't mean that you should be passively taking notes without thinking. I therefore recommend that you to read the material beforehand, and I encourage you to ask questions during lectures! Because of the amount of material that needs to be covered, the number of examples covered in lecture will be limited, so discussion/lab meetings and homework are essential to your understanding of the material. **Short quizzes, worth 4% of the total course grade, will be administered on a weekly basis to make sure you keep up with the pace of the lectures.** The quizzes will be administered as bCourses quizzes with a time window of 24 hours to complete.

Discussion/Laboratory (D/L) Sections: **Discussion and lab sections will be held synchronously via Zoom at the officially scheduled time.** The Zoom link and all other necessary details will be provided by your own GSI. However, for those of you living far away, the GSIs will post some recordings of the discussions (when they provide explanations/reminders to the entire group) as well as the experimental part of the labs (data collection).

You must be registered in DIS and LAB sections with the same number (e.g. DIS 103 & LAB 103). Some D/L meetings will be discussions, and some will be laboratory sessions; but the sections always meet twice a week for two hours. The lab schedule is shown on the syllabus. **You *must* attend ALL your *registered* discussion sections during the first 2 weeks or you may be dropped from the course. ALL the labs are mandatory.** Note that you can "attend" the first two weeks by watching the recordings. If you wish to change discussion sections, you must make an official change through CalCentral. If you cannot find any available spot, you can seek someone in the class with whom to switch by going to the "Discussions" on bCourses. Put your request in the subject line – "From Section 1xx to Section 1yy", (state the sections you wish to swap) and your email address. If you find a match, coordinate so each of you simultaneously drops your DIS/LAB section on CalCentral and immediately signs up for the other one.

The lab instructions will be available before the lab meeting so that you can read them in advance. If anything is unclear, prepare a list of questions and ask your GSI during the lab meeting. You will be given a 24h-window after the lab meeting to upload your lab report. If you miss a lab deadline due to an emergency, please contact your GSI to explain your situation and request an extension. **Attending DIS/LAB sections is not mandatory (only the lab report is) but plays a huge part in your understanding of the material**, as sections provide an opportunity to work in smaller groups (even on Zoom!), ask more/deeper questions, discuss areas you are uncertain of, improve your problem-solving and writing skills. **You are responsible for the material presented in DIS/LAB sections. 4% of the total course grade will reward your participation during discussions, and labs are worth 4% of your total course grade.**

Homework: **Mandatory HW assignments are worth 10% of your total course grade**. They will be due on a weekly basis to help you review the material covered in class during the previous week. The problem sets will be assigned via the online platform Expert TA (Student Registration Link: **http://goeta.link/USB06CA-F996A2-280**). Since my focus is more on the concepts than on numerical values, I will try to assign symbolic problems, as much as possible. **Each HW assignment will be due on Friday at 11:59 pm, and the lowest HW score will be dropped**. **Working on homework problems is key to your in-depth understanding of the course material. For each HW problem, I encourage you to write down neat and detailed solutions in a notebook, working with symbols instead of numbers in a logical and organized manner, as expected on an exam.**

Exams: There will be 2 midterm examinations and a final examination administered remotely on

Wednesday, March 3, 7-9 pm
Wednesday, April 7, 7-9 pm
Wednesday, May 12, 7-10 pm

More details regarding what sources you will be allowed to use will be posted before each exam.

> **As part of a pilot program, we may use Zoom to proctor the final exam. In that case, you would be required to turn on your webcam during the exam, and the exam may be recorded.**

Academic honesty: I strongly encourage you to work with your fellow students when appropriate, for example during DIS/LAB sections and when you do your HW. However, exams should reflect your own work and **any form of cheating will be treated very severely, most likely by your failing the entire course and by referral to Student Judicial Affairs**: http://students.berkeley.edu/uga/conduct.asp.

Grades: You are responsible for all information presented in lectures, DIS/LAB sections, and HW assignments. Grades will be determined from a weighting of all the components as follows:

LABS: 4%	**MT1: 24%**
HW: 10%	**MT2: 24%**
QUIZZES: 4%	**FINAL: 30%**
PARTICIPATION: 4%	

Your numerical score will be used to assign a course letter grade for the class, with two exceptions discussed below. The mapping of ranges of numerical scores to letter grades (A,B,C,D,F) will reflect our judgment as to what raw scores correspond to various degrees of demonstrated performance and learning, based on our overall assessment of all assignments, their difficulty, and their weights.
In order to mitigate the effect of potential academic dishonesty, the Physics Department recommends that grades be assigned on a fixed scale, without any predetermined % of each letter grade. I cannot announce any precise cut-off at this point because of the difficulty to predict the class average and standard deviation.

When taking a class pass/no-pass (P/NP), a *P* grade corresponds to the equivalent of a *C-* grade or above.

A course grade of "Incomplete" will only be considered under circumstances beyond a student's control, and only when these circumstances have prevented the student from completing certain assignments, not just because performance suffered, and then, according to official university policy, only when work already completed is of at least "C" quality or better.

Accommodation policy: If you need religious or disability-related accommodations, or if you have any emergency medical information you wish to share with us, please let us know as soon as possible.

Inclusion: We are committed to creating a learning environment welcoming of all students, that supports a diversity of thoughts, perspectives and experiences, and respects your identities and backgrounds (including race/ethnicity, nationality, gender identity, socioeconomic class, sexual orientation, language, religion, ability, etc.). To help accomplish this:
• Please let us know which set of pronouns you want us to use (you can write that next to your name on your Zoom profile).
• If something was said in class (by anyone) that made you feel uncomfortable, please contact us about it.
• If you feel like your performance in the class is being impacted by your experiences outside of class (e.g., family matters, current events), please talk to us as soon as possible.
As a participant in this class, recognize that you can be proactive about making other students feel included and respected.

Please never hesitate to contact us if you encounter any kind of hardship. We might be ill-equipped to help you depending on the situation, but we will always do our best to direct you to the appropriate person to make sure you get the help that you need.
If you happen to need non-academic support throughout the semester, please check the following websites:

https://care.berkeley.edu
https://uhs.berkeley.edu/caps