Rose Wang
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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 pm in S34	**Contact Information:** **Email**: wangxiao@fhda.edu & wang932@yahoo.com **Course Website:** in Canvas Su25 CHEM D001C General Chem Iii 25 Wang 10957

This syllabus is a contract, please read it carefully. Email is reserved for contacting me regarding absences, scheduling, etc. not for office hours.

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. **Text**: Chemistry: A Molecular Approach, 6th edition by Nivaldo J. Tro (Pearson: 2022, ISBN 978-0-137493-61-6). Here are your Purchase Options:
   - 14-week direct purchase price when registering - $40.00
   - 14-week net price to the bookstore for an access code - $35.00 (final price to student will be determined by their margin)
   - 24-month direct purchase price and net price to the bookstore - $105.00 (final price to student will be higher if purchasing through the bookstore)
   - You also can see e-book information in bookstore website.
2. **You must buy a code to access Mastering Chemistry Homework – this should be ready during the 2nd week.** You can also try to find a used book on any website.
3. **Computer and printer access:** Although this is not an online course, you need to use computer to access canvas materials, to make excel graphs, to print out our blank labs, etc.
4. **Lecture Handouts:** Lecture pdf chapter slides will be available ON CANVAS (module 3) after finishing chapter discussions in lecture. If you want to use lecture PPT to do preview, you can use our textbook PPT in last module. No matter for textbook PPT or my revised PPT, you can only use them, not distribute them or sell them.
5. **Chem. 1C Lab Manual:** You could access each blank lab through our Department website https://www.deanza.edu/chemistry/Chem1C.html or through our course Canvas (module 4). **You need to print out each blank lab before you come to the lab room!**
6. **A scientific calculator** is recommended for lecture and lab. During the exam time, you are only allowed to use a scientific calculator. Programmable calculators are not allowed for tests.

7. **Laboratory Notebook**: ***You have to upload your prelab on notebook to Canvas before 11pm (see Canvas deadline)!***
8. **Supplemental Texts (Optional): OpenStax Chemistry, 2nd edition. Available free online at https://cnx.org/contents/f8zJz5tx@9.18:DY-noYmh@9/Introduction**

CANVAS COURSE WEBSITE:

Course material including lecture notes, blank labs, 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. The Cavas address:** Su25 CHEM D001C General Chem Iii 25 Wang 10957

ADD/DROP POLICY:

Due to safety policies for the chemistry labs, **enrollment in each section of general chemistry is strictly limited to 30 students** with ***no exceptions whatsoever***. Students on the wait list may attend lecture until the add deadline passes to attempt to add into the course but could not attend wet labs (our first two labs are dry labs.) ***Students who are waiting to add need to be sure to attend the class.***

For any students who do not attend the all of first week's class and lab, *I am required by contract to drop you from the course*, unless you inform me in writing as to why you have to be absent and submit the relative excusable document.

ACADEMIC INTEGRITY:

By enrolling in classes at De Anza College, you are agreeing to the academic integrity policy and are held to all standards. Please visit the website for details Academic Integrity

In this course, cheating during an exam/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 regarding.

DISABILITY SERVICE SUPPORT:

De Anza is committed to providing support for all students. Please contact DRC as soon as possible if you require special accommodations. For more information, visit Disability Service Support at Disability Support Programs and Services

GRADING POLICIES:

Overall Course Grade

	pts	%	Bonus/drop
Lecture Exam #1 (Ch-14)	100	10	May have 0.5% bonus
Lecture Exam #2 (Ch-18)	100	10	May have 0.5% bonus
Lecture Exam #3 (Ch-20)	100	10	May have 0.5% bonus
Final (all ch-14,18,20,21,26)	150	15	May have 0.7% bonus
Online Homework	100	10	
Lecture Pop Quizzes (19x3-6)	51	5.1	0.5% bonus, ***drop lowest 2***
Research Paper	25	2.5	
Canvas Discussion (4x5)	20	2.0	
Prelab (9x6) – submit on Canvas	54	5.4	
Lab Report (6x20)	120	12	
QA Cation Reports (3x6)	18	1.8	
QA Cation Results (10x2)	20	2.0	
Lab Quizzes (7x3)	21	2.1	
Lab Final	100	10	May have 0.4% bonus
Lab Safety Module Assignments	11	1.1	
Evaluation Lecture and lab	10	1	
	1000	100%	Lecture part: 65.1%, lab part 34.9%

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

A+ ≥99.0%	A ≥92.0%	A− ≥89.0%	B+ ≥86.0%	B ≥82.0%	B− ≥79.0%
C+ ≥75.0%	C ≥67.0%	D+ ≥64.0%	D ≥60.0%	D- ≥56.0%	F <56.0%

1. Precise cut-offs may differ by ± 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.
6. **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.**

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 and we collect results 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 5.1% 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:

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.* 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.

IMPORTANT DATES:

6/30 (Mon)	Class Begin
7/6 (Sun)	Last Day to drop for Refunds and without grades.
7/30 (Wed)	Last day to drop the class with a "W" grade.

EXAM DATES:

Exam	Date/Time	Coverage***
Midterm #1 (Wk 2, Thur.)	7/10 during Lecture Time in S 34	Ch-14
Midterm #2 (Wk 4, Tue.)	7/22 during Lecture Time in S 34	Ch-18
Midterm #3 (Wk 5, Thur.)	7/31: during Lab Time in SC 2208	Ch-20
Lab Final (all labs, wk 6, Tue)	8/5: during Lab Time in SC 2208	All labs
Final Exam (Wk 6, Thur.)	8/7 1:45 - 3:45 pm in S34	Comprehensive

***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 Mastering Chemistry (MC) and access homework is required! You need to buy MC code or when you buy textbook in book store, ask them if MC code included. Or some students may have MC code from chem 1B if it is not expired.**

- **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 in MC (the due times for the most chapters are 10:30 AM.) No further postpone will be given. Late homework will get 15% deduction each day. Last portion of homework is 50% deduction each day.

● **You only need to do homework questions with credit. I put a lot of tutorial questions in homework without credit just in case you need them – you don't have to do those if you are OK.**

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/studentsuccess/mstrc/.

3. Office Hours: Come by to ask questions during the office hours. The office hours are after our lecture in lecture room.

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 quarter. Hope you will like them. 2 pts is for you to post a difficult question, and another 2pts 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!

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 DeAnza Chemistry safety contract in MODULE 1 and SIGN it, then upload to Canvas no late than Tue. (7/1) 11 AM.

♦ We will watch the safety videos together on the first day.

♦ You must take the safety quiz (first try) before Tue. (7/1) 11 am. You need to have 100% to pass the safety quiz. You can take the safety quiz 3 times. If you do not get full score, you can watch the safety videos again before you take 2nd and 3rd try, here are the websites: https://institute.acs.org/acs-center/lab-safety/education-training/safety-videos/college-lab-safety-videos.htmlLinks to an external site.
or https://youtu.be/DWSymRPCDN4?si=n6gJSUwfdbyvZw3cLinks to an external site.

♦ 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** ***Any notebook is fine. You have to number the pages from beginning page to end page, so you don't tear any pages and keep all pages during the course. You have to upload your prelab to Canvas at least half hour before your lab start!***
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: (do 1,2,3 before you come to the lab; do 4 to 8 in lab)**

(1) Read the Lab manual and understanding principle and procedure.

(2) Complete a prelab on your notebook.

(3) Submit your notebook preparation to Canvas BRFORE 11 am (see due time on Canvas)!

(4) 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.

(5) Perform the procedure

(6) 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.

(7) Before you leave, let the instructor sign your notebook data page AND your report data page. Also, let instructor grade your lab quiz if any.

(8) Go home to finish the report (*your report should be written in printed out blank pages*) and answer the follow-up questions/show calculations

(9) write a conclusion in the report.

(10) Submit your report and data page(s) with instructor's signature on due date. For summer sections, the due date will be two days after finish the lab.

LAB ATTENDANCE

Attendance in the laboratory is **mandatory**. Instructors 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 read and sign safety contract and take the safety quiz before the deadline (7/1 before 11 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
- Shirt must be 6 inches longer than top of pants.
- **Ankles must be covered with pants, socks, or shoes (bring an extra pair of long socks to your car.)**
- 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)

Please see the order of sections for a lab notebook below:

Purpose

This is a sentence or two on why you are conducting the lab: what are the objectives. (*What you want to do/prove*) **This is part of the pre-lab write up**.

Introduction/Background

This is a brief explanation of the theory and practice the lab is based on. It demonstrates your understanding of what we are going and what we will learn from it. It should be 1-2 paragraphs long. *(What are you basing this experiment on)* **This is part of the pre-lab write up**

Chemicals/Equipment

All equipment & chemicals are listed here with basic chemical safety info (including ***basic hazard info*** like is it flammable, corrosive, etc; ***handling and safety precautions*** like use only in the hood or keep away from open flames; and ***emergency/first aid info***) on **all** the chemicals being used. Read the procedure to get all the chemicals & equipment used. This can be a table or a paragraph. (*What you need to think about as you're doing the experiment*) **This is part of the pre-lab write up**.

Safety (Personal Safety and Chemical Hazard Information)

♦ The personal safety including wearing goggles and suitable lab attire, and some lab needs to wear gloves, etc.

♦ You could get the chemical hazard information in department chem 1C site: https://www.deanza.edu/chemistry/Chem1C.html You should read carefully about those chemical listed there, and **write down relative hazard information in your notebook.**

Pre-lab Calculations

Any assigned pre-lab calculations are to be completed in your notebook prior to beginning any lab. This section is not common but do check! **This is part of the pre-lab write up**.

Procedure

Reference the procedure in your lab notebook and then write down any changes to the procedure in enough detail so others reading the notebook could repeat the lab with the changes. (What *you did.*) **This is part of the pre-lab write up**.

Data Tables **Data (not turning this as prelab, but need be prepared before the lab)**

Make the data table ready for you to record the data during the lab. **Your pre-set data tables are part of the pre-lab write up. But you cannot tear this part to me before the lab.**

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:

In Summer quater, many lab reports will be due **two days after the labs are completed** 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 5 days 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 most experiments you will be working with 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 can write things 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 and sign your lab report page 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. Data analysis in printed out pages and/or graph. Please submit instructor's signature in report.
2. Post lab questions if there are any (in printed out paper).
3. Calculation pages if there is any calculations. For multiple trials, show one trial calculations.
4. **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 on your notebook that instructor already graded before you leave the lab. 3 pts**

2) **Report pages: results, calculations, reasoning explanation, etc. 15 pts.**
3) **Conclusion 2 pts – please write at least one paragraph about what you have learned and mistake analysis if any.**

There are several lab quizzes to help students prepare the the lab final. They are open-book, open-notes, open-discussion ones. You have to come to the lab on time to get the quiz. And you have to stay in the lab for all times (some labs contain two sessions) to get the full points.

In order to be fair to all students, advance or make-up lab quizzes and lab tests will NOT be given.

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 lab check-out session to check out.**

Good Luck with the Chem1C Labs and have fun!

How to Keep a Lab Notebook

1. Lab notebooks are bound (pages tied and glued together so that they are not easily removed. They are also numbered on every page, so again it is difficult to add or remove pages without this being obvious.
2. **All notebooks records are kept in ink. Mistakes in a notebook should be lined out with a single line, never covered with Whiteout or similar products, nor scribbled over to obscure the original notation(s)**. This generates a permanent non-changeable record of the work done. This is crucial! If you ever work in a laboratory, you must NEVER erase, whiteout, cover over, or remove any mistakes or data. If you did so, this would be classified as data falsification and you could be fired, as well as face fines and criminal prosecution.
3. All notebook pages must be dated and should also have the title of the experiment being carried out on it.
4. All notebooks should have a table of contents for the work done. The traditional place for a table of contents is in the front of the book. Many notebooks will include a space for a table of contents. If yours doesn't, **leave the first 3 pages blank** and construct you own.
5. Ideally, all parts of a lab are written directly into the notebook. In this class however, I will not be requiring you to attach all your graphs and conclusions to your notebook. Some of your work may be done on separate paper and turned in as your final report. Be sure to refer to the next page in order to ensure that you have the right sections in your notebook. All your data must be recorded in your notebook.
   If you record your data into the manual or on a piece of paper, THIS is your original data and it MUST be taped or glued into your lab notebook. Although you may recopy your data in your notebook in a neat table, your ORIGINAL data must also be there!

6. For every experiment, in addition to a title, there should also be a "Purpose", a short background introduction, a Chemicals and Equipment section, a Safety and Waste section, a Procedures section, an Observation/Data Collection section, and a Data Analysis section. Formal reports will also include a Discussion/Error Section and a Conclusions section. The following page shows the required order for these sections in the notebook.
7. The following sections must be included in your notebook: Title, Purpose, Chemical/Safety Equipment, All Pre-Lab work, Procedure, Data, and Calculations. **All other sections, including Graphs and Tables, Discussion/Errors, Conclusion and Post-lab Questions may be done on separate pages.**

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.**

Housekeeping Rules:

1. *Clean up broken glass immediately with a broom and dustpan. Do not use your hands.* Dispose of broken glass in the special container that is provided, never in a regular trash can.
2. *Chemical spills must be cleaned up immediately.* Immediately notify your instructor who will advise you how to clean it up and/or assist you. Dispose of the collected contaminated chemical properly as instructed.
3. *Do not pour any chemical down into the sink or in the trash without authorization.* Clearly labeled disposal bottles will be provided when needed.
4. *Take containers to the stock of chemical reagents.* Do not bring stock chemicals to your laboratory bench.
5. *Read the label on a reagent bottle carefully.* Is it the correct chemical? Is it the correct concentration?
6. Do not insert your own pipette, medicine dropper or spatula into a stock bottle.
7. *Use special care with stoppers or tops of stock bottles.* Do not allow them to pick up contamination. Your instructor will provide additional instructions for handling the stoppers or tops found in your laboratory.
8. *Always replace the stopper or top of a stock bottle when you are finished taking some of the reagent.* Make sure that you put the stopper or top back onto the correct bottle.
9. *When pouring liquid from bottles, hold the bottle with the label against the palm of your hand so that the liquid is poured from the side opposite the label.* If any liquid runs down the outside of the label, immediately wipe off the liquid.

10. *Do not take any more of a reagent than is required.* Many of the chemicals used in the laboratory, including deionized water, are costly.
11. *Never return any unused reagent to a stock bottle.* If you take too much of a chemical, dispose of it as directed by your instructor or offer it to a classmate who needs it.
12. Set up your glassware and apparatus away from the edge of your laboratory bench.
13. Thoroughly clean the area around your laboratory bench and the top of your laboratory bench before leaving lab.
14. *Keep shared areas of the laboratory clean.* This includes areas such as the balance room and where the stock bottles are stored. It is especially important to keep the balances clean and free of chemical spills.
15. *Keep your laboratory equipment clean.* Good results depend on clean equipment.
16. *If a piece of equipment containing mercury is broken, inform your laboratory instructor immediately.* Keep the area blocked off to avoid scattering the mercury.
17. Follow any other housekeeping rules given by your laboratory instructor.

Chemistry 1C Lab Calendar Summer 2023

Wk	Monday	Tuesday Lab	Wednesday Lab	Thursday Lab
1	30-June	1-Jul	2-Jul	3-Jul
	Introduction to Lab Safety, and Lab Notebook, Check-In	**Lab 1**: Freezing Pt (1) (Prelab Due on Canvas before 11am)	Lab 1: Freezing Pt (2) Lab Quiz 1* (lab 1)	**Lab 2**: pKa of an Indicate (1) (Prelab due) B6 in 1B blank lab
2	7-Jul	8-Jul	9-Jul	10-Jul
	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 3: Buffers (3) Lab Quiz 3 (lab 3)
3	14-Jul	15-Jul	16-Jul	17-Jul
	Lab 4: Ksp and Common Ions (1) (Prelab Due)	Lab 4: Ksp and Common Ions (2) Lab Quiz 4 (lab 4)	**Lab 5**: Anions (1) (Prelab Due) Lab Quiz 5-1 (lab 5)	Lab 5: Anions (2) Lab Quiz 5-2 (lab 5)
4	21-Jul	22-Jul	23-Jul	24-Jul
	Lab 6: Electrochem(1) (Prelab Due)	Lab 6: Electrochem(2) Lab Quiz 6 (lab 6)	**Lab 7-1:** QA (1)-Cation - **Group A** (Prelab Due for introduct. & Group A)	**Lab 7-2:** QA (2)- **Group B (1)** (Group B Prelab Due)
5	28-Jul	29-Aug	30-Aug	31-Aug
	Lab 7-2: QA (3) -Group B (2)	**Lab 7-3:** QA (4) - **Group C (1)** (Group C Prelab Due)	Lab 7-3: QA (5) –Catch up ● Lab Quiz 7 (lab 7-QA)	Lecture Exam 3 (Ch-20)
6	4-Aug	5-Aug	6-Aug	7-Aug
	Lab 7-4: QA (6)-Catch up Check-out	Lab Final	Review for Final	Lecture Final (Comprehensive) in S 34 From 1:45 – 3:45pm

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: 6/30 & 7/1 (M, T)	● Discussion of Syllabus ● **Ch-14: Solutions** ● *Pop quiz 1 (Ch-13)*	● Introduction /Safety ● Lab notebook/Check-In	**Lab 1** – Freezing Point (1) **(Notebook preparation on Canvas before 11 am)**
Wk 1: 7/2 & 7/3 (W,R)	● **Ch-14:** Continued ● **Ch-18: Ionic Equilibria** ● *Pop quiz 2 &3 (Ch-13)*	●Lab 1 – Freezing Point (2) ●Lab Quiz 1 (lab 1)	**Lab 2** – pKa of Indicator (1) **(Prelab on Canvas before deadline)**
7/6 (Sunday)	***Deadline to drop this class with a refund and without grade***		
Wk 2: 7/7 & 7/8 (M, T)	● **Ch-18:** Continued ● *Pop quiz 4 & 5 (Ch-13 & 18)* ●**HW*Ch-14 due Sat. (7/12)**	●Lab 2: pKa of Indicator (2) ●Lab Quiz 2 (lab 2)	**Lab 3** – Buffers (1) **(Prelab on Canvas)**
Wk 2: 7/9 & 7/10 (W,R)	● **Ch-18:** Continued ● *Pop quiz 6 (Ch-18)* ● **Thur: Lect. Exam 1 (Ch-14)**	●Lab 3 – Buffers (2) ●Lab Quiz 3 (lab 3)	●Lab 3 – Buffers (3)
Wk 3: 7/14 &7/15 (M, T)	● **Ch-20: Electrochem** ● *Pop quiz 7 & 8 (Ch-18)*	**Lab 4**: Ksp and Common Ions (1) **(Prelab Due)**	● Lab 4: Ksp and Common Ions (2) ● Lab Quiz 4 (lab 4)
Wk 3: 7/16 & 7/17 (W,R)	● **Ch-20:** Continued ● *Pop quiz 9 & 10 (Ch-18)* **HW Ch-18 due on Sat (7/19)**	**Lab 5**: Anions (1) **(Prelab Due)** ● Lab Quiz 5-1 (lab 5)	● Lab 5: Anions (2) ● Lab Quiz 5-2 (lab 5)
Wk 4: 7/21 & 7/22 (M,T)	● **Ch-20:** Continued ● *Pop quiz 11(Ch-20)* ● **Tue: Lect. Exam 2 (Ch-18)**	**Lab 6**: Electrochem(1) **(Prelab Due)**	● Lab 6: Electrochem(2) ● Lab Quiz 6 (lab 6)
Wk 4: 7/23 & 7/24 (W,R)	● **Ch-21: Nuclear Chem.** ● *Pop quiz 12 (Ch-20)* ●**HW Ch-20 due on Sat (7/26)**	● **Lab 7-1:** QA Cation (1)-**Group A (Prelab Due: introduction & Group A)**	**Lab 7-2:** QA (2)-**Group B (1)** **(Group B Prelab Due)**
Wk 5: 7/28 & 7/29 (M,T)	●Ch-21: Continued ● *Pop quiz 13 & 14 (Ch-20)*	Lab 7-2: QA (3)-Group B (2)	● **Lab 7-3:** QA (4) -**Group C** (Group C Prelab Due)
7/30(Wed.)	***Deadline to drop this class with a grade W***		
Wk 5: 7/30 & 7/31 (W,R)	● **Ch-26:Coordination Compds** ● *Pop quiz 15 & 16 (Ch-20)*	●**Lab 7:** QA (5)-**Catch up** ● Lab Quiz 7 (lab 7)	● **Thur: Lect. Exam 3 (Ch-20)** ● **HW Ch24 due on Sat**
Wk 6: 8/4 & 8/5 (M,T)	●Ch-26: Continued ●Worksheet for Chapter 26 ● *Pop quiz 17 & 19 (Ch-24)* **HW Ch-23 due Sat. (6/22)**	●**Lab 7:** QA (6)-**Catch up** ● Check-out	● **Monday: Lab Final**
Wk 6: 8/6 & 8/7 (W,R)	●**Final Exam on Thur. in S34 From 1:45-3:45 pm**	● Review for Final	**Final Day**

***I already extended due dates of homework of all chapters to the test days, so no more extension.**

***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 Final is close-book ones, but open lab notebook.**

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.

OFFICE HOURS:

MTWR 3:45 – 4:10 pm in S 34

Student Learning Outcome(s):

• Apply the principles of equilibrium and thermodynamics to electrochemical systems.
• Apply the principles of transition metail 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	3:45 PM - 4:10 PM	S 34