Chem 4A Lab Syllabus, Fall 2017

Enrollment Questions:	Rose Beeler, 326 Latimer rbeeler@berkeley.edu
Head GSI:	Mark Babn markcbabin@berkeley.edu
Required Materials:	Chem 4A Lab Handouts (available online) Student Lab Notebook (or equivalent lab notebook with carbon copies)
Course Website:	Chem 4A Lab on bCourses

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

BCOURSES: All announcements, grades and resources for the course will be posted on the website.

PRELAB: Prior to coming to lab you must complete all the assigned prelab activities and have prepared you lab notebook in accordance with the General Template for Lab Notebooks document found on the course website. You will turn in your prelab report at the beginning of the lab, along with carbon copies of the notebook pages you prepared for the day's lab.

IN-LAB:

- You must record all expected data in your lab notebook during, not after, the laboratory period. This includes mass of things weighed, volume dispensed, yields, etc.
- Before leaving lab, you must meet with your GSI who will ask you to confirm that certain data are present in your notebook. Upon confirmation, the GSI will initial your notebook. At this point, you are to provide them with the perforated pages of your notebook that were used in lab that day.

LABORATORY SECTION TIMELINE: Attendance in section is mandatory. The period lasts for 4 hours. The first few minutes will be a short lecture by your graduate student instructor (GSI). The rest of the time will be devoted to performing the experiment and taking notes.

- **You must attend your lab section on time,** which means no later than 8:10 AM for morning labs and 1:10 PM for afternoon labs. In general, the first 5-10 minutes of every laboratory period are dedicated to a safety discussion, which is a very important part of the experiment. Therefore, if you show up late you will not be allowed to participate in lab for that day. If you are late, then your GSI will ask you to leave the lab.
- **You must wear protective clothing and eyewear during the laboratory period**. Your GSI can ask you to leave the lab for the day if you are not wearing appropriate clothing or eyewear.

LAB REPORTS: There are two different types of laboratory reports in the class, formal and informal. For most lab experiments only an informal report is required. Labs 2 and 10 will require a formal lab write up and are mandatory. You will turn in your lab report at the beginning of the lab one week after completing the experiment. If you miss one of these experiments, you must discuss your absence with Rose Beeler. She will help you to schedule a makeup lab in the remaining sessions for the missed lab experiment. You can only make up a lab experiment while the lab is being run. Please provide paper documentation of illness or family crisis. If you need to contact Rose Beeler, please cc your GSI and include: your name, your GSI's name, your normal lab time, the date of absence, the preferred time to make up lab, and use the subject line: "4A excused absence".

GRADING: Most experiments will involve the determination of unknown chemical quantities. Grading will be based both on quantitative results and on lab write-ups. Each experiment will be worth 10 pts, except that Experiments 2 and 10 will each be worth 20 pts. There will also be 20 discretionary points that reflect students' preparedness for lab, adherence to safety protocols, and on-time attendance in lab. Total pts = 140. For both formal and informal reports, late lab reports will incur a 10% per day penalty, with a maximum penalty of 50%. Pre-labs are not accepted after the beginning of the lab section.

REGRADES FOR THE COURSE: Any questions you have regarding a lab report grade must be resolved with your GSI within one week of having received the graded lab report. All regrades are subject to final approval by the course instructor. Your final grade for the lab portion of the course will be determined by your in-lab scores and lab reports scores.

CHEATING AND PLAGIARISM: We expect you to follow the Berkeley Honor Code: "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. Students are expected to work together to aid in each other's understanding of the course material but every submitted assignment must be the submitter's own work. All tables, plots, figures, text and any other components of an assignment that is submitted for grading must be generated by each individual student.

LAB SCHEDULE:

Week	Start Date	Experiment
1	Aug 23	NO LABS
2	Aug 28	EXP 1: GRAVIMETRIC, VOLUMETRIC, AND STATISTICAL METHODS
3	Sept 6*	EXP 2A: GRAVIMETRIC ANALYSIS OF SULFATE
4	Sept 11	EXP 2B: GRAVIMETRIC ANALYSIS OF SULFATE II
5	Sept 18	EXP 3: VOLUMETRIC DETERMINATION OF VITAMIN C: REDOX TITRATIONS
6	Sept 25	EXP 4: 8 UNKNOWN SOLUTIONS
7	Oct 2	EXP 5: NANOCRYSTALS
8	Oct 9	EXP 6: ABSORBANCE SPECTROSCOPY: DETERMINATION OF
9	Oct 16	MANGANESE
10	Oct 23	EXP 7: ABSORBANCE AND FLOURESCENCE SPECTROSCOPY
		EXP 8: MW OF UNKNOWN LIQUID/INTRO TO GASES AND LIQUIDS
11	Oct 30	EXP 9: BIOFUELS -HEAT OF COMBUSTION/CALORIMETRY
12	Nov 6*	EXP 10A: UNKNOWN WEAK ACID/INTRO TO ACIDS AND BASES
13	Nov 13	EXP 10B: UNKNOWN WEAK ACID II/TITRATIONS

14	Nov 20*	NO LAB-CATCH UP
15	Nov 27	NO LAB- CHECK OUT
16	DEC 4-8	NO LAB-REVIEW WEEK
17	DEC 11-15	NO LAB-FINAL EXAMS

***Laboratory sections DO NOT MEET on these university holidays:**
Monday, Sept 4 (Labor Day Holiday)
Friday, Nov. 10 (Veterans' Day)
Thurs & Fri, Nov. 23 & 24 (Thanksgiving Holiday)