Chemistry 10: Introduction to Chemistry

Lecture:	M/W	5:30PM – 7:20 AM	G6
Lab:	W	7:30AM – 10:20 PM	SC 2208

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Office Hours: MW: 4:30-5:30 PM **Office:** SC 1232

This course syllabus is a contract:
One purpose of this syllabus is to provide you with the guiding principles upon which the class runs. Another purpose is to make sure that you have answers to common questions that might arise. This document is available at all times on Canvas. Please read it in its entirety before you ask me any questions about the course schedule, requirements, grading, etc… It is also a contract between you the student, and I, the instructor of record. Make sure that you understand its contents fully, especially the parts that pertain to testing and the computation of your grade, because so long as you remain enrolled in the course, you are implicitly agreeing to abide by these terms.

Course Description: An introduction to the discipline of chemistry for non-STEM majors, including chemical laboratory techniques and methods and a survey of important chemical principles. The course emphasizes chemistry as a subject of scientific inquiry and is designed to give the student a general appreciation for chemistry as a science as well as a degree of general scientific literacy. We will be examining some of the central themes of chemistry as well as how an understanding of chemistry can impact our view of historical and current events. Also, I want you to have fun.
This course is not a prerequisite for General Chemistry, nor does it serve as adequate preparation. Students hoping to enroll in Chem 1A should take Chem 25 or Chem 30A in preparation.

Advisory Skills:
Previous experience with College-level Reading and Writing,
Familiarity with Algebra (linear and quadratic functions)

Course Materials (Required):
1. **Text Book:** Chemistry for Changing Times (Libretext an open-source book from Libretexts). Available online. You can download this or order a print copy via the website. Small cost for print copy.
2. **A scientific or graphing calculator** (Must have log and exponential functions. *Graphing is not necessary*. You **may not** use your phone as a calculator for any quizzes, exercises, or exams.)
3. **Lab Manual:** *Conceptual Chemistry*. Suchocki ISBN: 9780321804532 (similar labs are also available in the Canvas Shell)
4. **Safety Goggles**

5. **AktivChem online homework ISBN 978-1-955404-64-8 Activation F26 Net $26**

Course Materials (Optional):
1. Disposable purple nitrile gloves (optional) – save your skin and your nails!
2. Knee length lab coat or lab apron (optional) – functional and stylish!

Resources
Tutoring: De Anza's tutorial center is in L47. This and many other campus services can be found as part of the student success center: http://www.deanza.edu/studentsuccess

Disability Support Program and Services: DSPS can help you get the right tools to succeed. Their website is http://www.deanza.edu/dsps/

Grading Scheme:	**Percentage**
Homework	10
In Class Quizzes	5
Laboratory Work	20
Topic Presentation	10
Chapter Exams (3)	30
Final Exam	20
Subjective Lab and Lecture	5
Total	**100%**

Homework (10%): Homework will consist of assigned problems on Canvas and is graded based on completeness and accuracy. As we learn by doing, "practice makes perfect," and as exam questions may be similar to the homework, it is to your advantage to take the homework seriously. Copying another student's homework is counterproductive. If you're not working it out, you won't get the benefit.

Quizzes (5%): There will be a total of five quizzes given at the beginning of each specified lecture period. Quizzes will be distributed at the beginning of class and you will be given 10 minutes to complete them. Students arriving after the quiz period will **NOT** have an opportunity to make up the quiz. Your lowest quiz score will be dropped at the end of the quarter.

Laboratory Work (25%): You will be expected to participate in lab, complete lab worksheets and reports, and pass lab exams. More details on these items can be found in the laboratory section.

Topics Presentation (10%): Small groups of students will be expected to give a 15-minute multimedia presentation on current topics in science and chemistry throughout the quarter on assigned "Topics" days. Topics must be cleared with the instructor at least a week in advance. Topics may not be duplicated.

Chapter Exams (30%): There will be 3 chapter exams worth 10% of your grade each. Exams will be a combination of any of the following: multiple choice, short answer/calculation problems, and vocabulary questions. Early and late exams are not administered. Missing an exam **will result in a zero** for that exam without proof of an excused absence (doctor's note, police report, etc…). You may retake exams if you are not happy with your previous grade. Make ups are held during office hours or by appointment.

Final Exam (15%): The Final Exam is cumulative and will have the same format as the chapter exams. The exam will be given **Wednesday, Dec 14th from 7:00 AM – 9:00 AM.** The final exam cannot be retaken. ***If you cannot make your assigned exam time, you should not enroll in this class.***

Subjective Grade (5%): A subjective evaluation will be assessed by your instructor at the end of the quarter to reward you for: your good and punctual attendance; **active participation**, preparedness for the lecture and laboratory, ability to follow written and verbal instructions, adherence to the safety rules, cleanliness practices, and overall respect for the laboratory through the proper care and use of all laboratory apparatus and instruments. These are NOT free points and must be earned.

Special Note:
****You Pass!!**** As long as your work is turned in completed and on time and you demonstrate active participation in lab and class you will pass this class with at least a C.
However, if your average % is failing (<55%) in any of the following course portions, you will not receive a passing grade: **exams, homework, or lab reports/assignments**.
In particular, failure to complete the homework usually results in a failing grade in the course.

Class Policies.

A. **Time Requirement:** This class includes appx. 4 hours of lecture and appx. 3 hours of lab per week. In order to receive a "C" or better grade, you should allow 8-12 hours of studying, reading, and preparing outside of class **PER WEEK**. Help yourself to do your best by making time to keep up with the reading and homework. *If this time commitment is not possible given your current situation, please consider taking this class at a later date when you do have more time available.*

B. **Lecture Attendance:** Attendance is a critical component of the learning process, and the lecture will cover material that may not appear in your text and help clarify the material that is. Learning Chemistry effectively depends on building up from a base of knowledge. If you do not set a firm foundation, you will not be able to build your understanding of the field effectively. In other words, miss too many classes and you'll likely fail the class.

C. **Class Behavior:** Be ready to start class at the scheduled time. Please arrive on time and plan on staying the entire session as late arrivals and early departures distract everyone. If you are unavoidably late, please enter quietly and find your seat as quickly and quietly. Please do not disrupt class with irrelevant conversations, either in the form of inappropriate comments or private conversations. I would always prefer you show up a little late as opposed to skipping the class entirely.

D. **Late Assignments:** Homework is not accepted late as I will distribute the answer key the day after the assignment is due so that all students may review their work and the proper answers.

E. **Please turn your cell phone OFF when you enter the class or lab**. You may **NOT** take calls or texts during either, except for emergencies. Students caught abusing this rule may be docked points or expelled from class or lab.

F. **Academic Dishonesty:** Cheating or plagiarizing another student's work, in whole or part, will result in a zero for the assignment, a referral to the dean and my immense displeasure. Any case where you attempt to gain unfair advantage over other students or attempt to pass off another's work as your own **is cheating**. Please see me if you have any questions. You implicitly agree to abide by the Honor Code as a condition of enrollment in this class: https://www.deanza.edu/policies/academic_integrity.html

G. **Grading:** This class is not graded on a curve. Grade cut offs are as follows:
A+ (97), A (93), A- (90), B+ (87), B (83), B- (80), C+ (76), C (69),
D+ (65), D (60), D- (56), F (56-0)

H. **Extra Credit:** Extra credit assignments are not offered in this class on an individual basis. It is unfair to allow some students to improve their grade while not allowing others that same opportunity. Some extra credit problems may appear at the end of exams and in homework.

I. **Dropping the Class:** If you wish to drop the class after the first 2 weeks, it is your responsibility to do so. If you fail to drop the class you will be assigned a grade in keeping with your submitted work.

J. **Questions/Help:** I am available to answer questions during office hours, by email, or by appointment. Please feel free to contact me with any problems or concerns that you have. Also remember that your fellow students are great resources.

Attendance Note

You are responsible for all the material covered in this course, and it is expected that you attend and participate in all of the lecture and laboratory sessions. *If you must be absent, then it is in your best interest to contact your instructor as soon as possible in order to find out what work you have missed.*
**Due to the high number of students wishing to enroll in this class, any unjustified absences during the
first two weeks of class **will result in you being dropped.

LAB POLICIES:

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

You must complete and turn in the Student Contract (provided by instructor) by the second lab meeting. You will not be allowed to attend lab until the Contract is signed and turned in.

LABORATORY CHECK-IN

This class utilizes a common glassware system in which you will check out the necessary items for each experiment on the day of the lab. It is your responsibility to make sure that all glassware is returned clean and unbroken at the end of the lab period. Students who do not do so will lose lab participation points.

LABORATORY PROCEDURES AND POLICIES

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*. I ask that all students do a conscientious and thorough job of cleaning up after themselves, whether it is in their own work area in the lab, or shared areas such as the chemical supply table and balance room.

LABORATORY SAFETY

Laboratory safety is an everyday assignment. ***Being safe in the lab is a top priority.*** The importance of safety in the laboratory will be reviewed the first day of lab. *Any unsafe behavior, intentional or not, will be noted and may be cause for dismissal from the class.*

For your protection, **safety goggles** with indirect ventilation and an ANSI minimum rating of Z87 **must be worn AT ALL TIMES** in the laboratory. **ONE warning** 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 **warning is disregarded, expulsion** from the lab and a zero on the assignment may result.

LABORATORY LECTURE

The beginning of each laboratory session is designated as a laboratory lecture period for which you **must be on time** in order to perform the scheduled experiment. The instructor will use this lecture period to outline important details of the procedure, overview theory and calculations, and to emphasize safety hazards and proper chemical disposal. *If you are more than **10 minutes** late for lab lecture, you will not be allowed to do the experiment for that day.*

ATTENDANCE

Attendance is required at all scheduled laboratory sessions. NEVER plan on missing a lab. ***You will receive a zero on the first lab you miss and will fail the course on the second, no matter the reason for the absence.*** These absences include those in which you arrive too late for lab lecture and are thus not allowed to complete the experiment. Additionally, do not plan on leaving lab early. Labs will regularly take the total amount of time allotted.

CHEMICAL DISPOSAL

As a concern for the environment and to follow county, state and federal law, proper chemical disposal is essential. *Students who do not comply with directed procedures may be expelled from the lab or failed in the course for repeated offenses.* Check with the instructor if you have any questions.

LAB REPORTS

All lab reports must be completed and turned in to receive a passing grade in this class. **Using another student's data or making up data is plagiarism and data falsification and will result in a zero for the assignment and referral to the dean**. In cases where a student was unable to complete a lab, the instructor may direct you to use another's data in order to complete follow up quests at his discretion. The source of your data must always be cited in lab reports.

LATE ASSIGNMENTS

Due dates for assignments are listed on the class schedule. Late assignments will lose 50% of their value per lab period missed. (**All Labs must still be turned in to receive course credit**).

It is the student's responsibility to know when labs are due based on the provided class schedule. Labs are always due the following lab period after the lab session in which they are completed.

EXCUSED ABSENCE

Every student gets one excused absence. To reflect this, your lowest lab report is dropped at the end of the quarter. **Missing a second lab will result in failing the course.**

Lab Score Breakdown (comprises 25% of final class grade)

Lab Worksheets/Reports	70%	Lab Exams	20%
Lab Prep and Participation	10%		

Lab Prep and Participation (10%): You are expected to show up with the lab background and procedure read. In addition, you are expected to fully participate in lab. Unprepared or uninvolved students will forfeit these points. A pre-lab quiz may be administered.

Laboratory Worksheets/Reports (70%): Laboratory reports are usually due one week after the completion of the lab. *For some experiments you may be collecting and sharing data with a partner, however you must do your own calculations and formulate your own conclusions for each experiment.* **If students are found to have copied from one another, points will be deducted from the grade or a grade of zero will be given for ALL students involved!** The laboratory assignments will be collected **BEFORE** the start of the laboratory lecture on its due date. Lab reports will consist of worksheets and short writing assignments.

Lab Exams (20%):

There will be a lab exam at the end of this course. It is open lab notebook will cover material and calculations related to your lab experiments. This includes the purpose of each experiment, safety and waste guidelines, the procedure, proper data recording, calculations and theoretical questions related to the technique or purpose of the lab.

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

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 seepage 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.

Rules for Safe and Efficient Chemistry Laboratory Operations

Safety Rules:

1. *Prepare for each experiment by reading all of the directions before lab starts.*
2. *Locate the Safety Equipment.* Know the locations of the eye wash, safety shower, fire extinguishers, fire blankets, first aid kit, fume hoods, telephone and all exits that are to be used in an emergency. Your laboratory instructor will describe the use of the safety equipment.
3. *Protect your eyes.* Wear approved eye protection at all times. Your laboratory instructor will inform you which of these you must have. Goggles provide maximum safety. Prescription glasses, if you need them, must be worn under approved eye protection. Contact lenses should not be worn in the laboratory because fumes may accumulate under the lenses and injure your eyes and the lenses make it difficult to flush chemicals from your eyes.
4. *Tie long hair back.* This precaution will keep your hair out of burner flames and harmful chemicals.
5. *Do not wear clothing with loose, flowing sleeves.* This precaution will keep your sleeves out of burner flames and harmful chemicals.
6. *Wear shoes that cover all of your feet.* Broken glass on the laboratory floor and spilled chemical reagents are all too common. Shoes that cover your feet completely will protect them from broken glass and chemical splashes. The best types of shoes are closed-toe made out of leather.
7. *Wear clothes that cover your torso and your legs to the knees.* Clothing will give your body needed protection. Good clothing can be protected with a lab apron or coat.
8. *Do not eat or drink in the laboratory.*
9. *Do not taste any chemical reagent.*
10. *Do not smell chemical reagents directly.* When you are instructed to smell a chemical, do so by gently wafting the vapors toward your face. Do not inhale deeply.
11. *Do not pipette solutions by mouth.* Use a rubber suction bulb to fill the pipette.
12. *Do not work with flammable liquids near a flame.*
13. *Do not engage in games or horseplay in the laboratory.* Never run in the laboratory.
14. *Do not attempt unauthorized experiments in the laboratory.*
15. *Do not work in the laboratory in the absence of your instructor or his or her authorized representative.*
16. *Use a fume hood when required.*
17. *Handle glass tubing and thermometers carefully.* When inserting glass tubing or thermometers through a rubber stopper, always hold the glass close to the stopper and use a lubricant such as glycerin to help the glass slide through the stopper. Do not continue to try to force glass through a stubborn stopper, get a new stopper and/or get help. When inserting a pipette into a pipette bulb, hold the pipette near the bulb and GENTLY insert the pipette.
18. *When diluting, never pour water into concentrated reagents.* Always pour the reagent into the water.
19. *If you spill a chemical reagent on yourself, immediately flood the exposed area with water and then summon the laboratory instructor. Inform the instructor immediately about any other accidents or spills.*
20. *Be aware of your neighbors. Are they obeying the safety rules?* A neighbor's accident may injure you.
21. *Avoid touching your face and rubbing your eyes while in the laboratory.* If you must do so, first wash your hands.
22. *Wash your hands before leaving the laboratory.*
23. *Never heat a closed container.* Pressure build up can cause the container to explode.
24. *Assume any chemical is hazardous if you are unsure.*
25. *Do not violate any other safety rule issued by your laboratory instructor.*

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.*

Tips for Success

- **Come to class having read the assigned chapter** and be ready with questions about the concepts you didn't understand.
- In case you didn't read the first one, really, come to class with the assigned chapter already read. I cannot stress how big a difference this will make for you.
- **Take notes during class and reread your notes before the next class**. If something is still unclear, write down your question so you can ask about it during the next class or in office hours.
- **Work every day.** The longer the time that passes between doing chemistry problems, the more knowledge you have to rebuild. Do some homework problems and some problems from the book every day as this will help you understand where you need help, and it will help prepare you for the exams. Schedule some time each day to work on chemistry. Treat this subject like a foreign language. Use it or lose it.
- **Do the suggested chapter problems in the book**, particularly for concepts you're having trouble with.
- **Don't try to memorize EVERYTHING.** This is a common trap that many students fall into. While there are certain topics that must be committed to memory, strive to develop an intuitive understanding of the underlying framework of the material. Once you have that you will often be able to derive answers from a much smaller pool of "memorized" data.
- **Join a study group**, exchange phone numbers of classmates whom you can call for help. In the group, take time to present concepts to one another. The BEST way to solidify a topic in your mind is to have to teach it to someone else.
- **Don't wait** until the night before to finish that lab report or homework assignment. You'll get more out of it (and do better) if you give yourself the time to understand the concepts and ask questions when you get stuck.
- Start studying for the exams **at least a week before**. Cramming for an exam is like playing Russian Roulette! Cramming is superficial knowledge only, and when you are nervous, superficial knowledge is very unreliable.
- Work through old quizzes and homework problems before exams.
- **Give yourself TIME!** Plan on spending at least 2 hours studying outside of class for each hour we spend together in class or lab lecture. Do this every week, not just the week before the exam. Start early and it will be much easier later.
- If you consider yourself a poor test-taker, then you should complete and turn in all of the homework and labs on time in order to pass the class. Also, utilize any practice exams or chapter reviews as they contain the same types of questions which you will encounter on the exams.
- **Stay well rested and healthy.** This is always a challenge in college, but do not neglect your basic needs. Poor sleep and diet have been shown to have a temporary negative impact on I.Q. Schedule study breaks as needed to keep up your mental health as well. Sometimes a night off is the right answer. Just don't make blowing off your studying a habit.
- As you listen, take notes, read, or work problems, try to keep an open mind, be curious, and think about the implications of the concepts and problems. Chemistry makes the world around us work and understanding why the world works will impress your friends at parties and help you grasp the material. The more connections you can make between the material in the book and the world around you, the more sense this class will make.

Tentative* Lecture Schedule for Chem 10: *Subject to Change
Winter 2023 De Anza College

Week	Date	Section	Topics	Homework (due date)
1	1/9	1.1-1.5	Syllabus, The Scientific Mindset What is Chemistry? How do we Classify Matter?	Chap 1 (**1/16**)
	1/11	2.1-2.3, 2.5-2.6	What are atoms? How were they discovered? The Periodic Table	Chap 2 (**1/18**)
2	2/16	MLK Day	No Class!	Chap 3 (**1/30**) 1/16 No class
	1/18	3.1, 3.4 3.2-3.3, 3.5	What are subatomic particles? How do we know about them? Types of radiation. Particles in the nucleus.	Quiz 1 Ch 1 and 2
3	1/23	3.6-3.7 3.8	Where are the electrons, exactly? Mapping electron configuration	Chap 4 (**2/6**)
	1/25	4.1-4.4 4.5-4.7, 4.9	Finding stability: Octets and Lewis Symbols Naming ions, salts, and molecules	
4	1/30	4.8-4.10	Drawing Lewis Structures	
	2/1	**Ch 1-4** 4.11 4.12	Comprehensive problems and review AXE and Molecular Shapes. What are polar molecules? Determining polarity	Quiz 2 Ch 3 and 4
5	2/6	**Exam 1**	Chapters 1-4	
	2/8	5.1-5.2 2.4, 5.3-5.4	Simple sentences: balancing chemical equations The mole. Relating the nanoscopic and macroscopic worlds	Chap 5 (**2/22**)
6	2/13	5.4-5.5	Reaction Stoichiometry. Measuring solutions: Concentration	
	2/15	**Topics** 7.1-7.3 7.4-7.6	What are acids and bases and why do I care? Acid/base reactions. pH measurements and calculations	
7	2/20	President's Day	No Class!	2/20 No class Chap 7 (**2/29**)
	2/22	7.7-7.8	Acids and bases in our lives: Buffers and other applications	Quiz 3 Ch 5 and 7
8	2/27	**Ch 7** **Ch 5 & 7**	Comprehensive Problems and Review (attendance required) Review	
	3/1	**Exam 3**	Chapter 5 and 7	
9	3/6	8.1-8.2 8.3-8.4	Oxidation-Reduction reactions: defining and exploring Applying Redox: Batteries and Corrosion	
	3/8	**Topics** 8.5-8.7	Other Redox Topics	
10	3/13	11.11.2 11.3-11.6	Radiation and Nuclear Chemistry Energy and Nuclear Reactions	Chap 8 (**3/16**) **Quiz 4 Ch 8**
	3/15	**Topics** **Ch 8 & 11**	Comprehensive Problems and Review	
11	3/20	**Ch 8 & 11** **Exam 4**	Review Chapters 8 & 11	Chap 11 (**3/25**)
	3/22	Ch 11	Nuclear Power, Nuclear Weapons	Quiz 5 Ch 11
12	3/27	Review		
	3/29	**FINAL EXAM**	TBD	**All work due by 3 PM**

***Homework: Homework is due on the day listed.**

******Important Dates:***

1/22: Last day to add classes or drop with no W on record

3/3: Last day to withdraw with W on record

Tentative* Lab Schedule for Chem 10: *Subject to Change
Fall 2022 De Anza College

Week	Week of	Lab Topic	What's Due	Notes
1	Jan 11	Introduction, Safety, Check in, Scientific Method		
2	Jan 18	Lab 1: Taking Measurements (Ch 1.6-1.8)	Safety Contract	
3	Jan 25	Lab 2: Percent Water in Popcorn	Lab 1	
4	Feb 1	Lab 3: Electron Dot Structures	Lab 2	
5	Feb 8	Lab 4: Molecular Shapes	Lab 3	
6	Feb 15	Lab 5: Solutions	Lab 4	
7	Feb 22	Lab 6: Upset Stomach	Lab 5	
8	Mar 1	Lab 7: How Much Fat?	Lab 6	
9	Mar 8	TBD	Lab 7	
10	Mar 15	Lab 9: DNA Capture	Lab 8	
11	Mar 22	Lab Exam / Check Out	Lab 9	
12	Mar 29	**Final's Week. No Lab**		**No Lab Finals Week**

Lecture Content:

Text Coverage	Key Concepts	Recommended Text Problems
chapter 1	Classifying Matter. Atomic Structure. Scientific Notation The Periodic Table	1, 4, 5, 6, 7, 10, 13, 15, 17, 19, 21, 27, 40
Chapter 2	Air composition, Naming Molecules, Writing and Balancing Reactions	2, 4, 5, 6, 9-13, 17-19, 22, 25, 28, 30, 35, 37
chapter 4 +3.7	Solutions, Atomic Mass, Moles, and Lewis Structures, Molecular Structure	**Ch 3:** 10-12, 23, 27, 39 **Ch 4:** 4, 6, 7, 11-15, 17, 19, 22, 24-25, 29, 32, 35, 37, 39, 47, 48
chapter 5	Energy Types and Units, Bond Energy, Intermolecular Forces, Structural Formulas	2, 4, 6, 9, 11-13, 15-18, 20-22, 25, 28, 32, 39, 41, 43, 44, 50, 58, 59, 67
chapter 3	Electromagnetic Spectrum and Energy, UV Radiation,	3, 5, 7-9, 13-16, 20-22, 30, 33, 37, 38, 46, 47, 51
Chapter 8	H Bonds, Water's Properties, Molarity, Acids and bases, pH, Pollution	1, 4-7, 9, 12, 14, 17, 19, 22-24, 27-30, 32, 36, 42, 44, 48, 50, 54, 61
Chapter 12	Equilibrium, Thermodynamics and Kinetics, Buffers, Organic Chemistry, Biomolecules, Drugs	2, 3, 5, 6, 8-10, 12, 16, 20, 22, 24-26, 37, 42, 48
Chapter 6	Nuclear Fission, Radioactivity, Half-Life, Alternative Energy,	2-5, 7-9, 11, 16, 20, 21, 24, 25, 27, 29, 31, 34, 39, 41, 42, 49,
Chapter 7	Galvanic Cells, Half-Reactions, Batteries, Electric Vehicles, Fuel Cells	1-3, 5-8, 10, 12, 14-16, 18, 21, 22-24, 27, 38, 40, 43, 46, 48,

Student Learning Outcome(s):

*Develop problem solving techniques by applying the \Scientific Method\" to chemical data."
*Analyze and solve chemical questions utilizing information presented in the periodic table of the elements.
*Evaluate current scientific theories and observations utilizing a scientific mindset and an understanding of matter and the changes it undergoes.

Office Hours:

M,W	04:30 PM	05:30 PM	In-Person	SC 1232
T,TH	04:30 PM	05:30 PM	In-Person	SC 1232