

Physics 7A Winter 2021 Discussion Lab Syllabus

TA: Joseph Levine

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LA: Nika Ghassemi

Section: 04A/04B MW 1640 - 1900

Office Hours: Wednesday 1530-1630 or by appointment. This will likely change. There are about 20 other TAs all with office hours, it shouldn't be a problem to find one that fits your schedule.

Class Structure:

The Physics 7 series is structured to encourage conceptual understanding of physics principles and critical thinking as opposed to memorization. As such, the discussion lab (DL) is an opportunity to explore and solve problems in a team setting. Most DLs will begin with a discussion of the FNTs (For-Next-Time assignments) from the previous session, and then proceed as follows:

- Small group activity and discussion in Zoom breakout rooms.
- Whole class discussion.
- Repeat.

Learning Goals:

My goal for this class is for you to understand some of the models which guide how we think about the world through physics, and to gain more familiarity with the concepts and problem-solving strategies used by physicists. Understanding how to use physics principles to identify important features of systems, analyze them and their relationships, and their dynamics will help you in any STEM field you may pursue. I hope this class will reinforce the idea that across a variety of disciplines, physics can be useful, interesting, and fun (yes really).

Grading and Attendance:

DL will be graded on participation, not correctness. Confusion and “wrong” answers mean you are learning. You will receive a final score of -1, 0 +1 or +3 which will count as extra credit towards your course grade. I will assign this based on how often you volunteer in full group discussion and how much you seem to be interacting in the small groups. **Please make sure everyone gets a chance to speak and do not answer every question in the full group.**

You can not participate if you are not present so I will be taking attendance for DLs. Please set your first name to what you prefer people to call you, but keep your last/family name consistent with the roster so I can identify you. Feel free to include a pronoun.

Being on time is important. We will start at 1640 sharp. When you join the Zoom meeting, you will automatically be placed in a waiting room, and I will let everyone in from the waiting

room when class begins. If you arrive more than 10 minutes late to class you will be considered tardy. Four tardies will count as one unexcused absence. If you arrive more than 20 minutes late to class, you will need to attend a different section.

If you know you are going to miss a section, you should make it up by attending another section at a later time. Otherwise your absence will be counted as unexcused. Make sure to alert the other TA before you show up to their section, or else they may not let you in from the Zoom waiting room. If you have a compelling reason to miss a section and absolutely cannot make it up, please contact me directly by email or Canvas message as soon as possible so that I can determine if your absence can be marked as excused.

If you attend another section it is your responsibility to verify that the instructor marked your attendance and communicated it with me.

Groups:

In this class, you will work in groups of about 4-6 students to develop physical intuition and solve problems together. You will watch recorded demonstrations, manipulate equations, and briefly write up the results of your discussions on your digital whiteboards. We will be using Ziteboard (<https://app.ziteboard.com/>) this quarter. All Ziteboards will be available after at this spreadsheet

<https://docs.google.com/spreadsheets/d/1lwzRj3YidgCq4TrSvfzPvw85Y4POMGR5hJPBQJNp8ww/edit?usp=sharing> You can log in to Ziteboard using your UC Davis email. I expect to switch groups throughout the quarter. If you have an issue with a group member, please let me know privately right away. Please note that myself and the LA will be “walking” between groups and we may not announce our arrival if we feel it would interrupt a conversation.

Every member of a group should be prepared to explain their answers in the whole class discussions, and I may call on a particular group or on individuals to share what they've written. Don't stress too much about this part. The questions are designed to guide your thinking about what are often unfamiliar and sometimes counterintuitive topics, and I am more interested in whether you're thinking critically about the content than whether you've gotten the correct answer to a particular question. I'm here to help, and we're in this together.

On this note, don't worry about feeling “stupid”. There are no bad questions, someone else is wondering the same thing and too shy to ask. The narrative of science is brilliant people getting everything right for hundreds of years, but this is simply not true. It is full of wrong turns, rabbit holes and fighting to make sense of the world. If you knew everything about physics you would have no business being in this class. I expect you to be expanding your mind and that involves being “wrong”. Often.

Email:

In your message, include 7A somewhere in the subject line so I can easily identify emails pertaining to this course. You can also message me through Canvas. I will do my best to respond to you within 24 hours, but please note I may not respond to emails on nights or weekends. If you know you will need a fast response, please plan accordingly.

Ground rules:

- This is an inclusive learning environment. We are all from many different backgrounds with different identities, ideas, cultures, worldviews etc. This is a fairly informal group, but one rule I insist on is that we respect everyone's differences. Respectful disagreement is to be expected as we learn about physics and each other but hateful and discriminatory speech or behavior have no place in the classroom and will not be tolerated.
- We will be tight on time almost every class, but I feel a short break (2-3 minutes) is important and I will try to work one in. If you need one and it seems a good place to stop, feel free to ask by sending me a private zoom chat. Please keep breaks to the specified length and be ready to get back to work on time. I reserve the right to remove breaks if getting back on time becomes an issue and prevents us from finishing.
- Please review the Zoom etiquette document available here: <http://kb.ucdavis.edu/?id=5639>
 - No need to raise your hand in the main room unless you feel you are interrupting. Use your judgement.
 - I understand we are all in different situations and a quiet work space with a fast internet connection is not a luxury we all have. Please do your best and let me know there are issues on this front. Having said that, if there is a serious ongoing issue, a class based on active participation with classmates over Zoom may not be the best choice and you may want to reconsider taking this class while it is online if possible.
- **You are expected to have a camera and to use it**, unless there is a serious reason why that is not possible. Please contact me ahead of time if this is the case. Please be fully dressed for DL, out of bed and ready for action. Feel free to use a virtual background.
- This is an official University course, so you are expected to follow the Student Code of Conduct. Disruptive or inappropriate behavior will not be tolerated.
- Everyone in our class has the right to be addressed in accordance with their personal identity. I will gladly address you by the name and gender pronoun with which you identify. Feel free to let me/the class know in whatever way you feel most comfortable.
- You are all adults and I will treat you as such. Please be responsible for your actions, let me know of issues as they arise, and treat myself and your classmates with respect.