# Course Syllabus

**Jump to Today**

## Chem 1A: General Chemistry

Fall 2019

**Chem1A@berkeley.edu (mailto:chem1a@berkeley.edu)** (**ALL** course correspondence should be sent to this address.)

Chemistry is the study of nature at the molecular scale. It is an ancient subject, as old as the first people to wonder why fire is hot and gold is shiny. But chemistry is also one of the most active areas of modern science, as new as the latest drug discovery, solar cell design, climate model, or gene editing technology.

Chem 1A surveys the subject of chemistry broadly, with an emphasis on the physical concepts that unify our understanding of molecular structure and reactivity. Once mastered, these concepts will allow you to pursue advanced studies in biology, materials, planetary science, and engineering with a sophisticated appreciation of how things work at the microscopic scale, where mysteries of life emerge and astonishing material properties originate.

Lectures are the heart of this course. Here, chemical questions will be posed, mulled, and answered in an interactive setting. They will include many eye-catching demonstrations of chemical properties and processes. They will also involve peer discussions and ChemQuizzes that probe your intuition and understanding in real time. **Attendance of your assigned lecture is mandatory.**

Discussion sections will explore how concepts developed in lecture translate into practical tools for analysis and prediction. Here you will learn how to perform calculations, recognize trends, and make informed estimates. These abilities, founded on your understanding of basic concepts, will be tested on homework assignments and exams. **Attendance of your assigned discussion section is also mandatory.**

Chem 1A will set high standards for learning difficult material, but it is also intended to be exploratory and fun. Your instructors are excited to share their passion for a subject that figures prominently not only in scientific headlines, but also in modern discussions of humanity's roots, capabilities, and responsibilities. We are here to spark your imagination, and to arm you with tools that will serve you throughout your studies and beyond.

**Your instructors will respond ONLY to email sent to Chem1A@berkeley.edu (mailto:chem1a@berkeley.edu)** . Email sent to their individual addresses may not be read.

### Instructors

9am and 11am lectures (in 1 Pimentel Hall):

Professor **Phillip Geissler (mailto:chem1a@berkeley.edu)**

207 Gilman Hall **(mailto:pines@berkeley.edu)**

Office Hours

Tuesdays 10-11:30am in Chemistry Library Room 100 F (except 11/5)

Thursdays 2-3:30pm in Chemistry Library Room 100 E (except 8/29, 9/5, 10/24, and 12/5)

1pm lecture (in 1 Pimentel Hall):

Professor **Eran Rabani (mailto:chem1a@berkeley.edu)**

220 Gilman Hall

Office Hours

Wednesdays 2-3pm in 433 Latimer

Fridays 3-4pm in Chemistry Library Room 425 Latimer

## Staff

Instructional Support Director:

**Natalie Johnson (mailto:%20njohnson614@berkeley.edu)**

**njohnson614@berkeley.edu (mailto:njohnson614@berkeley.edu)**

Demonstrations/Projection Manager:

Karen Chan

## Head GSI

**Pratima Satish (mailto:chem1a@berkeley.edu)**

## Required Materials

*Text*:

Chemical Principles: The Quest for Insight

by Peter Atkins, Loretta Jones, and Leroy Laverman

(We have designed an electronic excerpt of this book that is much less expensive than the full hard copy. It can be obtained from the Cal Student Store or from the publisher.)

*TI-30X Calculators* or any other scientific calculator are necessary for exams (a smart phone calculator CANNOT be used).

## Attendance Policy and iClickers

You will need to bring an *iClicker* device to each lecture. You can only get attendance credit by attending the lecture you are enrolled in (9 am, 11 am, or 1 pm) and participating in the ChemQuizzes, for which you need an activated iClicker. Your ChemQuiz participation in lectures will designate your attendance.

iClickers are available for purchase or rental at the Cal Student Store. It is your responsibility to properly register your iClicker remote in a timely fashion. It is also your responsibility to regularly check your iClicker grades for any discrepancies and bring them to our attention quickly.

For help with obtaining and setting up your iClicker, see **https://dls.berkeley.edu/services/clickers/students-getting-started-clickers (https://dls.berkeley.edu/services/clickers/students-getting-started-clickers)** .

Your attendance score will be the sum of: 1.5 points for each lecture (up to a maximum of 40 points) and 1 point for each discussion (up to a maximum of 10 points).

## Grading

This course is not graded on a curve, in order to encourage student interactions and peer learning. 1000 total course points are assigned as follows:

| | |
|---|---|
| Midterm 1: | 270* |
| Midterm 2: | 270* |
| Midterm 3: | 270* |
| Final Exam: | 360 |
| Homework: | 50 |
| Attendance: | 50 |

***The lowest of your three midterm scores will be dropped.**

The grading scheme is as follows (cutoffs may be lowered but they will not be raised):

| | |
|---|---|
| 850 – 1000: | A |
| 700 – 849: | B |
| 550 – 699: | C |

350 – 549: D

0 – 349: F

## Homework

Weekly homework will be assigned and submitted through the Sapling Learning system. Homework is meant to promote learning, so multiple attempts for each problem are possible. Each incorrect attempt deducts 5% of the total possible points for that specific problem. (e.g. 1 attempt = 100%, 2 attempts = 95%, 3 attempts = 90%, etc.)

## Exams

Midterm exams will be held on Tuesday evenings: September 17 (8-10 pm), October 15 (7-9pm), and November 12 (7-9pm). The Final Exam is Monday, December 16, 3-6pm (Final Exam Group 3). Absences for exams will not be excused, nor will make-up exams be arranged, except in extraordinary circumstances. Note that the lowest midterm exam score will be dropped.

**If you are a student with a documented disability, please visit the staff at the Disabled Students Program to arrange for testing accommodations.**

## Academic Integrity (http://teaching.berkeley.edu/berkeley-honor-code (http://teaching.berkeley.edu/berkeley-honor-code) ):

We support an environment of academic integrity and respect on campus that is embodied in the UC Berkeley Honor Code:

***"As a member of the UC Berkeley community, I act with honesty, integrity, and respect for others."***

We trust that you will follow this code in all your Chem 1A activities. Remember that, as a member of the campus community, you are expected to demonstrate integrity in all of your academic endeavors and will be evaluated on your own merits. The consequences of cheating and academic dishonesty—including a formal discipline file, possible loss of future internship, scholarship, or employment opportunities, and denial of admission to graduate school—are simply not worth it.

## Course Material Schedule & Reading List:

| Week | Date | Topic | Readings | Lecture # |
|---|---|---|---|---|
| 1 | W 8/28 | Introduction to the molecular world | Fund. B, and 1A.1 | 1 |

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|---|---|---|---|---|
| | F 8/30 | Stoichiometry at macroscopic and microscopic scales | Fund. E, L, M | 2 |
| | M 9/2 | **Academic holiday** | | |
| | | | | |
| 2 | W 9/4 | Quantum mechanics and the microscopic world | | 3 |
| | F 9/6 | Quantum mechanics and light | 1A.2-3 | 4 |
| | M 9/9 | Quantization and spectroscopy | 1B | 5 |
| | | | | |
| 3 | W 9/11 | Quantum mechanics and particles | 1C | 6 |
| | F 9/13 | Ground state of the H atom | | 7 |
| | M 9/16 | Orbitals, energy levels, and quantum numbers of the H atom | 1D | 8 |
| | | **Midterm Exam 1** | Tues. 9/17<br>8-10pm | |
| 4 | W 9/18 | Multi-electron atoms and screening | 1E.1 | 9 |
| | F 9/20 | Aufbau principles | 1E.2 | 10 |
| | M 9/23 | Ionization energy and | 1F.1-4 | 11 |

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|---|---|---|---|---|
| | | periodic trends | | |
| | | | | |
| 5 | W 9/25 | Electron affinity and ionic bonding | 1F.5, 2A | |
| | F 9/27 | Covalent bonding and Lewis structures | 2B | 13 |
| | M 9/30 | Resonance and octet exceptions | 2C, 2D | 14 |
| | | | | |
| 6 | W 10/2 | Molecular structure and VSEPR | 2E | 15 |
| | F 10/4 | Orbital hybridization | 2F | 16 |
| | M 10/7 | Molecular orbital theory | 2G.1-2 | 17 |
| | | CLASSES CANCELED ON 10/9 AND 10/11 DUE TO POWER OUTAGE | | |
| 7 | M 10/14 | Diatomic and polyatomic molecules | 2G.3-4 | 18 |
| | W 10/16 | Fluctuations and the microscopic origin of pressure | 3A | 19 |
| | F 10/18 | Gas laws | 3B, 3C | 20 |
| | | | | |
| 8 | M 10/21 | Probability distribution of molecular speed | 3D | 21 |
| | | **Midterm Exam 2** | Tues. 10/22 | |

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|---|---|---|---|---|
| | | | 8-10pm | |
| | W 10/23 | Intermolecular forces | 3E, 3F.1 | 22 |
| | F 10/25 | Steric repulsion and polar attraction | 3F.2, 3F.3, 3F.6 | 23 |
| | | CLASS CANCELED ON 10/28 DUE TO POWER OUTAGE | | |
| 9 | W 10/30 | Hydrogen bonding and London dispersion, thermal fluctuations and bond stability | 3F.4, 3F.5 | 24 |
| | F 11/1 | Phase transitions | 5B | 25 |
| | M 11/4 | Vapor pressure, phase diagrams, and the spontaneity of chemical processes | 5A | 26 |
| | | | | |
| 10 | W 11/6 | Thermodynamics: heat, work, and the first law | 4A, 4B | 27 |
| | F 11/8 | Enthalpy, spontaneity and the second law | 4C, 4D, 4E,4F | 28 |
| | M 11/11 | **Academic holiday** | | |
| | | **Midterm Exam 3** | Tues. 11/12<br>7-9pm | |
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| 11 | W 11/13 | Entropy and Gibbs free energy | 4G, 4H, 4I, 4J | 29 |

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|---|---|---|---|---|
| | F 11/15 | State functions and thermodynamic cycles | | 30 |
| | M 11/18 | Standard states and the minimum work principle | | 31 |
| | | | | |
| 12 | W 11/20 | Surface tension and critical fluctuations | | 32 |
| | F 11/22 | Entropy and concentration | | 33 |
| | M 11/25 | Chemical equilibrium and the law of mass action | 5G, 5H, 5I | 34 |
| | | | | |
| 13 | webcast recorded on W 11/27 | Le Chatelier's principle | 5J, 6I | 35 |
| | webcast recorded on W 11/27 | Acids and bases | 6A, 6G, 6H.2-4 | 36 |
| | W 11/27 | **Academic holiday** | | |
| | F 11/29 | **Academic holiday** | | |
| | | | | |
| 14 | M 12/2 | pH, neutralization, and buffers | 6B, 6C, 6D, 6E | 37 |
| | W 12/4 | Redox reactions | 6K | 38 |
| | F 12/6 | Electrochemical cells and reduction potentials | 6L, 6M, 6N, 6O | 39 |
| | | **Final Exam** | Mon. 12/16<br>3-6pm | |

# Course Summary:

| Date | Details | |
|---|---|---|
| Tue Sep 10, 2019 | Problem Set #1 (Fund B, E, L, M) (https://bcourses.berkeley.edu/courses/1484857/assignments/8016723) | due by 11:59pm |
| Mon Sep 16, 2019 | Problem Set #2 1A, 1B, 1C, 1D.1-3 (https://bcourses.berkeley.edu/courses/1484857/assignments/8016724) | due by 11:59pm |
| Wed Sep 25, 2019 | Problem Set #3: 1D.4-6, 1E, 1F.1-3 (https://bcourses.berkeley.edu/courses/1484857/assignments/8016728) | due by 11:59pm |
| Mon Sep 30, 2019 | Problem Set #4: 1F.4-8, 2A, 2B, 2C, 2D, 2E (https://bcourses.berkeley.edu/courses/1484857/assignments/8016729) | due by 11:59pm |
| Mon Oct 7, 2019 | Problem Set #5: 2F, 2G (https://bcourses.berkeley.edu/courses/1484857/assignments/8016730) | due by 11:59pm |
| Sun Oct 20, 2019 | Problem Set #6: 3A, 3B, 3C, 3D (https://bcourses.berkeley.edu/courses/1484857/assignments/8016731) | due by 11:59pm |
| Mon Oct 28, 2019 | Problem Set #7: 3E, 3F, 3G (https://bcourses.berkeley.edu/courses/1484857/assignments/8016732) | due by 11:59pm |
| Sun Nov 3, 2019 | Problem Set #8: 5A, 5B, 4A, 4B, 4C, 4D, 4E (https://bcourses.berkeley.edu/courses/1484857/assignments/8016733) | due by 11:59pm |
| Sun Nov 10, 2019 | Problem Set #9: 5A, 5B, 4A, 4B, 4C, 4D, 4E (https://bcourses.berkeley.edu/courses/1484857/assignments/8016739) | due by 11:59pm |
| Mon Nov 18, 2019 | Problem Set #10: 4F, 4G, 4H, 4I, 4J (https://bcourses.berkeley.edu/courses/1484857/assignments/8016734) | due by 11:59pm |
| Mon Nov 25, 2019 | Problem Set #11 (https://bcourses.berkeley.edu/courses/1484857/assignments/8016738) | due by 11:59pm |
| Mon Dec 9, 2019 | Problem Set #12: 5G, 5H, 5I (https://bcourses.berkeley.edu/courses/1484857/assignments/8016735) | due by 11:59pm |
| Wed Jan 15, 2020 | Use PRISM! (https://bcourses.berkeley.edu/courses/1484857/assignments/8014519) | due by 11:59pm |
| | Discussion 1 (https://bcourses.berkeley.edu/courses/1484857/assignments/8016187) | |
| | Discussion 10 | |

| Date | Details |
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| | (https://bcourses.berkeley.edu/courses/1484857/assignments/8016199) |
| | Discussion 11 (https://bcourses.berkeley.edu/courses/1484857/assignments/8016200) |
| | Discussion 12 (https://bcourses.berkeley.edu/courses/1484857/assignments/8016201) |
| | Discussion 13 (https://bcourses.berkeley.edu/courses/1484857/assignments/8016202) |
| | Discussion 2 (https://bcourses.berkeley.edu/courses/1484857/assignments/8016188) |
| | Discussion 3 (https://bcourses.berkeley.edu/courses/1484857/assignments/8016189) |
| | Discussion 4 (https://bcourses.berkeley.edu/courses/1484857/assignments/8016193) |
| | Discussion 5 (https://bcourses.berkeley.edu/courses/1484857/assignments/8016194) |
| | Discussion 6 (https://bcourses.berkeley.edu/courses/1484857/assignments/8016195) |
| | Discussion 7 (https://bcourses.berkeley.edu/courses/1484857/assignments/8016196) |
| | Discussion 8 (https://bcourses.berkeley.edu/courses/1484857/assignments/8016197) |
| | Discussion 9 (https://bcourses.berkeley.edu/courses/1484857/assignments/8016198) |
| | Lecture 1, 8/28, 11am (https://bcourses.berkeley.edu/courses/1484857/assignments/8016122) |
| | Lecture 1, 8/28, 1pm (https://bcourses.berkeley.edu/courses/1484857/assignments/8016182) |
| | Lecture 1, 8/28, 9am (https://bcourses.berkeley.edu/courses/1484857/assignments/8016118) |
| | Lecture 10, 9/20, 11am (https://bcourses.berkeley.edu/courses/1484857/assignments/8025509) |
| | Lecture 10, 9/20, 1pm (https://bcourses.berkeley.edu/courses/1484857/assignments/8025514) |
| | Lecture 10, 9/20, 9am (https://bcourses.berkeley.edu/courses/1484857/assignments/8025491) |
| | Lecture 11, 9/23, 11am (https://bcourses.berkeley.edu/courses/1484857/assignments/8026105) |
| | Lecture 11, 9/23, 1pm (https://bcourses.berkeley.edu/courses/1484857/assignments/8026135) |
| | Lecture 11, 9/23, 9am (https://bcourses.berkeley.edu/courses/1484857/assignments/8026098) |
| | Lecture 12, 9/25, 11am (https://bcourses.berkeley.edu/courses/1484857/assignments/8026747) |
| | Lecture 12, 9/25, 1pm (https://bcourses.berkeley.edu/courses/1484857/assignments/8026789) |

| Date | Details |
| --- | --- |
| | Lecture 12, 9/25, 9am (https://bcourses.berkeley.edu/courses/1484857/assignments/8026744) |
| | Lecture 13, 9/27, 11am (https://bcourses.berkeley.edu/courses/1484857/assignments/8027321) |
| | Lecture 13, 9/27, 1pm (https://bcourses.berkeley.edu/courses/1484857/assignments/8027338) |
| | Lecture 13, 9/27, 9am (https://bcourses.berkeley.edu/courses/1484857/assignments/8027320) |
| | Lecture 14, 9/30, 11am (https://bcourses.berkeley.edu/courses/1484857/assignments/8027799) |
| | Lecture 14, 9/30, 1pm (https://bcourses.berkeley.edu/courses/1484857/assignments/8027842) |
| | Lecture 14, 9/30, 9am (https://bcourses.berkeley.edu/courses/1484857/assignments/8027785) |
| | Lecture 15, 10/2, 11am (https://bcourses.berkeley.edu/courses/1484857/assignments/8028697) |
| | Lecture 15, 10/2, 1pm (https://bcourses.berkeley.edu/courses/1484857/assignments/8028527) |
| | Lecture 15, 10/2, 9am (https://bcourses.berkeley.edu/courses/1484857/assignments/8028695) |
| | Lecture 16, 10/4, 11am (https://bcourses.berkeley.edu/courses/1484857/assignments/8029018) |
| | Lecture 16, 10/4, 1pm (https://bcourses.berkeley.edu/courses/1484857/assignments/8029023) |
| | Lecture 16, 10/4, 9am (https://bcourses.berkeley.edu/courses/1484857/assignments/8029016) |
| | Lecture 17, 10/7, 11am (https://bcourses.berkeley.edu/courses/1484857/assignments/8029431) |
| | Lecture 17, 10/7, 1pm (https://bcourses.berkeley.edu/courses/1484857/assignments/8029454) |
| | Lecture 17, 10/7, 9am (https://bcourses.berkeley.edu/courses/1484857/assignments/8029430) |
| | Lecture 18, 10/14, 11am (https://bcourses.berkeley.edu/courses/1484857/assignments/8030737) |
| | lecture 18, 10/14, 1pm (https://bcourses.berkeley.edu/courses/1484857/assignments/8030738) |
| | Lecture 18, 10/14, 9am (https://bcourses.berkeley.edu/courses/1484857/assignments/8030736) |
| | Lecture 19, 10/16, 11am |

| Date | Details |
| --- | --- |
| | (https://bcourses.berkeley.edu/courses/1484857/assignments/8031510) |
| | Lecture 19, 10/16, 1pm (https://bcourses.berkeley.edu/courses/1484857/assignments/8031975) |
| | Lecture 19, 10/16, 9am (https://bcourses.berkeley.edu/courses/1484857/assignments/8031508) |
| | Lecture 2, 8/30, 11am (https://bcourses.berkeley.edu/courses/1484857/assignments/8017925) |
| | Lecture 2, 8/30, 1pm (https://bcourses.berkeley.edu/courses/1484857/assignments/8018009) |
| | Lecture 2, 8/30, 9am (https://bcourses.berkeley.edu/courses/1484857/assignments/8017803) |
| | Lecture 20, 10/18, 11am (https://bcourses.berkeley.edu/courses/1484857/assignments/8032067) |
| | Lecture 20, 10/18, 1pm (https://bcourses.berkeley.edu/courses/1484857/assignments/8032054) |
| | Lecture 20, 10/18, 9am (https://bcourses.berkeley.edu/courses/1484857/assignments/8032064) |
| | Lecture 21, 10/21, 11am (https://bcourses.berkeley.edu/courses/1484857/assignments/8032620) |
| | lecture 21, 10/21, 1pm (https://bcourses.berkeley.edu/courses/1484857/assignments/8032649) |
| | Lecture 21, 10/21, 9am (https://bcourses.berkeley.edu/courses/1484857/assignments/8032618) |
| | Lecture 22, 10/23, 11am (https://bcourses.berkeley.edu/courses/1484857/assignments/8033340) |
| | lecture 22, 10/23, 1pm (https://bcourses.berkeley.edu/courses/1484857/assignments/8033803) |
| | Lecture 22, 10/23, 9am (https://bcourses.berkeley.edu/courses/1484857/assignments/8033339) |
| | Lecture 23, 10/25, 11am (https://bcourses.berkeley.edu/courses/1484857/assignments/8033911) |
| | Lecture 23, 10/25, 1pm (https://bcourses.berkeley.edu/courses/1484857/assignments/8033856) |
| | Lecture 23, 10/25, 9am (https://bcourses.berkeley.edu/courses/1484857/assignments/8033905) |
| | Lecture 24, 10/30, 11am (https://bcourses.berkeley.edu/courses/1484857/assignments/8034779) |
| | Lecture 24, 10/30, 1pm (https://bcourses.berkeley.edu/courses/1484857/assignments/8034806) |

| Date | Details |
| --- | --- |
| | Lecture 24, 10/30, 9am (https://bcourses.berkeley.edu/courses/1484857/assignments/8034778) |
| | Lecture 25, 11/1, 11am (https://bcourses.berkeley.edu/courses/1484857/assignments/8035395) |
| | Lecture 25, 11/1, 1pm (https://bcourses.berkeley.edu/courses/1484857/assignments/8035373) |
| | Lecture 25, 11/1, 9am (https://bcourses.berkeley.edu/courses/1484857/assignments/8035394) |
| | lecture 26, 11/4, 11am (https://bcourses.berkeley.edu/courses/1484857/assignments/8035776) |
| | lecture 26, 11/4, 1pm (https://bcourses.berkeley.edu/courses/1484857/assignments/8035824) |
| | lecture 26, 11/4, 9am (https://bcourses.berkeley.edu/courses/1484857/assignments/8035739) |
| | Lecture 27, 11/6, 11am (https://bcourses.berkeley.edu/courses/1484857/assignments/8036573) |
| | lecture 27, 11/6, 1pm (https://bcourses.berkeley.edu/courses/1484857/assignments/8036601) |
| | Lecture 27, 11/6, 9am (https://bcourses.berkeley.edu/courses/1484857/assignments/8036574) |
| | Lecture 28, 11/8, 11am (https://bcourses.berkeley.edu/courses/1484857/assignments/8037258) |
| | lecture 28, 11/8, 1pm (https://bcourses.berkeley.edu/courses/1484857/assignments/8037144) |
| | Lecture 28, 11/8, 9am (https://bcourses.berkeley.edu/courses/1484857/assignments/8037257) |
| | Lecture 29, 11/13, 11am (https://bcourses.berkeley.edu/courses/1484857/assignments/8038129) |
| | Lecture 29, 11/13, 1pm (https://bcourses.berkeley.edu/courses/1484857/assignments/8038048) |
| | Lecture 29, 11/13, 9am (https://bcourses.berkeley.edu/courses/1484857/assignments/8038127) |
| | Lecture 3, 9/4, 11am (https://bcourses.berkeley.edu/courses/1484857/assignments/8019754) |
| | Lecture 3, 9/4, 9am (https://bcourses.berkeley.edu/courses/1484857/assignments/8019757) |
| | Lecture 30, 11/15, 11am (https://bcourses.berkeley.edu/courses/1484857/assignments/8038654) |
| | Lecture 30, 11/15, 1pm (https://bcourses.berkeley.edu/courses/1484857/assignments/8038667) |

| Date | Details |
| --- | --- |
| | Lecture 30, 11/15, 9am (https://bcourses.berkeley.edu/courses/1484857/assignments/8038651) |
| | Lecture 31, 11/18, 11am (https://bcourses.berkeley.edu/courses/1484857/assignments/8039306) |
| | Lecture 31, 11/18, 1pm (https://bcourses.berkeley.edu/courses/1484857/assignments/8039341) |
| | Lecture 31, 11/18, 9am (https://bcourses.berkeley.edu/courses/1484857/assignments/8039299) |
| | Lecture 32, 11/20, 11am (https://bcourses.berkeley.edu/courses/1484857/assignments/8040484) |
| | lecture 32, 11/20, 1pm (https://bcourses.berkeley.edu/courses/1484857/assignments/8040103) |
| | Lecture 32, 11/20, 9am (https://bcourses.berkeley.edu/courses/1484857/assignments/8040481) |
| | Lecture 33, 11/22, 11am 11-22-19 (https://bcourses.berkeley.edu/courses/1484857/assignments/8040618) |
| | Lecture 33, 11/22, 1pm (https://bcourses.berkeley.edu/courses/1484857/assignments/8040630) |
| | Lecture 33, 11/22, 9am (https://bcourses.berkeley.edu/courses/1484857/assignments/8040615) |
| | lecture 34, 11/25, 1pm (https://bcourses.berkeley.edu/courses/1484857/assignments/8041050) |
| | Lecture 4, 9/6, 11am (https://bcourses.berkeley.edu/courses/1484857/assignments/8020636) |
| | Lecture 4, 9/6, 1pm (https://bcourses.berkeley.edu/courses/1484857/assignments/8020792) |
| | Lecture 4, 9/6, 9am (https://bcourses.berkeley.edu/courses/1484857/assignments/8020634) |
| | Lecture 5, 9/9, 11am (https://bcourses.berkeley.edu/courses/1484857/assignments/8021444) |
| | Lecture 5, 9/9, 1pm (https://bcourses.berkeley.edu/courses/1484857/assignments/8021699) |
| | Lecture 5, 9/9, 9am (https://bcourses.berkeley.edu/courses/1484857/assignments/8021441) |
| | Lecture 6, 9/11, 11am (https://bcourses.berkeley.edu/courses/1484857/assignments/8022670) |
| | Lecture 6, 9/11, 1pm (https://bcourses.berkeley.edu/courses/1484857/assignments/8022593) |
| | Lecture 6, 9/11, 9am (https://bcourses.berkeley.edu/courses/1484857/assignments/8022649) |

| Date | Details |
| --- | --- |
| | Lecture 7, 9/13, 11am (https://bcourses.berkeley.edu/courses/1484857/assignments/8023360) |
| | Lecture 7, 9/13, 9am (https://bcourses.berkeley.edu/courses/1484857/assignments/8023352) |
| | Lecture 8, 9/16, 11am (https://bcourses.berkeley.edu/courses/1484857/assignments/8023840) |
| | Lecture 8, 9/16, 1pm (https://bcourses.berkeley.edu/courses/1484857/assignments/8023983) |
| | Lecture 8, 9/16, 9am (https://bcourses.berkeley.edu/courses/1484857/assignments/8023835) |
| | Lecture 9, 9/18, 11am (https://bcourses.berkeley.edu/courses/1484857/assignments/8024835) |
| | Lecture 9, 9/18, 1pm (https://bcourses.berkeley.edu/courses/1484857/assignments/8024881) |
| | Lecture 9, 9/18, 9am (https://bcourses.berkeley.edu/courses/1484857/assignments/8024831) |
| | Lecutre 3, 9/4, 1pm (https://bcourses.berkeley.edu/courses/1484857/assignments/8019774) |
| | Midterm 1 (https://bcourses.berkeley.edu/courses/1484857/assignments/8025625) |
| | Midterm 2 (https://bcourses.berkeley.edu/courses/1484857/assignments/8035832) |
| | Midterm 3 (https://bcourses.berkeley.edu/courses/1484857/assignments/8041008) |
| | Sapling (https://bcourses.berkeley.edu/courses/1484857/assignments/8013402) |
| | Student Registration - Start Here (https://bcourses.berkeley.edu/courses/1484857/assignments/8013403) |