PH142: Introduction to Probability and Statistics in Biology and Public Health

Course Syllabus (Fall 2025)

Contents

Course Information

Course Meeting Dates/Times:

Lecture: MWF 8-9am

Labs:

Section	Time	Location
101B	Th 5-7pm	Dwinelle 250
102B	Wed 2-4pm	Dwinelle 259
103B	Fri 9-11am	Genetics & Plant Bio 103
105B	Wed 4-6pm	Dwinelle 246
106B	Wed 5-7pm	Dwinelle 228
107B	Th 4-6pm	Dwinelle 183
108B	Wed 1-3pm	Valley Life Sciences 2070
109B	Wed 9-11am	Social Sciences 175
110B	Wed 4-6pm	Dwinelle 247
112B	Th 12-2pm	Valley Life Sciences 2030

Course Location: Remote/Online [Lecture Zoom Link]

Instructor: Tomer Altman, PhD

Instructor Email: taltman@berkeley.edu

GSIs: Juliet Del Core (Head GSI)

Junzhe Shao (Tech GSI)

Aidan Lee

Benny Sun

Kaiwen Hou

Yichen Xu

Zhongming Xie

GSI Email: 142gsi@berkeley.edu

Canvas/bCourses Link: https://bcourses.berkeley.edu/courses/1547200

Course Website: https://ph142-ucb.github.io/fa25/

Course Units: 4

Contributing Instructors: Corrine Riddell, Mi-Suk Kang Dufour

Course Description

This course is an introduction to statistics and data science, primarily for MPH and undergraduate public health majors, and others interested in public health topics. The course can be divided into three parts. In Part I, we will focus on learning to use R to explore and summarize univariate and bivariate distributions. Specifically, we will use the `dplyr` and `ggplot2` packages to manipulate and visualize data sets in R. Part II of the course introduces classical problems in probability and the Normal, binomial, and Poisson distributions. The most important topic we will cover in Part II is the Central Limit Theorem, the basis of most statistical inference. In Part III, we introduce statistical inference, the process of estimating statistics from samples to make inference about populations. During all parts of the course we will use real and simulated data sets to gain experience conducting biostatistical analyses using R. We will follow the PPDAC model, which stands for "Problem, Plan, Data, Analysis, and Conclusion".

Prerequisites

High school algebra.

Course Learning Objectives

After successfully completing Part I of the course, you will be able to:
● Describe distributions of variables visually and calculate summary statistics for measures of centrality and spread
● Determine the appropriate graphic to plot distributions and provide R code snippets to manipulate and visualize data frames
● Interpret output from a simple linear regression model

After successfully completing Part II of the course, you will be able to:
● Compute probabilities using the general rules
● Identify and describe binomial and Poisson random variables
● Compute probabilities using basic properties of the Normal distribution
● Describe the central limit theorem
● Write R code snippets to compute probabilities for the Normal, binomial, and Poisson distributions

After successfully completing Part III of the course, you will be able to:
● Estimate means, proportions, and differences between means and proportions, compute their confidence intervals and perform statistical tests
● State the assumptions and importance of the assumptions for statistical tests
● Perform a simple chi-squared test

- Perform a matched t-test
- Describe and check the assumptions for simple linear regression. Interpret the confidence interval and statistical test of regression intercept and slope coefficients
- Describe ANOVA, including the null and alternative hypotheses, and interpret output
- Describe when bootstrapping can be used
- Describe a permutation test
- Demonstrate knowledge that has been used throughout the term, in terms of data visualization and data manipulation
- Write R code snippets to perform hypothesis tests and calculate p-values

Methods of Instruction

Lectures are on Monday, Wednesday, and Friday from 8:00 - 9:00am on Zoom. Recordings are posted to the course website.

Weekly lab sessions are offered in-person and aren't recorded.

Instructor Information

Prof. Tomer Altman

Division of Biostatistics
School of Public Health University of
California, Berkeley 2121 Berkeley Way
West Berkeley, California 94704-7360

Office Hours:
Tuesdays, 5-6 PM
https://berkeley.zoom.us/j/91388735856

Tomer Altman is a Lecturer in the Biostatistics Division of the School of Public Health, and in the College of Chemistry. He completed his doctoral degree at the Biomedical Informatics program at Stanford Medical School. He is also the Principal at Altman Analytics LLC, a data science and bioinformatics consulting practice. His research interests are in diagnostics & therapeutics development, Boolean Implications in association analysis, and in biological sequence embeddings using Deep Neural Networks.

Course Schedule

	L#	Topic	Lab (W, Th, Fri)	Readings	Other Info
Week 1					
8/25/2025	--	No Lecture		--	
8/27/2025	1	Introduction to the course, the cloud, and PPDAC	Lab01: Introduction to R and RStudio on Datahub	--	Lab01 Released HW01 Released
8/29/2025	2	Working with data in R and RStudio (dplyr package)		--	Lab01 Due
Week 2					
9/1/2025	--	No Lecture: Holiday		--	Lab02 Released HW02 Released
9/3/2025	3	Visualizing data in R and RStudio (ggplot2 package)	Lab02: Visualization of global Cesarean delivery rates	--	
9/5/2025	4	Visualizing distributions for one variable, numerically summarizing spread and central tendency		Ch. 1 & 2	Lab02 Due Quiz01 Due
Week 3					
9/8/2025	5	Exploring relationships between two variables		Ch. 3	Lab03 Released HW03 Released
9/10/2025	6	Introduction to Regression	Lab03: Relationship between global cesarean rates and GDP	Ch. 4	
9/12/2025	7	Two-way tables (Relationships between two categorical variables)		Ch. 5	Lab03 Due Quiz02 Due
Week 4					
9/15/2025	8	Samples and observational studies		Ch. 6	Lab04 Released HW04 Released
9/17/2025	9	Live exercise: Sampling births from US territories	Lab04: Problem set on probability calculations	--	
9/19/2025	10	Designing Experiments		Ch. 7	Lab04 Due Quiz03 Due
Week 5					
9/22/2025	11	Introduction to probability		Ch. 9	MT I Review Released (optional)
9/24/2025	12	General rules of probability	Midterm I Review Session	Ch. 10	
9/26/2025	13	General rules of probability continued		Ch. 10	Project Part I Due

Week 6					
9/29/2025	14	The Normal distribution part I		Ch. 11	Lab05 Released HW05 Released
10/1/2025	15	The Normal distribution part II	Lab05: Sensitivity, specificity, and the Normal distribution	Ch. 11	
10/3/2025	--	Midterm 1		--	Lab05 Due Quiz04 Due
Week 7					
10/6/2025	16	The Binomial distribution		Ch. 12	Lab06 Released HW06 Released
10/8/2025	17	The Poisson distribution	Lab06: Problem set on Normal, binomial and Poisson distributions	Ch. 12	
10/10/2025	18	Sampling distributions for a mean and proportion and The Central Limit Theorem		Ch. 13	Lab06 Due Quiz05 Due
Week 8					
10/13/2025	19	Confidence intervals for a mean with known standard deviation		Ch. 14	Lab07 Released
10/15/2025	20	Hypothesis tests for a mean with known standard deviation	Lab07: Classroom simulation on the Central Limit Theorem and confidence intervals	Ch. 15	
10/17/2025	21	Power, type I and type II error, sample size (part I)		Ch. 15	Lab07 Due Quiz06 Due
Week 9					
10/20/2025	22	Inference for a population mean with unknown standard deviation		Ch. 17	MT II Review Released (optional)
10/22/2025	23	Catch up if behind	Midterm II Review Session	Ch. 17	
10/24/2025	24	Comparing two means		Ch. 18	Project Part II Due
Week 10					
10/27/2025	25	Matched comparisons		Ch. 17	Lab08 Released HW07 Released
10/29/2025	26	Inference: a population proportion	Lab08: Paired and two sample t-tests	Ch. 19	
10/31/2025	--	Midterm 2		--	Lab08 Due Quiz07 Due
Week 11					
11/3/2025	27	Comparing two proportions		Ch. 20	Lab09 Released HW08 Released
11/5/2025	28	Bootstrapping confidence intervals	Lab09: Inference for Proportions	--	
11/7/2025	29	The Chi-square test goodness of fit		Ch. 21	Lab09 Due Quiz08 Due

Week 12					
11/10/2025	30	The Chi-square test for 2x2 tables		Ch. 22	Lab10 Released HW09 Released
11/12/2025	31	Permutation tests	Lab 10: Chi-square	--	
11/14/2025	32	Inference for regression I		--	Lab10 Due
Week 13					
11/17/2025	33	Inference for regression II		Ch. 23	Lab11 Released HW10 Released
11/19/2025	34	Comparison of many means (ANOVA)	Lab 11: Regression Models and Checking Model Assumptions	Ch. 24	
11/21/2025	35	ANOVA II/Tukey's HSD		Ch. 24	Lab11 Due Quiz09 Due
Week 14					
11/24/2025	36	Non-parametric testing alternatives		--	
11/26/2025	37	No Lecture: Holiday		--	
11/28/2025	38	No Lecture: Holiday	Holiday; No Lab	--	
Week 15					
12/1/2025	39	Regression modeling with a categorical exposure		--	Final Review Problems Released (optional)
12/3/2025	40	Final Exam Review	Final Exam Review Session	--	
12/5/2025	41	Final Exam Review		--	Project Part III Due
Week 16	**RRR Week**				
Week 17	**Finals Week**				
12/17/2025		Final Exam (11:30am-2:30pm)			

Course Grading

Grading is based on the following:

Quizzes Weekly Gradescope quizzes will be available for 24 hours (Thursday 11:59pm - Friday 11:59pm). Once you open a quiz, you have 30 minutes to complete it. Quizzes will be relatively short and meant to encourage you to keep up with content. They will cover content from the previous and/or current week.

There are 9 quizzes in total (5 points each, 45 points total). The quiz category is worth a maximum of 40 points, giving you flexibility if you miss or do poorly on one quiz.

Labs Lab exercises are intended to practice concepts from lectures in a practical programming environment. You can complete and submit these during the lab section, or on your own time. Students often find it much more helpful to complete this in the lab rather than independently, but we understand that students learn differently, so feel free to do what works best for you. Lab exercises are graded on correct completion, so you must complete the lab fully, passing all tests, in order to receive credit for the assignment. Labs will be released on Monday mornings and can be submitted for completion marks until Friday at 11:59pm unless otherwise noted in the schedule. There are 11 labs in total. You may miss one lab without penalty.

Midterms I, II, and Final Exam Midterms I and II, and Final Exam. There are two midterms offered **during class on October 3rd and October 31st**. The midterms will be administered in class that day and are approximately 45 mins long. The final exam is on **Wednesday, December 17th from 11:30am-2:30pm**. If you have a conflict with any of the exam dates, please email the instructors by **September 1st** so that we can discuss possible accommodations.

Accommodations cannot be made for individuals enrolled in another class at the same time as this one, so please take this class in another semester if doubly enrolled. Appropriate accommodations for the midterm will be made for those with disabilities (please refer to the "Disabilities" section, below). Please note that only in extremely rare circumstances such as illness (with a doctor's note) will the in-class midterm be given to individual students after the scheduled examination date. Exams will cover the material presented in lecture, discussion, and lab sections, including R coding syntax, unless otherwise noted.

Exam policies. Exams will be administered in person and on paper. You may bring one page **(front only)** of notes with you to use on the day of the exam. **Notes must be hand written.** You should also bring with you a simple scientific calculator. While you take the exam, you are prohibited from discussing the test with anyone other than the PH142 instructional team. Evidence of cheating may result in a zero on the test or

further disciplinary action. We will strive to return graded examinations within one week of the exam date.

Data Project   Data skills demonstration group project. The purpose of the group project will be to use public health or biological data that you find or have access to and use it to demonstrate the statistical concepts that you've learned throughout the course. Groups will be assigned to you by lab section. You will have 2 deliverables spread out across the term, covering each section of the course and 1 deliverable due at the end which will cover part 3 and will also synthesize parts 1 and 2 into a cohesive report.

Participation   Required meetings with your GSI to discuss your data project will count as participation points. Throughout the term you will be also asked to provide feedback and participate in course discussions. Participation assignments will be announced on the Ed Discussion board. These will be marked for completion only.

Problem Sets   Problem sets will be distributed as R markdown files on Datahub. They will be released, along with labs, on Monday mornings unless otherwise noted. They will **not be submitted for grades** and you are encouraged to work on it in groups if that is how you learn best. Completing the problem sets is your best preparation for the midterms and final examination. All solutions will be posted on Datahub the Friday after the problem set is made available.

Extra Credit   There will be an opportunity announced later in the semester for students to recuperate points in the class. This will be announced on the course extra credit page when available.

FInal Grades

Final grades will be assigned according to the following percentages:

Quizzes	15%
Lab Assignments	10%
Midterm I	15%
Midterm II	15%
Final Exam	20%
Data Project (3 parts)	20%
Participation	5%

S/U (satisfactory/unsatisfactory) grading is permitted for this course. There are no differences in the course requirements or the grading for students who choose this option. "S" will appear on transcripts for grades of "B-" or above.

Course Materials

Course website

To access the course website, go to https://ph142-ucb.github.io/fa25/. Here you will find links to required and optional readings, the syllabus, assignment descriptions and additional course resources. Any changes will be reflected in the assignment section of the site.

Required Materials

We will be using R, a statistical programming language, and RStudio, an integrated development environment on Datahub, a cloud computing environment created at Berkeley. Use of R, RStudio, and Datahub is required for problem sets and lab exercises and requires an internet connection and web browser. You will learn how to use R, RStudio, and Datahub during the first week of classes. **You must access the Datahub link from the course website.** Do not bookmark the link, as it will not update with new assignments.

Optional Materials

The course textbook is "The Practice of Statistics in the Life Sciences" by Brigitte Baldi and David S. Moore. The textbook is available at the university library, both in hardback and an online version. The 4th edition of the textbook is the latest one, but previous editions are fine. We rely on it more during Part II and III of the course than we do in Part I.

Announcements, Questions, or Comments

Course announcements will also be sent out through a once-weekly email blast from Ed. In general, you can expect that GSIs will respond to posted questions within 24 hours. However, GSI's will not respond to questions during holidays and breaks, and weekend responses may be delayed. GSI's are not expected to answer questions 24 hours prior to an exam, but students may continue to post and answer each other's questions during this period.

All **questions about course material should be asked on Ed Discussion**, so that other students may benefit from reading the answers. Personal and administrative inquiries (e.g. extension requests, scheduling concerns) should be directed to 142gsi@berkeley.edu. As above, we will strive to answer any questions in 24 hours, but expect longer turnaround time during weekends or during breaks.

Other Resources

In addition, here are some free online resources available as supplementary material. We link to these specific resources in the lecture slides when applicable:
● Learning statistics with R: https://learningstatisticswithr.com/lsr-0.6.pdf

- OpenIntro Statistics: https://drive.google.com/file/d/0B-DHaDEbiOGkc1RycUtIcUtIelE/view
- A ModernDive into R and the Tidyverse: https://moderndive.com/9-hypothesis-testing.html#ht-infer
- Statistical Thinking for the 21st Century:
https://statsthinking21.github.io/statsthinking21-core-site/ci-effect-size-power.html#%20statistical-power
- R for Data Science: https://r4ds.had.co.nz/data-visualisation.html

Course Policies

Lab and Data Project Grace Period

All labs and data projects, unless stated otherwise, are due on the specified day at 10:00 PM. Due to the nature of electronic submission, we understand that some students may experience technical difficulties close to the deadline. Therefore, we are offering a grace period of two hours, until 11:59 PM, to account for these submission issues. The grace period applies by default, you do not need to notify us to use it. We will not be accepting requests regarding submission errors after 11:59 on the due date.

Exam Time Conflicts

If you have a conflict with any of the midterm/exam dates, please email the instructor **by September 1st** so that we can discuss possible accommodations.

Regrades

Grading for this course is done through Gradescope to allow blinded grading of questions and to provide consistent rubric information for GSIs and students. Gradescope also allows us to use some AI features to speed up the grading turn-around time. We will do our best to return graded submissions within a week of the due date. While we will do our best to ensure timely and consistent grading, we know that there are possibilities for errors both from the teaching team and machine-reading software. Regrades will be allowed on quizzes and midterm exams, requests for regrades will be open for three school days after the grades are released using Gradescope. Note that if you request reconsideration of a graded question, instructors may reconsider grades on the entire assignment.

Late Submissions

We will allow 50% credit for assignments submitted within 24 hours after the due dates. Extensions can be made for DSP students but should be requested ideally before the due date by emailing the GSI email account. Anyone else requesting an exemption for late submission should email the GSI account explaining their situation. If an emergency event prevents submitting an assignment by the deadline, please contact the GSI email account as soon as reasonably possible, including documentation with your request for extension.

Attendance

We strongly encourage attendance during lab, lecture, and office hours as there are opportunities to ask questions. Attendance, however, is not required. Course capture will be available to rewatch past lectures, available on the [course website](). Labs will not be recorded.

Communication

UC Berkeley School of Public Health has a commitment to cultivating a safe, respectful and inclusive community. You can read more about this in the [principles of community statement](). Part of fostering this type of community is cultivating respectful communication. We as a teaching team will do our best to communicate in a respectful, compassionate, and professional manner. We ask that you as students do your best to hold these values in your communications with each other and with us.

Questions during lecture and lab are strongly encouraged. If something is unclear to you, it is probably unclear to many others in the room. There may be times, however, when the instructor or the GSI decides that a particular question or discussion is not helpful to the entire class or will take too long to address satisfactorily. In these cases, we may defer the question to be answered after class, on Ed or during office hours.

Inclusive Learning

Faculty at Berkeley Public Health strive to create an inclusive learning environment. I commit to teaching this course through an inclusion lens. I'm interested in your perspectives and in the value and knowledge you bring to help make this an enriching course environment.

I view this syllabus as a dynamic document oriented toward learning and not just coverage of material; thus, I may add or modify topics covered, assignments, and resources (e.g., required readings/videos) slightly based on the needs and interests of students in the course. I welcome feedback and input at any time and invite careful reflection of any modifications that may help improve the course in the future.

As your professor I agree to the following:
● I will do my best to include course content with examples relevant to diverse communities (e.g., readings, examples, data)
● I will continue to work to understand the issues, concerns and history of all students. I will listen, learn, admit my mistakes when they're pointed out to me, and engage in ongoing cultural humility practices

● I welcome feedback at any time during the course without fear of reprisal; if a mid-semester evaluation is conducted, there will be specific language about inclusive teaching practices.
● Students are the experts of their own experiences. Your world lens is welcomed; and as students, you are invited to lift up information and/or data that is relevant to the course material. Everyone should be open to learning from everyone else.

Harassment Policy

We are all responsible for creating an environment that is welcoming, civil, safe, and tolerant. UC Berkeley does not tolerate harassment of PH142 students, GSIs, or instructors.
● Instructors and GSIs will act to stop acts of harassment in the classroom
● Students experiencing harassment can contact the office for the prevention of harassment and discrimination. To file a report, you can email ask_ophd@berkeley.edu or call them at (510) 643-7984. For more information, see: https://ophd.berkeley.edu/.
● Please note that Instructors and GSIs are Responsible Employees and must report incidents of sexual violence and harassment to the Office for Prevention of Harassment and Discrimination. Please see this website for confidential reporting resources: https://care.berkeley.edu/get-resources/.

SPH Course Policies

Descriptions of and relevant campus links to SPH school wide course policies on Disability Support Services, Accommodation of Religions Creed, Course Evaluations, and Academic Integrity can be found at: https://berkeley.box.com/s/knh3rbk9ikgvmca4ymy93msgj9bkebq5.

DSP Requests and Accomodations

The mission of the Disabled Students' Program (DSP) is to ensure that all students with disabilities have equal access to educational opportunities at UC Berkeley. The DSP offers a wide range of services, accommodations, and auxiliary services for students with disabilities. These services are individually designed and based on the specific needs of each student as identified by DSP's Specialists.

We will accommodate disabled students' needs according to DSP documentation; please notify the DSP if you require such accommodation (DSP will then contact the instructor). Note that this may take several weeks, so please initiate this process ASAP so that any accommodations can be implemented in time for the first midterm exam. Steps to the application process: https://dsp.berkeley.edu/students/new-students.

If you require DSP accommodations for an exam, please email the GSI email account at 142gsi@berkeley.edu with your request and write "[DSP Accommodation]" in the subject heading as soon as you know accommodations are required. If your accommodation allows for extension on take-home assignments, we ask that you discuss your request no later than 24 hours after the assignment is posted.

Use of Artificial Intelligence

This course enables limited uses of Artificial Intelligence (AI) tools, but also prohibits broad use of them. Use of AI in the course is not allowed unless otherwise permitted in this syllabus or with the express permission of the Instructor.

A general rule of thumb to understand the rationale of permitted use-cases is to substitute "paid consultant" for AI when trying to determine if it would be permitted. For example, cases that would be considered plagiaristic if the tool's output had been composed by a paid consultant, and then submitted under the student's name. On the other hand, if you paid a consultant to tutor you, this would not be considered unethical.

This course teaches fundamental skills in R programming and biostatistics. If you "offload" any of the coursework, whether to a paid consultant or an AI, you are primarily cheating yourself. You won't develop the knowledge and expertise that you'll need later in your career.

If unauthorized AI use on a particular assessment is suspected, the instructors may require you to complete a short, in-person examination orally or on paper, related to the content and skills tested in the original assessment.

For authorized uses of AI, students may use the Gemini generative AI tool from Google, using their UC Berkeley Google Account. No other tool is permitted.

Permitted use cases:

- It may be used to perform research in ways similar to search engines
- It may be used as a writing assistant in its capacity as a word processor, such as Word or Pages, i.e., for correcting grammar and spelling, and other functions like synonym suggestion
- It may be used as translation software for consultation purposes; you should never present the AI translation as your own text. You must cite it (see below).
- You may use generative AI as a tutor to help explain concepts, and to ask you questions to test your understanding
- Copying any text directly from a quiz or lab problem into an AI tool is considered cheating

- When assignments in the course permit or incorporate the use of AI tools, the assignment will ask you to include an acknowledgement of your use of any type of AI in your submitted work and share the prompts and outputs utilized at the time of submission. The suggested format is as follows: I acknowledge the use of [insert AI system(s) and link] to [specific use of AI]. The prompts used include [list of prompts]. The output from these prompts was used to [explain the use].
- AI tools may not be used to answer quiz or lab questions. It may not be used for any code generation.

Unpermitted use cases:

- AI tools may not be used for any purpose in any exam situation
- The use of AI tools such as ChatGPT or equivalent should not be used to summarize, generate, or interpret any thoughts present in any of your work. The software may not be used to compose any part of the submitted assignment.
- AI should never be employed for a use that would constitute plagiarism if the AI source were a human or organizational author
- Having another person/entity do the writing of any substantive portion of an assignment for you is against academic integrity policies, and can include hiring a person or a company to write essays and drafts and/or other assignments, research-based or otherwise, and using AI tools

Academic Honesty

Learning is hard work–we encourage everyone to work together and support one another. However, while group work is encouraged, with the exception of the group project, **students must submit their own code and answers for grading.** Students can not work together on the quizzes, midterm, or final examinations. **Tests that show evidence of academic misconduct will be immediately flagged and reported to the Center for Student Conduct for review.** This can result in a grade of zero on an assignment or a harder penalty depending on the degree of the offence. Each term, a few students in this class are reviewed by the Center for Student Conduct as we take cheating very seriously.

Berkeley's Code of Conduct is [here](). See Section V and Appendix II for information about how UC Berkeley defines academic misconduct. In particular, the sections on cheating and plagiarism are most relevant for this class. If you are not clear about the expectations for writing a test or examination, be sure to seek clarification from the instructors or your GSI beforehand.

Support and Resources

Mental Health

If you are experiencing stress, anxiety, or other forms of distress during the semester, we hope to be a resource for you–please don't hesitate to reach out to a GSI or the Professor for support. You are not alone.

There are also many resources available to you. All registered Berkeley students are eligible to use Counseling Psychological Services. You do not have to purchase the Student Health Insurance Plan to use these services. The first five counseling sessions are free for registered Berkeley students. Counselors can provide support in academic success, life management, career and life planning, and personal growth and development.

UC Berkeley, Counseling and Psychological Services

● Please call (510) 642-9494 or stop by the office on the 3rd floor of the Tang Center to make an appointment with a counselor.
● Drop-in counseling for emergencies: Monday - Friday, 10:00AM-5:00PM
● After hours counseling: In the case of emergencies at night or on weekends, call (855) 817-5667 for free assistance and referrals. Request to speak with a counselor.
● For emergency support: Call UCPD 911 or (510) 642-3333

24 Hour Crisis Hotlines

● Alameda County Crisis Line: Call 1-800-309-2131 (offers confidentiality, TDD services for deaf and hearing impaired callers and translation in 140 languages)
● National Crisis Help Line: Call 1-800-273-TALK
● Crisis Text Line: Text HOME to 741741
● National HopeLine Network: Call 1-800-SUICIDE

We also ask that you look out for your fellow peers. If you see any of the signs below that may indicate your classmate may need assistance, please use the resources above or reach out to any of the GSIs or Professors.

● Withdrawing from other people
● Changes in weight or eating patterns

- Changes in sleeping patterns
- Fatigue or lack of energy
- Increased anxiety or irritability
- Feeling worthless or hopeless

Other Campus Resources
- [Let's Talk: Informal Drop-In Counseling](#)
- [Self-Help Resources](#)
- [Be Well at Cal](#)