

CHEM 1C Syllabus

Instructor: Rose Wang Lecture: MTWR 2:30 -3:45 pm in Room S34 Lab: MTWR 11:30 – 2:20 pm in Room SC 2208 Office Hours: MTWR 3:45 – 4:10 in S34	Contact Information: Email: wangxiao@fhda.edu & wang932@yahoo.com Email is reserved for contacting me regarding absences, scheduling, etc. not for office hours. Course Website: in Canvas https://deanza.instructure.com/courses/30726
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This syllabus is a contract, please read it carefully.

PREREQUISITES: Chemistry 1B with grade C or better.

COURSE DESCRIPTION:

This class will cover the principles of solutions, buffers, electrochemistry, transition metals, and nuclear chemistry. This course is divided into two separate instructional periods, the lecture and laboratory sections. The lecture portion is primarily devoted to the material discussion while the laboratory portion gives a chance for chemical experimentation. One registration code will enroll for the lecture and lab sections. Lecture and lab sections must be taken together to pass Chem 1C and will both go towards a single grade.

REQUIRED MATERIALS:

1. Primary Lecture Text: CHEMISTRY: The Molecular Nature of Matter and Change, Silberberg and Amateis, 9e. Other editions will be essentially the same and will work great to study, but practice problems given in this syllabus correspond to the 9th edition. **We will NOT be using CONNECT or ALEKS this quarter.** So, when buying your textbook you don't have to purchase the access to these platforms. Instead, **we will use another homework platform called Aktiv.** There are multiple options to obtain the text for this course depending on your specific needs.

a) Option 1 – Hard copy text (any edition). I might assign extra practice problems from the back of the book, which will differ slightly between editions. Regardless, this option is great if you prefer physical books and want a quality chemistry textbook for reference in the future.

b) Option 2 – 90 day access to an electronic text specifically for CHEM 1C. This is a great, cheap option that will give 3 months of access to the textbook and is perfect if you don't plan on immediately continuing in the series. This can be purchased with ISBN: 9781307600940.

2. Supplemental (Free) Textbook: While lectures will closely follow the textbook above, this text gives an alternate explanation while also being a free resource. OpenStax, Atoms First 2e:

<https://openstax.org/details/books/chemistry-atoms-first-2e>

3. A non-programmable scientific calculator capable of logarithm and exponential functions. Please plan on bringing this calculator to class every day. Also, during the test times, only non-programmable calculators are allowed.

4. Aktiv Online Homework Platform: This quarter, we will be using Aktiv for online homework. A subscription to Aktiv is available online through the de Anza bookstore, and I will send you instructions to discuss how to subscribe to and utilize this platform.

5. Lecture Handouts: My pdf chapter slides will be available ON CANVAS (module 3) after lecture. Before I post the lecture handouts, you could use the PPT from the textbook on Canvas (module 11). So you have two packages of lecture handouts to use.

6. Lab Manual: The lab content for this course will be available on the Canvas site, no lab manual purchase necessary. Also, you could find most blank labs on the website:

<https://www.deanza.edu/chemistry/Chem1C.html> Be sure you can download them, and you need to print out the lab manual pages before our lab.

7. Lab Equipment

a) Goggles: For your protection, safety goggles or Visorgogs (<https://www.flinnsci.com/flinn-visor-goggles/ap1362/>) with indirect ventilation and an ANSI minimum rating of Z87 must be worn *AT ALL TIMES* in the laboratory while experiments are taking place. I will send out more info in an email.

b) Personal Protective Equipment (PPE): Long pants and the shoes cover all feet must be worn in lab. Specifics are provided in the safety document at the end of the syllabus.

c) Laboratory Notebook by Hayden-McNeil CARBONLESS (Bookstore) or most College-ruled notebook will work. Do not purchase a notebook with BLUE pages – too hard to read! You need to turn the copy page to me as prelab at the beginning of the lab.

CANVAS COURSE WEBSITE:

Course material including lecture notes, blank labs, review materials and other resources will be posted on Canvas. Grades are also posted on this site as we go through the quarter. Announcements and other notifications will be through Canvas as well. **Make sure to check Canvas on a daily basis.**

CLASS REGISTRATION:

Registration limit is strictly set at 30 per section since we limited by the space in lab. The class will be filled based on the official roster provided by the De Anza Admissions and Records, including an official waitlist. Students on this waitlist may attend the lecture within the first week but will not be allowed to come to lab until officially enrolled due to space restrictions. Students on the waitlist will have access to the class CANVAS site during the first week since I make the Canvas visible for campus during the first week.

ACADEMIC INTEGRITY:

By enrolling in classes at De Anza College, you are agreeing to the academic integrity policy and are held to all standards. Specifics can be found at <https://www.deanza.edu/studenthandbook/academic-integrity.html>.

Cheating during an exam/quiz or copying/using work other than your own for assignments will result in a 0 for the entire assignment, regardless of what percentage of the work is from cheating.

Worse than a 0 on an exam, I am required to report such incidents to the disciplinary committee, who will make a note of the incident on your transcript, which then becomes visible to 4 year colleges upon reviewing your transfer application.

Academic dishonesty includes:

- Plagiarism (copying or allowing someone to copy) lab exercises or reports.
- During an exam, communicating or transferring information to another student, casual glances at your neighbor's paper, providing or receiving assistance, and/or consulting unauthorized materials. To avoid these, I will assign the seats. The main purpose to assigning seats is to give students more test times.
- Having another person complete and submit work in your name.
- Lying to an instructor to improve your grade.
- Altering a graded work after it has been returned and then submitting the work for regrading.

DISABILITY SERVICE SUPPORT:

De Anza is committed to providing support for all students. Please contact me as soon as possible if you require special accommodations and I will be happy to do what I can to help. For more information, visit Disability Service Support at <https://www.deanza.edu/dss/>

GRADING POLICIES:

Overall Course Grade

	pts	%	Bonus/drop
Lecture Exam #1 (Ch-13)	100	10	May have 0.5% bonus
Lecture Exam #2 (Ch-19)	100	10	May have 0.5% bonus
Lecture Exam #3 (Ch-21)	100	10	May have 0.5% bonus
Final (Ch-24 & 23)	150	15	May have 0.7% bonus
Online Homework	100	10	
Pop Quizzes (19x4-8)	68	6.8	0.5% bonus, drop lowest 2
Canvas Discussion (4x5)	20	2.0	
Prelab (10x6)	60	6	
Lab Report (6x20)	120	12	
QA Cation Reports (4x6)	24	2.4	
QA Cation Results (14x2)	28	2.8	
Lab Quizzes (7x4-4)	24	2.4	Drop lowest one
Lab Tests (3x10)	90	9.0	May have 0.4% bonus
Lab Safety Module Assignments	11	1.1	
Lecture and Lab Evaluation	5	0.5	
	1000	100%	

A letter grade will be assigned according to the following percentage scale and categories:

A+ ≥98%	A ≥92%	A- ≥89%	B+ ≥86%	B ≥82%	B- ≥79%
C+ ≥75%	C ≥67%	D+ ≥64%	D ≥60%	D- ≥56%	F <56%

1. Precise cut-offs may differ by $\pm 1\%$ of the above listed numbers, and are determined only after all points for lecture and laboratory have been totaled.
2. **You must take the final exam to pass the course.** If you miss the final exam scheduled for this course, then you will not receive an overall passing grade. There are no make-up exams for the final exam.

3. If your average exam percent, or your average lab percent is less than 55% you WILL NOT receive a passing grade.
4. **In order to be fair to all students, advance or make-up exams will NOT be given.**
5. A grade of F is also given for cheating or for being disruptive during the lectures or labs.

Many pop quizzes will be given during the quarter. Pop quizzes could be distributed at any time during the lecture or lab lecture. Usually I may distribute the pop quizzes at beginning or at end of the class. Pop quizzes are open book, open notes, and open discussions with limited time. Pop quiz time is about 10 to 15 minutes. ***You have to stay in the class all the time and solve the quiz questions correctly to get the full scores for pop quizzes.*** Pop quizzes will help you to understand the materials just learned in lecture and lab, also they will help students to have good participation in the class, thus to help you pass this difficult course with good grades. **Besides 6.8% scheduled pop quiz scores, I'll distribute around 0.5% extra credits in pop quizzes.** I may distribute around 2% extra credit in exams as well.

Please note that the instructor will NOT provide extra credit work at the end of the semester for students who are doing poorly. Thus, you need to perform well in your tests, quizzes, and lab reports, etc. If you follow all rules, have good participation (means attend all lecture and lab, finish all prelabs, lab reports, assigned homework questions, etc.) and your score is within 1.0% lower than the cuts, I'll give those students 1.0% consideration when I assign the grades 😊.

ATTENDANCE AND INCOMPLETE GRADES:

This is a fast-paced and challenging course, attending the class regularly will help you to understand the material and pass the class. Students are expected to attend all lectures and lab sessions. You are responsible for all the material covered in this course. You should also exchange contact information with a few classmates who you can contact regarding material missed if you must be absent. Since this is an experimental course, your presence in the laboratory is essential for the understanding of the materials covered. **Missed lab work WILL NOT be excused nor made up.** You will NOT receive a passing grade if ***more than 1*** unexcused lab absence is counted. Allowances may be made for emergencies. **Please show me the documents as the evidence of an emergency. It is students' responsibility to drop the course officially if desired (Note: Before you drop the course, please check out of the laboratory.)** In order to help you to pass this difficult course, I will check the attendance regularly. In this way with good participation, the passing rate and students' grades would be higher. We will try to achieve good results as a whole group! Please try your best.

Incomplete grades are only given for extenuating circumstances; for example, verified illness or legitimate emergencies. If an incomplete is given all exams and lab work prior to the incomplete are still counted in your grade, only material that has not yet been completed can be made-up in the future. **You must be passing the course to receive an incomplete grade.**

IMPORTANT DATES:

7/3 (Mon)	Class Begin
7/5 (Wed)	Last Day to drop for Refunds and without grades.
8/1 (Tue)	Last day to drop the class with a "W" grade. After midnight on this date, you CANNOT receive a "W", you WILL receive a letter grade.

LECTURE EXAM DATES:

Exam	Date/Time	Coverage***
Midterm #1 (Week 2, Thur.)	Thur: July 13 th during Lecture Time	Ch-13
Midterm #2 (Week 4, Tue.)	Tue: July 25 th during Lecture Time	Ch-19
Midterm #3 (Week 5, Thur.)	Thur: Aug. 3 rd during LAB Time	Ch-21
Final Exam (Week 6, Thur.)	Thur. Aug. 10 th 1:45 - 3:45 pm in Lecture Room	Comprehensive, But focus on Ch-24 and 23

***Note: Exact Chapter and Sections Coverage may vary depending on pacing of course ***

ONLINE HOMEWORK:

10% of your grade will be based on this. Therefore, **register Aktive and access homework is required!** *Homework due dates are suggested on the last page of schedule. But I have already postponed homework to the exam dates (all around 10:30 AM to exam dates.) So due dates will NOT be postponed again. Please check the deadlines for each chapter online.*

- Please do homework as soon as we cover the materials in class.
- Please also go over all examples in each chapter.
- Keep in mind that if you do not work the problems or just copy the answers from the back pages of your text, it is difficult for a student to be successful in the course and exams.

The suggested homework due times are on the schedule page. All online homework due times are already postponed to the test dates (the due times for the most chapters are 10:30 AM.) No further postpone will be given. Late homework will get 5% deduction each day.

RESOURCES:

- 1. Your peers!** It's been shown that working in groups is a GREAT way to process material. Helping others to learn is a wonderful way to solidify your own understanding. Asking each other questions, explaining difficult concepts and working together on the practice problems will all help immensely! I **HIGHLY** recommended forming some sort of study group – try to exchange contact information and meet for a bit each week to synthesize material.
- 2. Academic support** can be found at the **Learning Resources Division** <https://www.deanza.edu/learningresources/>. Information about **tutoring** can be found at the Math Science and Technology Resource Center <https://www.deanza.edu/studentssuccess/mstrc/>.
- 3. Office Hours:** Come by to ask questions during the office hours. The office hours are before the lab in faculty office SC 1206.
- 4.** Besides homework, I may provide **more review questions for most chapters.** Please check the review modules for each exam.
- 5. Questions in Textbook:** You could try to study those questions with the answers and detailed explanations.
- 6. Discussions on Canvas** – This is a good way to encourage students to help each other and get some easy earning points. I put 2% discussions (4 discussion assignments) in grade this summer. Hope you will like them. 2.5 pts is for you to post a difficult question, and another 2.5 pts is to answer another student's question with explanations. The first discussion you need to do is introduce yourself to the class.

CLASS RULES AND REGULATIONS:

- I will help you to be on time by distributing the pop quiz at the beginning of the lecture.
- Turn off or turn to silent mode all cell phones and electronic messaging devices. DO NOT talk on the phone or receive/transmit text messages during lecture or lab.
- Follow all written and verbal instructions.
- Laptop computers may be used during class ONLY for class business. For instance, you may use your laptop to view and/or take class notes, but please do not disrupt/distract your fellow classmates by using your laptop during class for other business and/or activities that do not pertain to the class. The instructor and the school are not liable for any damage to electronic equipment used during class.
- I will drop any student who, in my judgment, is habitually disruptive or disrespectful. Repetitive disruptive or rude behavior in the class or lab will be cause for dismissal from the class.

STUDY STRATEGIES: This is a very difficult and fast-paced class. How could you be successful?

Success in the course = practice, practice, practice!

1. You should **study outside of class AT LEAST 20 hours per week** in summer for a 5-unit class to keep up with your reading, homework exercises, notebook preparation, lab reports, etc. Be sure to make the study time count by removing distractions—for instance, do not watch television or carry on conversations while studying.
2. Read (or at the least skim) the corresponding chapter in the text BEFORE lecture (*you could use the last module PPT slides*). Keep the questions in mind and pay attention during the lecture time so you may get the answers for the questions that previously you don't understand.
3. Don't fall behind! Keep up with the reading and the recommended textbook problems! My strategy to help you is keeping a pop quiz each time.
4. **Attend the class and lab on time so you have chance to take the pop quizzes and lab quizzes. It's quite hard to catch up if you miss the lectures and labs.**
5. Take scratch paper each time for the lecture. I hope you could participate in the problem solving actively in class. Frequently sketching the problem solving process on the scratch paper would be a good habit.
6. Ask questions! Come to office hours, tutoring, or form a study group to get them answered! It's YOUR responsibility to **take charge of your learning**; there are many resources to help you succeed!

STUDENT LEARNING OUTCOMES:

- *Apply the principles of equilibrium and thermodynamics to electrochemical systems.
- *Apply the principles of transition metal chemistry to predict outcomes of chemical reactions and physical properties.
- *Evaluate isotopic decay pathways.
- *Demonstrate a knowledge of intermolecular forces.

Chemistry 1C is a very difficult course. You have to put much time to study really hard to pass the course or to get a good grade. I wish you have good luck with Chem. 1C this quarter!

Chemistry 1C Lab Syllabus

♦ CAREFULLY read the attached DeAnza Chemistry Department laboratory policies and safety and housekeeping rules.

♦ You must find the Safety Signature sheet (last page), sign it, and upload to the Canvas before the deadline (7/5 11:20 am)

♦ You need to finish the safety training module on Canvas (module 2) and get the certificate, and submit the certificate to Canvas before the deadline (7/5 11:20 am).

♦ A passing grade in the lab section is required in order to pass the entire course.

REQUIRED LABORATORY MATERIALS

1. **Chem 1C Laboratory Experiments and Handouts:** available in CANVAS or you could get from the department website: <https://www.deanza.edu/chemistry/Chem1C.html>
2. **Laboratory Notebook** by Hayden-McNeil CARBONLESS (Bookstore) or most College-ruled notebook will work. Do not purchase a notebook with BLUE pages – too hard to read! You need to turn the copy page to me as prelab at the beginning of the lab.
3. A scientific **calculator**. During the exam time, graphing calculator is not allowed.
4. OSHA-approved **Safety Goggles**. You may purchase it in bookstore if you want to keep your own goggles in your locker. The lab room may have goggles for students to borrow and return each time. **Please be sure to return them each time since the goggles are for all 1C and 25 students in all sections in the lab room. Please wash it with water before you use them.**

LABORATORY PROCEDURES

All students are expected to arrive to lab on time and to come to lab prepared to carry out the experiment scheduled for that session. This means that you have studied the experiment for the day, have a basic understanding of its purpose and procedure, the chemistry involved and *have prepared your laboratory notebook for the experiment prior to the start of lab*. **Please follow the following procedures for each experiment:** (1) read the procedure (2) **complete a prelab and submit it to me at the beginning of the lab** (3) attend the lab introduction at the beginning of the lab period. **If can write something down on the notebook if you want during the lab discussions.** (4) **perform the procedure** (5) **do a conscientious and thorough job of cleaning up whether it is in your own work area or shared areas such as the chemical supply table and balance room.** (6) **Before you leave, let me sign your notebook data page.** (7) **Go home to finish the report (your report should be written in printed out blank pages) and answer the follow-up questions/calculations** (7) **write a conclusion in the report.** (8) **Submit your report and data page(s) with my signature in two days at the beginning of the lab.**

LAB ATTENDANCE

Attendance in the laboratory is **mandatory**. I will be taking roll in the lab each time at beginning. And I will sign off the data page before you leave the lab. If you miss one lab time (not one lab), you will lose that portion of score. You may not have chance to understand the materials if **more than 1 absence** is counted – it might result in a failure of the course. I may allow for emergencies and other complications in life. **You need to submit the documents for verification.**

TARDINESS:

Students have to be on time in the lab for full lab credit. You are counted as tardy if you arrive more than 5 minutes late. **Each tardy will deduct 2 points from your lab notebook preparation. If you are more than 15 minutes late, you will not be allowed to perform the experiment for that day, and will be counted as absence.**

LAB SAFETY

Being safe in the lab is a top priority. The importance of safety in the laboratory will be focused upon during the first day of classes. **Students who are absent for this essential lab period will be dropped from the course. As the first important assignment, students need to go over all materials in ACS SAFETY MODULE of the canvas, take the online test, and get the certificate, then upload your certificate to the Canvas before the deadline (7/5 at 11:20 AM).**

During the quarter, any unsafe behavior, intentional or not, will be noted and may be cause for dismissal from the course. For your protection, **safety goggles must be worn AT ALL TIMES as long as one student is still doing the lab and have chemicals in the lab bench.** One or two warnings will be issued to any student that is observed wearing their goggles on their forehead, hanging them around their neck, etc. instead of wearing over their eyes. If the warnings are disregarded or ignored repeatedly, points will be deducted or expulsion from the lab may result with zero credit. **Those students with prescription glasses will be required to wear safety goggles over their prescription glasses.** After you get the certificate in Canvas, if you still have questions for safety, please ask me.

DRESS CODE FOR THE LAB

- A t-shirt is the minimum coverage required for the upper body
- **Long pants are required**
- The shoes that cover all feet are required
- **Ankles must be covered with pants, socks, or shoes (bring an extra pair of long socks to lab)**
- Safety splash goggles are required

Failure to meet these requirements will result in having the leave the laboratory section until the deficiencies have been addressed.

PRELAB (NOTEBOOK PREPARATION):

BEFORE COMING TO A LAB MEETING, complete the following entries in your notebook in PEN:

The **date, your name, title, list of reagents (including concentrations), safety (personal safety and the hazard information of the reagent – you could find the hazard information in Chem 1C lab manual website: <https://www.deanza.edu/chemistry/Chem1C.html>), introduction for the principles and equations, and procedure** (try not “cut and paste” this information from the lab packet, instead, you have write them down into your lab notebook – **your copy pages of your lab notebook should be readable to get good scores for the preparation**).

At the beginning of the lab, please turn the duplicate page(s) to me. Each prelab will be graded for 6 pts each. Usually a prelab with above tasks should be more than one page. Please find more detailed notebook training information on page 10 to 11.

Prelab is safety related item. It is important to finish prelab before you come to the lab. **If you do not do the prelab, you will not allowed to perform the lab work!**

LAB REPORTS:

Many lab reports will be due in **two days after** you finish the experiment. Worksheet, if any, might be due in the same day or in the next lab period. There will be **15% deduction for each late day**. You will receive a grade of zero for lab reports that are more than one week late. The report is due at the beginning of the lab meeting. A laboratory report is considered late if not received **by me in person** on the day and time it is due. Although for 50% experiments you will be working with one partner, **everyone must turn your own report each time**. You are encouraged to discuss lab questions and results with your partner and other group students to enhance the understanding of the experiments. Please don't copy other students' report and please don't use your lab partner's excel graphs, you need to make your own graph.

DURING THE LAB: You need to continue notebook recording **in ink!**

- During the lab lecture discussions, you could record some background notes and/or principles in your notebook.
- Record your lab data and observations **directly to notebook**, then transfer the data to your report page.

◆ Points will be deducted if you forget to bring your notebook to the lab, if you write in pencil for the lab results, or if you record data on scratch paper.

◆ You need to let me sign your notebook for your data sheet before you leave the lab as the evidence you perform the lab.

FOLLOWING THE LAB: After the lab, you need to finish the Data Analysis and Post-lab Questions in data pages and report pages. You do **NOT** do these parts on notebook, so no need to use pen (pencil is OK). **Please print the blank report pages, and fill in your answers.**

Lab report that you submit should include:

1. **Copy of the note book pages that you record your first-hand data and my signature.**
2. Data analysis in printed out pages and/or graphs.
3. Post lab questions if there are any (in printed out paper).
4. Calculation pages if there is any calculations. For multiple trials, show one trial calculations.
5. **You must write brief conclusion paragraph for several points**

LABORATORY GRADE

Please see details in lecture syllabus on page 3.

For a 20-point lab report, it includes:

- 1) lab data with instructor's signature 3 pts (copy of notebook page(s)),
- 2) Report pages: results, calculations, reasoning explanation, etc. 14 pts.
- 3) Conclusion 3 pts.

There are several lab quizzes to help students prepare the three lab tests. They are open-book, open-notes, open-discussion but with limited amount time to finish. You have to come to the lab on time to get the quiz. In order to be fair to all students, advance or make-up lab quizzes and lab tests will NOT be given.

HOW TO KEEP A LAB NOTEBOOK

Please read a file carefully about it on Canvas module 4. We will go over it a bit on the first day.

CHEMICAL DISPOSAL

As a concern for the environment and to follow county, state and federal law, proper chemical disposal is essential. **In De Anza, students need to dump the waste to the waste bottles that YOUR OWN INSTRUCTOR prepared. So try to see your instructor's name and waste bottle contents on the label.** Check with the instructor if you have any questions.

CLEAN UP

You must clean up your lab area and put the equipment back at their storage locations after the experiment. If you spilled a bit of chemicals at the reagent area, you **must** clean it up immediately, and put the chemicals into the waste bottle. If you do not do clean up, your lab performance grade will be low. If you have a large reagent spill, you need to report to your instructor to get help to do clean up.

CHECK-OUT

Check-out occurs at the last lab session. If a student drops the course, he/she **must check out during his/her regular laboratory section meeting with his/her lab instructor or come to the last lab session (6th week) to check out.**

Good Luck with the Chem1C Labs and have fun!

CHECK LIST FOR COMPLETED LABORATORY ASSIGNMENTS/REPORTS

1. **Write your name on the first page. All loose papers must be stapled together!** (No paper clips, no bent corners, etc.) Loose papers will not be accepted and if you do turn them in, points will be deducted! Turn-in only what is asked for, no extra pages.
2. The lab report or assignment should be neat. Lab reports could be completed neatly in pencil or pen. Mistakes during data collection should be **crossed out with a single line (not erased!)**. All writing must be legible. On graphs, circle the points so they can be seen. **INCLUDE UNITS on all data, graphs, calculations, etc...!**
3. Unless otherwise notified by your instructor, all exercises and problems in a lab report or assignment must be completed for full credit. If you are having trouble solving a problem, see your instructor or school tutoring center for help. You also are encouraged to form a study group to do discussions. But do not try to copy each other's reports.
4. **In all calculations show the set-up with units! If multiple trials are performed, you only need to show the set-up for the first trial.**
5. All data must be recorded to the precision of the instrument. For example, never round the balance data. If you are unsure of the precision ask your instructor or refer the Measurements Lab (completed in class). For example, a buret reading where the meniscus falls exactly on 15 mL is recorded as 15.00 mL not 15 mL. The trailing zeros in the 15.00 mL reading are significant!
6. In your calculations use the rules of significant figures to determine how many significant figures your answer should contain. Review the rules for significant figures! Points will be deducted for every significant figure error. **Rules for Safe and Efficient Chemistry Laboratory Operations.**
7. **Conclusion paragraph has finished.**

Chemistry 1C Lab Calendar Summer 2023

Wk	Monday	Tuesday Lab	Wednesday Lab	Thursday Lab
1	3-Jul	4-Jul	5-Jul	6-Jul
	Introduction to Lab Safety, and Lab Notebook, Check-In	HOLIDAY	Lab 1: Freezing Pt (1) (Prelab Due at the beginning)	Lab 1: Freezing Pt (2) Lab Quiz 1* (lab 1)
2	10-Jul	11-Jul	12-Jul	13-Jul
	Lab 2: pKa of an Indicate (1) (Prelab due) The lab is called B6 in 1B blank lab	Lab 2: pKa of an Indicate (2) Lab Quiz 2 (lab 2)	Lab 3: Buffers (1) (Prelab Due at the beginning)	Lab 3: Buffers (2) Lab Quiz 3 (lab 3) May use some time for Lecture Exam 1
3	17-Jul	18-Jul	19-Jul	20-Jul
	Lab 4: Ksp and Common Ions (1) (Prelab Due)	Lab 4: Ksp and Common Ions (2) Lab Test 1 (Lab 1 - 3)	Lab 5: Anions (1) (Prelab Due)	Lab 5: Anions (2) Lab Quiz 4 (lab 4)
4	24-Jul	25-Jul	26-Jul	27-Jul
	Lab 6: Electrochem(1) (Prelab Due)	Lab 6: Electrochem(2) Lab Quiz 5 (lab 5) May use some time for Lecture Exam 2	Lab 7-1: QA Cation - Group A (Prelab Due: introduct. & Group A) Lab Quiz 6 (lab 6)	Lab 7-2: QA-Group B (1) (Group B Prelab Due)
5	31-Jul	1-Aug	2-Aug	3-Aug
	Lab 7-2: QA-Group B (2) Lab Test 2 (Lab 4-6)	Lab 7-3: QA-Group C (Group C Prelab Due) <i>Last day to Drop With Grade W</i>	Lab 7-4: QA-Group D (1) (Group D Prelab Due)	Lecture Exam 3 (Ch-21)
6	7-Aug	8-Aug	9-Aug	10-Aug
	Lab 7-4: QA-Group D (2)	Check-out Lab Quiz 7 (lab 7)	Review for Final Lab Test 3 (Lab 7)	Lecture Final (Comprehensive) in S 34 From 1:45 – 3:45pm

Lab reports are due two days after the labs are completed in the laboratory.

*Lab Quizzes are open-book, open-notes, open-discussion but with limited amount time to finish. You have to come to the lab on time to get the quiz. No make up quiz.

** Lab Tests are close-book ones, but you could make half-page notes when you study it for a lab test.

DATES of LAB TESTS:

7/18 (Tue)	Lab Test 1 (Lab 1-3)
7/31 (Mon)	Lab Test 2 (lab 4–6), may move to the end of lecture, depends on times...
8/9 (Wed)	Lab Test 3 (Lab 7)

TENTATIVE LECTURE AND LAB SCHEDULE:

Schedule is subject to change. I will announce the change in the class and/or in canvas announcement.

Date	Lecture (MT or WTh)	Mon. or Wed Labs	Tue. or Thur. Labs
Wk 1: 7/3 & 7/4 (M, T)	<ul style="list-style-type: none"> • Discussion of Syllabus • Ch-13: Solutions <p>Tue. Holiday</p>	<p>Mandatory</p> <ul style="list-style-type: none"> • Introduction /Safety • Lab notebook/Check-In 	Tue. Holiday
Wk 1: 7/5 & 7/6 (W,R)	<ul style="list-style-type: none"> • Ch-13: Continued • Pop quiz 1 & 2 (Ch-13) 	Lab 1 – Freezing Point (1) (Prelab Due at beginning)	<ul style="list-style-type: none"> • Lab 1 – Freezing Point (2) • Lab Quiz 1 (lab 1)
7/5(Wed.)	<u>Deadline to drop this class with a refund and without grade</u>		
Wk 2: 7/10 & 7/11 (M, T)	<ul style="list-style-type: none"> • Ch-13: Continued • Ch-19: Ionic Equilibria • Pop quiz 3 & 4 (Ch-13) 	Lab 2: pKa of an Indicate (1) (Prelab due)	<ul style="list-style-type: none"> • Lab 2: pKa of an indicate (2) • Lab Quiz 2 (lab 2)
7/10 (Mon.)	<u>DEADLINE FOR ADDS</u>		
Wk 2: 7/12 & 7/13 (W,R)	<ul style="list-style-type: none"> • Ch-19: Continued • Pop quiz 5 (Ch-19) • HW*Ch-13 due Sun (7/11) • R: Lecture Exam 1 (Ch-13) 	Lab 3 – Buffers (1) (Prelab Due at the beginning)	<ul style="list-style-type: none"> • Lab 3 – Buffers (2) • Lab Quiz 3 (lab 3) • May use some lab time for Lecture Exam 1
Wk 3: 7/17 & 7/18 (M, T)	<ul style="list-style-type: none"> • Ch-19: Continued • Pop quiz 6 & 7 (Ch-19) 	Lab 4: Ksp and Common Ions (1) (Prelab Due)	<ul style="list-style-type: none"> • Lab 4: Ksp and Common Ions (2) • Lab Test 1 (Lab 1 - 3)
Wk 3: 7/19 & 7/20 (W,R)	<ul style="list-style-type: none"> • Ch-21: Electrochem • Pop quiz 8 & 9 (Ch-19) 	Lab 5: Anions (1) (Prelab Due)	<ul style="list-style-type: none"> • Lab 5: Anions (2) • Lab Quiz 4 (lab 4)
Wk 4: 7/24 & 7/25 (M,T)	<p>HW Ch-19 due on Sun (7/23)</p> <ul style="list-style-type: none"> • Ch-21: Continued • Pop quiz 10 (Ch-19) • T: Lecture Exam 2 (Ch-19) 	Lab 6: Electrochem(1) (Prelab Due)	<ul style="list-style-type: none"> • Lab 6: Electrochem(2) • Lab Quiz 5 (lab 5) • May use some lab time for Lecture Exam 2
Wk 4: 7/26 & 7/27 (W,R)	<ul style="list-style-type: none"> • Ch-21: Continued • Ch-24: Nuclear Chem. • Pop quiz 12 & 13 (Ch-21) 	<ul style="list-style-type: none"> • Lab 7-1: QA Cation - Group A (Prelab Due: introduction & Group A) • Lab Quiz 6 (lab 6) 	Lab 7-2: QA-Group B (1) (Group B Prelab Due)
Wk 5: 7/31 & 8/1 (M,T)	<ul style="list-style-type: none"> • HW Ch-21 due on Sun (7/30) • Ch-24: Continued • Pop quiz 14 & 15 (Ch-21) 	<ul style="list-style-type: none"> • Lab 7-2: QA-Group B (2) • Lab Test 2 (Lab 4-6, may move to end of lecture, tbd) 	• Lab 7-3: QA-Group C (Group C Prelab Due)
8/1(Tue.)	<u>Deadline to drop this class with a grade W</u>		
Wk 5: 8/2 & 8/3 (W,R)	<ul style="list-style-type: none"> • Ch-24: Continued • Ch-23: Transition Elemts. • Pop quiz 16 & 17 (Ch-21/24) 	Lab 7-4: QA-Group D (1) (Group D Prelab Due)	Lecture Exam 3 in Lab Room SC 2208 (Ch-21)
Wk 6: 8/7 & 8/8 (M,T)	<ul style="list-style-type: none"> • HW Ch-24 due on Sun (8/6). • Ch-23: Continued • Pop quiz 18 & 19 (Ch-24) 	Lab 7-4: QA-Group D (2)	<ul style="list-style-type: none"> • Check-out • Lab Quiz 7 (lab 7)
Wk 6: 8/9 & 8/10 (W.R)	<ul style="list-style-type: none"> • HW Ch-23 due Wed (8/9) • Worksheet for Chapter 23 • Final Exam on R. 1:45 to 3:45 	<ul style="list-style-type: none"> • Review for Final • Lab Test 3 (Lab 7) 	Final (Comprehensive) in S 34 From 1:45 – 3:45 pm

Safety Rules

From the American Chemical Society Safety In Academic Laboratories Guidelines, 7th Ed., the following mandatory minimum safety requirements must be followed by all students and be rigorously enforced by all Chemistry faculty:

- 1)** Chemistry Department-approved safety goggles purchased from the De Anza College bookstore (NOT safety glasses) must be worn at all times once laboratory work begins, including when obtaining equipment from the stockroom or removing equipment from student drawers, and may not be removed until all laboratory work has ended and all glassware has been returned to student drawers.
- 2)** Shoes that completely enclose the foot are to be worn at all times; NO sandals, open-toed, or open-topped shoes, or slippers, even with socks on, are to be worn in the lab
- 3)** Shorts, cut-offs, skirts or pants exposing skin above the ankle, and sleeveless tops may not be worn in the lab: ankle-length clothing must be worn at all times
- 4)** Hair reaching the top of the shoulders must be tied back securely
- 5)** Loose clothing must be constrained
- 6)** Wearing "...jewelry such as rings, bracelets, and wristwatches in the laboratory..." should be discouraged to prevent "...chemical see page in between the jewelry and skin...".
- 7)** Eating, drinking, or applying cosmetics in the laboratory is forbidden at ALL times, including during lab lecture
- 8)** Use of electronic devices requiring headphones in the laboratory is prohibited at ALL times, including during lab lecture
- 9)** Students are advised to inform their instructor about any pre-existing medical conditions, such as pregnancy, epilepsy, or diabetes, that they have that might affect their performance.
- 10)** Students are required to know the locations of the eyewash stations, emergency shower, and all exits
- 11)** Students may not be in the lab without an instructor being present
- 12)** Students not enrolled in the laboratory class may not be in the lab at any time after the first lab period of each quarter.
- 13)** Except for soapy or clear rinse water from washing glassware, NO CHEMICALS MAY BE Poured INTO THE SINKS; all remaining chemicals from an experiment must be poured into the waste bottle provided.
- 14)** Students are required to follow the De Anza College Code of Conduct at all times while in lab: "horseplay", yelling, offensive language, or any behavior that could startle or frighten another student is not allowed during lab;
- 15)** Strongly recommended: Wear Nitrile gloves while performing lab work; wear a chemically resistant lab coat or lab apron; wear shoes made of leather or polymeric leather substitute.

Lab Safety Signature Sheet

By signing below, I, _____, acknowledge that

First Name

Family Name

I fully understand and agree to abide by the laboratory safety rules listed above. Further, I acknowledge that my failure to abide by these rules will result in my being dropped from this chemistry class immediately.

Signature Date

Student Learning Outcome(s):

- Apply the principles of equilibrium and thermodynamics to electrochemical systems.
- Apply the principles of transition metal chemistry to predict outcomes of chemical reactions and physical properties.
- Evaluate isotopic decay pathways.
- Demonstrate a knowledge of intermolecular forces.

Office Hours:

M,T,W,TH 03:45 PM 04:10 PM In-Person S34