Chem 1AL, Fall 2021

Instructor:	Dr. Michelle Douskey 307 Latimer Hall Office Hours: right after class via zoom, Wednesday 5-6 and Friday 3-4 douskey@berkeley.edu
Lab Lecture:	Monday 4-5PM or Wednesday 4-5 PM or Friday 2-3 PM Class sessions will be synchronous but virtual via zoom. Attend one per week
Enrollment Questions:	Natalie Johnson (waitlists) njohnson614@berkeley.edu
DSP Coordinator:	Sara Russell (arranges accommodations, communicates with faculty and GSIs about student needs) sara_russell@berkeley.edu
Head GSI:	Gabriela Cazares Chem1ALF21@gmail.com Please place '[CHEM1AL]' in the beginning of the subject line. Office Hours: Tuesdays 2-3PM and Fridays 4-5PM Weekly reviews, Thursdays from 7–9 PM via zoom

Required Materials:	• Chem 1AL Lab Manual Fall 2021, ISBN 978-1-5339-3681-3 (includes the required access code to online prelabs and lab simulations)
	  ○ A hardcopy manual is required for in-person labs
	  ○ Manuals are available now at the bookstore on campus
	• Lab Notebook with carbonless copies, ISBN 9780738092652, or equivalent
	• TI-30X IIS Calculator (or equivalent simple non-graphing calculator)
	• Either the ability to scan a document you have written on or a tool for digitally editing a pdf like writing math or drawing molecules (e.g. Wacom tablet, an iPad etc.)

Course Website	Chem 1AL-LAB-F21-Douskey at bcourses.berkeley.edu

EXPECTATIONS: Your key goal in this laboratory course is to develop an understanding of the experimental nature of chemistry. We will also be introducing concepts of green chemistry, the practice of sustainability in chemistry.

BCOURSES: All announcements, grades and resources for the course will be posted on the course website. You should set up your preferences to receive emails about course updates or check the site regularly.

PRELAB ASSIGNMENTS: Prior to attending your lab section you must complete all the assigned prelab questions online. You get three attempts at each prelab quiz and your highest score is saved. In some instances, you will be asked to write important information and thoughts in your lab notebook. **If you have not completed the prelab with a minimum of 70% of the points at least 30 minutes prior to your section, you will not be prepared for lab and you will not be allowed to complete the experiment in person.** There will also be a required introductory quiz to help you become familiar with these course policies.

SIMULATIONS: Simulations will also be assigned to deepen your understanding of the laboratory experiments.

LAB LECTURE: There will be a lab lecture that precedes every experiment. You can attend the lab lecture for which you are enrolled or another one, as needed, with no changes in enrollment required. Because of holidays, it is best to use the lab calendar posted on the course website and the manual to guide you about which lab lectures happen on which day. The lab lecture will consist of lecture, demonstrations of techniques, and participation questions. Your response to participation questions during class will contribute to your grade.

LABORATORY SECTION TIMELINE: Attendance in lab section is mandatory. The period lasts for 3 hours. The first few minutes will be a short prelab lecture by your graduate student instructor (GSI). The rest of the time will be devoted to walking through the experiment. The GSI will also teach concepts and calculations related to green chemistry. If time permits, you can start to complete your lab report sheet.

LAB EXAM: On Friday night, December 3rd, there will be a 2 hour written lab exam from 7PM to 9PM. Details will be forthcoming, but in general plan for an in-person written exam. The exam will cover the relevant chemistry concepts and calculations related to the experiments. Exams from past semesters will be posted in mid-November, closer to the exam date.

WEEKLY LAB REPORTS: For all the lab experiments only an informal report is required with your observations you recorded in your lab notebook during the experiment. Completed lab report sheets with notebook pages are due the next time you have lab section. In many cases reports are due the following week, but occasionally there are holidays and you will get more time. You are required to upload the reports as a pdf to Gradescope at least 30 minutes prior to your lab section. Late lab reports will incur a 1 point deduction for every day late. Your lowest lab report sheet score will be dropped.

TECHNOLOGY REQUIREMENTS

- Internet access and a computer, tablet, or other device capable of accessing the bCourses and Gradescope websites and using Zoom.
- The Student Technology Equity Program (STEP) may be able to assist you in obtaining the technology needed to be successful in an online course. https://technology.berkeley.edu/STEP
- All lab reports in this course will be submitted on Gradescope as a pdf. You can either handwrite on the lab report sheets provided in your lab manual, or digitally annotate the pdf of the report sheets. For typed or handwritten digital annotation of pdf files it is important for grading that you do not edit the overall layout of the pdf template but instead add your work to the boxes and spaces provided. Options for digital annotation hardware include a touchscreen device and stylus (e.g. iPad etc.) or a writing tablet attached to a computer (e.g. Wacom tablet). Every student also has access to Adobe products for free, so it is very easy to add text and upload calculation pictures to your lab report using Acrobat.

Note: Due to limitations in the grading process (file quality/readability issues), it might not be sufficient to complete these assignments on paper with a printer/scanner workflow. Files that do not meet the legibility requirements might not be graded by your GSIs.

Below is a summary of the various assignments for the laboratory.

Lab Summary	**Percent of total**	
Weekly online prelabs and simulations	10%	←11 prelabs, 1 intro quiz, (lowest dropped) and simulations
Participation	5%	←11 sessions counted, lowest dropped
Informal Reports	60%	←12 lab report sheets, lowest dropped
Lab Exam (December 3)	25%	
Lab total	**100%**	

Detailed point breakdown for each laboratory assignment.

Experiments	***Notebook*** *(observations)*	***Lab Participation*** *(discussion, Q&A, safety, preparedness, professionalism)*	***Lab Report Sheet***	***Total***
Exp 1 (Airbags)	3	2	15	20
Exp 2 (Smells)	3	2	15	20
Exp 3 (Polymers- crosslinking)	3	2	15	20
Exp 4 (Polymers-toy design)	3	2	15	20
Exp 5 (Acids in Env 1-CO_2)	3	2	15	20
Exp 6 (Acids in Env 1-indicator)	3	2	15	20
Exp 7 (Acids in Env 2-pH curves)	3	2	15	20
Exp 8 (Biofuels A, seeds & synthesis)	3	2	15	20
Exp 9 (Biofuels B, viscosity)	3	2	15	20
Exp 10 (Biofuels C, combustion)	3	2	15	20
Exp 11 (Biofuels Argumentation)	0	0	20	20
Exp 12 (Extraction)	3	2	15	20

BONUS POINTS
Throughout the semester there will be several opportunities to complete surveys for a few bonus points. These will be announced via the course website as a bcourses announcement.

OVERALL GRADE FOR THE COURSE:
In order to earn points for any given experiment, the following conditions must be met:

- You must attend lab. If you miss lab, write to the Head GSI (cc your GS) to get permission to complete the online experiment. Only one online experiment is an acceptable substitute for students attending the class in person.
- Prior to attending any given laboratory period, you must have completed all the reading assignments, attended the lab lecture, and completed the online prelab 30 minutes prior to the start of your section.
- You must **arrive to lab on time**, which means no later than 8:10 AM for morning labs, 1:10 PM for afternoon labs, and 6:10 PM for evening labs. In general, the first 5-10 minutes of every laboratory period are dedicated to a safety discussion, which is an important part of the experiment. Therefore, if you show up late you will not be allowed to participate in lab for that day.
- You need to wear long pants and closed-toe shoes to lab.
- Guidelines for what to write in the lab notebook are in the lab manual. You must prepare your notebook with a flowchart of the procedure prior to coming to lab. Also list the goal and purpose of each experiment. Notebook pages from each experiment will be added at the end of each lab report for online submission to Gradescope. Please consult the training video posted on the course website.
- You must record detailed **observations** about the remote experiment in your lab notebook.
- For those few students completing the course remotely, any notebook you use is acceptable as long as your work is legible. Typing in a word doc and adding pages to your lab report pdf is also acceptable.
- Your lab observations might include mass of materials weighed, volume dispensed, concentrations, yields, texture, smell, color, temperature, etc.
- Before leaving lab, you must meet with your GSI who will ask you to confirm that certain data is present in your notebook. Upon confirmation, the GSI will initial the notebook. At this point, you are to provide them with the perforated pages of your notebook that were used in lab that day.
- Lab report sheets and pictures of notebook pages must be submitted as a pdf online to Gradescope 30 min. prior to your next lab section. Late reports will incur a 1 point per day penalty.

- Any questions you have regarding a lab report sheet grade must be resolved with your GSI within one week of having received the graded lab report sheet. All regrades are subject to final approval by the course instructor.

If you do not complete all of the above conditions for any given lab, you will earn a 0 for that experiment. The consequences of a 0 are as follows:

- If you earn one zero during the semester, this will be your dropped lab score.
- If you earn three zeros during the semester, you not only will lose the points associated with those experiments, but your course grade will also be dropped by one third of a grade. For example, if you earn enough points to earn a B+ in the class, but you have three zeros, you will receive a B.
- If you earn four or more zeros you will earn a failing grade in the course.

COURSE GRADES

Your final grade for the course will be determined by your participation credit, lab report sheets scores and your lab exam.

Grade	Range
A	90-100%
B	80-89%
C	70-79%
D	60-69%
F	<60%

ATTENDANCE POLICY

LABORATORY

- Students must attend every lab session and complete every lab report sheet.
- If you miss one live in-person lab session, write to the Head GSI (cc your GS) to get permission to complete the online experiment. Only one online experiment is acceptable for students attending the class in person.

If for some reason there is a second absence, please contact us so you may be rescheduled to another section the same week that experiment is offered. Check the lab calendar for details. Email the Head GSI at Chem1ALF21@gmail.com . The Head GSI will provide a google form for you to aid in rescheduling you to a different section for the week.

Please include the following information:

  - Your name
  - Your GSI's name
  - Normal lab time
  - Date of absence
  - Preferred time to make up lab
  - Subject line: "[Chem 1AL] make-up lab"
- If you cannot make up lab live in another section, write to the Head GSI (cc your GS) to get permission to complete the online experiment. Attend office hours as needed to get help.

HELPFUL RESOURCES

- Weekly review sessions will be conducted by the Head GSI on Thursdays from 7–9 PM via zoom.
- The campus Student Learning Center has assistance for Chem 1A students. http://slc.berkeley.edu
- The college of chemistry also has a peer tutoring center. More information can be found at https://chemistry.berkeley.edu/ugrad/current-students/tutoring
- The Chem 1AL GSIs will staff open office hours for about 20 hours each week. Look for a posted google calendar on bCourses with specific times and locations.

University Policy on Academic Honesty:

The honor code for UC-Berkeley states,

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

Incidences of cheating will be taken seriously and paperwork will be filed with the Office of Student Conduct. Resist the temptation to copy answers from other students or solutions you find online. In the spring and summer literally hundreds of students used chegg answers to cheat on an exam. In the fall, over fifty people put answers from the internet on their exam. They were reported to the office of student conduct. When you collaborate, discuss thoroughly until you understand, then write brief notes. Do the bulk of your writing by yourself.

Note that 'plagiarized paper' also refers to lab report sheets in the context of Chem 1AL, so cheating on any lab report sheet can result in an F for the course.

IN-CLASS PARTICIPATION CREDIT

I will be using google forms in class this term to collect your thoughts and explanations of chemistry. This helps me to understand what you know and gives everyone a chance to participate in class. I will use google forms to keep track of attendance; please see the attendance policy on page 3-4 of the syllabus. If you cannot attend class live, an optional form will be provided. Participation will account for 5% of your final grade.

PLEASE NOTE:

1) This course credit for participation is offered to encourage class discussion of relevant topics. Discussing your thoughts is a key part of learning.
2) Write complete sentences in your explanations, trying your best to construct a valid and coherent argument.
3) This credit will appear, as soon as the data is processed, in a separate column in your online grade book.

Diversity in Science

Science is often perceived as an objective discipline, but science is performed in a social environment. As humans we are full of frailty and biases. We would like to create a learning environment that supports a diversity of thoughts, perspectives and experiences, and honors your identities (including race, gender, class, sexuality, religion, ability, etc.). To help accomplish this: (i) if you have a name and/or set of pronouns that differ from those that appear in your official records, please let us know, (ii) if something is said in class (by anyone) that makes you feel uncomfortable, please talk to us about it (anonymous feedback is always an option), and (iii) as a participant in course discussions, you should also strive to honor the diversity of your classmates.

Students with Disabilities Can and Should Participate Fully in Science!

UC Berkeley is committed to creating a learning environment that meets the needs of its diverse student body including students with disabilities. If you anticipate or experience any barriers to learning in this course, please feel welcome to discuss your concerns with me.

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. Our DSP coordinator in the chemistry department is Sara Russell, sara_russell@berkeley.edu . Sara will help us to meet your needs in our classes.

Email Etiquette:

- You are expected to write as you would in any professional correspondence. Email communication should be courteous and respectful in manner and tone. Do not send emails that are curt or demanding.
- Your GSI should be your first point of contact if you have questions, comments, etc. If your GSI can't help you, they will contact the instructor on your behalf or you may contact the instructor directly.
- You *must* use your berkeley.edu address; emails from other domains will not be read.
- Do not expect an immediate response via email (normally, a response will be sent within 2-3 business days). If your email question is sent at the last minute it will not be possible to send you a response before an assignment is due or a test is given.
- Do not post personal information about yourself or others about third parties to bCourses.

Participation:

- Keep on the topic at hand. If you have questions off the current topic, address these outside of class at office hours or by email with the GSI or instructor.
- Do not talk out of turn. Wait to be recognized before speaking and do not try to dominate a discussion with your questions or comments – give others a fair opportunity to participate.

Common Courtesy:

- In person please be respectful of others.
- In an online course, please mute your microphone unless you are responding to a question.
- We would love it if you had your camera on during class, but we do understand that there are times that is not comfortable for everyone.
- In order to support those students that cannot attend class synchronously, we have all been asked to record our zoom sessions. The 1AL lectures will be pre-recorded but the weekly reviews will likely be recorded live.
- Show respect for the staff and fellow classmates. Do not interrupt another who is speaking. It is okay to disagree with an idea but not okay to ridicule or make fun of another person and his/her ideas. Raised voices, derogatory language, name-calling, and intimidating behavior will not be tolerated.
- Do not disturb others by engaging in disruptive behavior. Disruption interferes with the learning environment and impairs the ability of others to focus, participate, and engage.