

CE 100 Elementary Fluid Mechanics

Course Guidelines and Syllabus, Fall 2020 | Last updated: 08/26/2020

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Technical requirements

- This course is built on a Learning Management System called Canvas and UC Berkeley's version is called [bCourses](#). It can be accessed with a computer, tablet, or smartphone.
- If you are having technical difficulties, please alert one of the instructors immediately and describe how you have requested expert tech support from Digital Learning Services (bcourseshelp@berkeley.edu, 510-664-9000).
- We will use Zoom for synchronous meetings (e.g., lecture, discussion, and office hours).
 - [Activate your free UC Berkeley Zoom account](#) and always join the Zoom meeting with your Berkeley account.
- We understand that your specific situation may present challenges to class participation. Please contact the instructors if you would like to discuss strategies for engaging with the course. The [Student Technology Equity Program](#) (STEP) is available to help access a laptop, Wi-Fi hotspot, and other peripherals (e.g. webcam, headphones, etc.).

Accessibility

UC Berkeley is committed to creating a learning environment that meets the needs of its diverse student body. If you anticipate or experience any barriers to learning in this course, please email Dr.V. and ask for a private appointment, suggesting two time windows that would work for you. You can also invite Dr.V. directly to a private appointment via bCalendar if you use that tool.

If you have a disability, or think you may have a disability, you can work with the Disabled Students' Program (DSP) to request an official accommodation. The Disabled Students' Program (DSP) is the campus office responsible for authorizing disability-related academic accommodations, in cooperation with the students themselves and their instructors. You can find more information about DSP, including contact information and the application process here: dsp.berkeley.edu. If you have already been approved for accommodations through DSP, please know that DSP is ready to quickly adjust your accommodations if your situation changes.

DSP informs Dr.V. of all finalized accommodations, and he will inform you of how he plans to implement your accommodation. If you are working on an accommodation with DSP, you are invited but not required to inform Dr.V. by email and/or by asking for a private appointment.

Students who need academic accommodations or have questions about their accommodations should contact DSP, located at 260 César Chávez Student Center. Students may call 642-0518 (voice), 642-6376 (TTY), or e-mail dsp@berkeley.edu.

Asynchronous content

Course site

The class's [bCourses](#) page will be used to post all course materials including videos, announcements, and the discussion boards which are the first place to look for homework help. Please [set your bCourses notifications](#) so that you do not miss any announcements or assignments. Check the bCourses site frequently (at least twice per week) to stay current.

Lectures

Dr. V will post pre-recorded lectures on bCourses for you to watch.

Laboratory assignments

Laboratory experiments will be part of class. Lab reports will be done in teams of 2 or 3, so try to meet people during the first weeks of class by participating actively in study hall, office hours, and bCourses discussion boards. Each team will choose one member to submit the team's shared lab report on bCourses; all names should be on the lab report. Students will be able to choose their own teams. There will be a group-forming event when Lab 1 is assigned. Lab reports will be submitted through bCourses.

Homeworks

Homeworks will be completed on [PrairieLearn](#). **Sign in with Google using your Berkeley email address and add "UCB-CE 100: Fluid Mechanics, Fall 2020" as a course.**

- When calculating your answers, make sure that your constants match the ones in the [CE 100 reference sheet](#). Your answer may otherwise be marked incorrect.
- Students have up to ten attempts on each homework question. The number of available points will begin decreasing on the third attempt.
- Homework questions are pulled at random from a question bank. Your homework questions may therefore be different from another student's homework questions.
- Students will initially access PrairieLearn through the University of Illinois, Urbana-Champaign server. This may eventually change to the University of California, Berkeley server. Students will be notified in advance if and when this happens.

EDIT: 9/19/2020

We are now using PrairieLearn at <https://cbt-dev.berkeley.edu/pl/>. The previous site <https://prairielearn.engr.illinois.edu/> has the first three homework assignments and is still available for studying.

Exams

There will be 3 mid-term exams and a final exam, all of which will take place on PrairieLearn. Students will have access to the exams for a 48-hour window of time and are allowed to complete the exam during their choice of one 3-hour time period while the 48-hour window is open. Material in the exams will be drawn from lectures, labs, and homework. Exams will be open-book and open-notes but must be completed without asking anyone for help. You will be

asked on the exam to specifically confirm the [honor code](#) and its specific implementation in this course by agreeing to the phrase: “I certify that I am [name] and I am allowed to take this assessment. I pledge on my honor that I will not give or receive any unauthorized assistance on this assessment and that all work will be my own.”

Synchronous content

Table 1 provides an overview of CE 100’s synchronous content. This table is a snapshot in time and its information is subject to change. The most up-to-date information on meeting times is shared on bCourses as a Google Calendar at this [link](#). You can add the calendar to your own bCal via this [link](#).

Table 1: Overview of synchronous content

Meeting	DOW, Time (PDT)	Link	Meeting Info	Note
Synchronous Session	W, 10:10 - 11:00 W, 17:10 - 18:00	https://berkeley.zoom.us/j/92418131968?pwd=cStSOFUvbVUwUGk5NkhxNHZ3dnlvZz09	ID: 924 1813 1968 Passcode: CE100	Both sessions will be the same. You may attend either session you like.
Office Hours	T, 17:10 - 18:00 F, 10:10 - 11:00	https://berkeley.zoom.us/j/95509243644?pwd=YnZIMU5kWFEE1SC96V2Z2MThtRHRERZz09 and by +12133388477,,95509243644#,,,,,0#,,496051#	ID: 955 0924 3644 Passcode: CE100	The Zoom link will be open an hour before and an hour after office hours.
Study Hall	T, 16:00 - 19:00 F, 09:00 - 12:00	https://berkeley.zoom.us/j/91987631907?pwd=cVh5ak42NmtKR3h0MIFXbE5xdEFCZz09	ID: 968 0887 0667 Passcode: CE100	Students may use this link outside of designated hours so long as the event's host is not holding a meeting at the same time.

Synchronous session

The graduate student instructor (GSI) will present examples, answer questions, and discuss the lab assignments on Wednesday 10:10 AM and Wednesday 5:10 PM (Pacific Time) on Zoom.

- Both sessions will be the same. You may attend either session you like.
- Recorded videos will be posted after the session ends.
- We encourage students to attend synchronous sessions, but we understand that this may not always be possible due to your unique circumstances or technical difficulty. Therefore, attendance will not be graded. If you miss a synchronous session please watch its video on bCourses as soon as you are able.

Office hours

Either a GSI or the professor will answer student questions during office hours. Each session is

1 hour long. Students may use the session's Zoom link up to one hour before each event and one hour after for group work.

Study hall

Study hall is intended for students to work on assignments together without supervision from the teaching team. Formal sessions are scheduled for 3 hours. It is intended to be a student-led study space and may be a quieter alternative to office hours. The link will also be open outside of formal sessions except when there is a host conflict. Please consider using this space to form study groups. To signal to other students that you are interested in studying at a specific time, you could create an event in your bCal for that time and invite gsi.ce100@gmail.com to the event. This will make the event viewable to other students who have added the class calendar. You can also announce study sessions in the bCourses discussion board.

Zoom Policies

Privacy

- Please keep the Zoom link private—do not share with anyone outside of the course.
- You will be alerted as to when synchronous sessions are about to be recorded. If you prefer not to be recorded, you may turn your video and microphone off.

Creating community

- Please set your Zoom name to be the name you would like the instructors to call you. You may optionally include your personal pronouns. Example: Elizabeth (she/her)
- Please set your Zoom picture to an appropriate profile picture of you to foster a sense of community and enhance interactions. If you are not comfortable using an image of yourself, you may use an appropriate picture of an avatar.
- We encourage participating in synchronous sessions, office hours, and study hall with your video on to foster a sense of community and enhance interactions. However, we understand that some students are not comfortable with video or may not be able to participate by video.

Questions during synchronous sessions

- Please leave your audio on mute during synchronous sessions but be prepared to unmute yourself to ask or answer questions or participate in breakout rooms.
- If there is a technical difficulty during synchronous sessions you may unmute yourself to notify the instructor (e.g., the instructor is on mute, screen sharing isn't working, etc.).
- Use chat to ask questions, or to indicate that you want to be called on to ask your question verbally. Please do not use the hand-raising feature in zoom.

Class policies

Late assignments

Deadlines for individual assignments will be listed in bCourses. The maximum percentage possible on a homework assignment is reduced by 1 percentage point for each day (or fraction of a day) late. The maximum percentage possible on a lab assignment is reduced by 5 percentage points for each day (or fraction of a day) late. For example, a homework due Friday at midnight and submitted Sunday at noon can only earn up to 98% credit instead of a full 100%. Revised assignments count as late assignments. Assignments will be closed 30 days after their initial deadline, or on December 16, whichever comes first.

Communication

Email is for dealing with private personal matters. For example, if an ongoing health or family concern is going to interfere with your assignments, email Dr.V. to set up a private meeting. Questions about class should be asked during synchronous sessions, study hall, office hours, or in the forums on Bcourses. This helps other students learn from your questions. Please read all emails from campus and from the CEE Academic Affairs Office. Please sign up for [WarnMe/Nixle](#), UC Berkeley's mass notification system, and bookmark the webpage for the University's [Office of Emergency Management](#).

Instructional resiliency

If any member of the teaching team becomes ill, the course calendar will be shifted backwards, and end-of-term material will be cut. Remaining members will redistribute the load, cutting enough materials so that they are not working extra hours and that they have time to prepare for their new roles. If events occur that cause many members of the class to need time for taking care of their (and their loved ones') mental and/or physical health, the course calendar will be shifted backwards, and end-of-term material will be cut.

If a synchronous session is interrupted due to an outside event, the session may not necessarily be canceled. Either a make-up session will be provided within one week of the interrupted session or additional instructional material will be shared online.

Rights

You, your fellow students, and the instructors have the right to be treated fairly and with respect at all times.

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:

- If you have a name and/or set of pronouns that differ from those that appear in your

official records, please let Dr.V. and Teri know by email.

- We (like many people) are still in the process of learning about diverse perspectives and identities. If something was said in class (by anyone) that made you feel uncomfortable, please email Dr.V. or Teri and we can set up an appointment to talk about it.
- As a participant in this class, recognize that you can be proactive about making other students feel included and respected.
- Two additional resources (out of many on campus) are listed below for your reference.

The Care Line (PATH to Care Center)

The Care Line (510-643-2005; <https://care.berkeley.edu/care-line/>) is a 24/7, confidential, free, campus-based resource for urgent support around sexual assault, sexual harassment, interpersonal violence, stalking, and invasion of sexual privacy. The Care Line will connect you with a confidential advocate for trauma-informed crisis support including time-sensitive information, securing urgent safety resources, and accompaniment to medical care or reporting.

Ombudsperson for Students

The Ombudsperson for Students (102 Sproul Hall; 642-5754; <http://students.berkeley.edu/Ombuds>) provides a confidential service for students involved in a University-related problem (academic or administrative), acting as a neutral complaint resolver and not as an advocate for any of the parties involved in a dispute. The Ombudsman can provide information on policies and procedures affecting students, facilitate students' contact with services able to assist in resolving the problem, and assist students in complaints concerning improper application of University policies or procedures. All matters referred to this office are held in strict confidence. The only exceptions, at the sole discretion of the Ombudsman, are cases where there appears to be imminent threat of serious harm.

Grading

Assignments/exams will be weighted as follows:

Table 2: Weighting of grades

Homework	Lab Reports	Exam 1	Exam 2	Exam 3	Final Exam
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35%	25%	10%	10%	10%	10%
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Everyone can get an A.

Because everyone can receive an A in this class, you are not in competition with your classmates. An A signifies complete understanding of the material, and the ability to apply it to problems beyond those that are simple variations of those worked in class. Grades will be assigned at the end of class and may be adjusted for fairness by the principles: (1) Students with very similar performance should receive the same grade (2) Grades reflect overall mastery of the material, not the details of one assignment. If no adjustments are made, grades will be:

Table 3: Grading scale (when Berkeley assigns B=3.0, they are not implying that B = 75%).

A+	A+	A	A-	A-/B+	B+	B	B-	B-/C+	C+	C
100%	98%	95%	92%	90%	88%	85%	82%	80%	78%	75%

Regrade policy

Grades are not “up for negotiation.” This policy is to maintain fairness. Without this policy, the best negotiator would get the best grade!

How to do well in this course

Learning and reviewing

Most people learn best when they see material presented several times in different ways. Take notes, review your notes after class, find a textbook (or two) and read corresponding sections, and discuss with friends. Experiment with these to see which works best for you.

Computing

Some homework and labs are easier if you use Python, R, or Matlab. A good way to refresh your computing skills is by working the tutorials, or working with a person who knows it well.

Collaboration

Learn from each other! The most valuable part of your education is the network of people you meet. Find a study group, and if things get tense, try not to blame each other – learning is tough.

The most important thing on this syllabus

Learning is a difficult experience, and the stress we feel when we don’t understand something can lead us to criticize ourselves and others too harshly. As your professor, my opinion is that you will have a great life regardless of whether you understand fluids. Understanding fluids can help you be a better engineer but it is not worth beating yourself up over. If you are beating yourself up over fluids, or anything else, I encourage you to call the 24/7 counseling line at (855) 817-5667 and afterwards call [counseling & psychological services](#) 510-642-9494. They will provide personalized, expertly-informed, and confidential help. The service is free to all students

regardless of your health care plan. If you or someone you know is experiencing an emergency, please call the [Alameda County Crisis hotline](https://www.alameda-county.com/crisis-hotline): 800-309-2131.

Course schedule

Table 4: Initial Plan for Course Schedule (subject to revision). Last updated 11/09/2020.

Week	Wednesday	Notes	HW (due Friday at 23:59:59 PDT)	Concept	Lab (due Sunday at 23:59:59 PDT)
1	26-August	Build community, learn the class tools	HW0	Syllabus	
2	2-September		HW1	Pressure	
3	9-September	Short week (Monday holiday)	HW2	Hydrostatic tools	
4	16-September		HW3	Hydrostatic forces	Lab 1
5	23-September		Exam on Thursday-Friday		
6	30-September		HW4	Energy equation	
7	7-October		HW5	Pipe flow	Lab 2
8	14-October		Practice Exams		
9	21-October		Exam on Thursday-Friday		
10	28-October			Force balances	Lab 3
11	4-November	Short week (Tuesday election day)	HW6	Special forces	
12	11-November	Short week (Wednesday holiday)	HW7 released ~Friday	BGLAD, similitude	
13	18-November		Practice Exams		Lab 4
14	25-November		Exam on Monday-Tuesday		
15	2-December		HW8	Rivers	
16	9-December	RRR	Practice Exams		

The final exam is scheduled for Monday 14-December. If the exam is given remotely, the exam period will be Monday and Tuesday, 14-15 December.