



CUPERTINO

## Course Syllabus

32222, Winter 2025

Tuesdays & Thursdays 2:30 PM - 4:20 PM in SC 1102 (Lecture)

and

Tuesdays 11:30 AM - 2:20 PM in SC 2208 (Lab)

### Welcome to CHEM 10 - Sec.23

Welcome to CHEM 10 (Introductory Chemistry) at De Anza College! I'm excited to have you in this class. Together, we'll foster a collaborative and inclusive environment to enhance our understanding of chemistry while building confidence in sharing ideas. Through interactive group activities and discussions, we'll have plenty of opportunities to engage and communicate effectively. Let's work together to make this a meaningful and successful learning experience!

### Instructor Contact Information

- Nida Khan
- Email id: [khannida@fhda.edu](mailto:khannida@fhda.edu)
- Student hours: Thursdays 4:30 pm to 5:30 pm in SC 1102 (Lecture Room)

I am available to meet with you during my scheduled student hours. If you are unable to meet during these hours, please email me, and I will do my best to accommodate you. I aim to respond to emails within 24 hours on weekdays; however, response times may extend to up to 72 hours on weekends.

### Course Overview

This course offers an introduction to the field of chemistry, combining fundamental concepts with practical laboratory techniques. Students will learn key principles such as the nature of matter, atomic structure, chemical bonding, and reactions, while also exploring real-world topics like greenhouse gases and energy transformations. The course emphasizes chemistry as a scientific discipline and its significance in everyday life.

Through a mix of engaging lectures and hands-on laboratory activities, students will build essential skills, including measurement, titration, and calorimetry. Topics such as acids, bases, and intermolecular forces will be covered with a focus on their applications to global challenges. By fostering critical thinking and problem-solving, this course aims to provide a solid foundation in chemistry and an appreciation for its impact on science, technology, and society.

### Prerequisites

There are no formal prerequisites for this class; however, the department recommends that students taking this class be proficient in conversational English, and it will be helpful to have some background in math.

### Non-equivalency Statement

At De Anza College, Chem 10 is our general education / liberal arts chemistry class. This class fulfills the general education requirement and is designed to give students an appreciation for chemistry as a science. Note that this class is not equivalent to Chem 25 or Chem 30A, and it does not fulfill the prerequisite to take Chem 1A.

### Advisory

EWRT 211 and READ 211, or ESL 272 and 273; MATH 212 or equivalent

### Syllabus Statement

This course syllabus is a contract. Please read it carefully and completely in its entirety before asking me any questions regarding the course schedule, content, requirements, grading, etc. You are expected to adhere to the De Anza College Student Code of Conduct Administrative Policy 5510 at all times. This syllabus is also a living document, and it may be necessary to make minor corrections or changes during the quarter. I will not make major changes to the syllabus except in cases of force majeure or following class discussion. All corrections and changes to this syllabus will be announced through Canvas.

This class is divided into two separate instructional threads: a lecture portion devoted to the primary course material and a lab portion for conducting lab experiments. At De Anza College, the lab and lecture may not be taken as separate courses under any circumstances.

### Course Outline of Record

Online at: <https://www.deanza.edu/catalog/courses/outline.html?cid=chemd010>

Please save a copy of the course outline of record. You may find it useful when you transfer.

### Course Objectives

- Examine the historical development of concepts concerned with the fundamental building blocks of matter– atoms and molecules– and their concomitant effect on our understanding of molecular structure.
- Assess the importance of the mole concept in stoichiometric calculations.
- Explore the relationship between the molecular structures of compounds and their effect on the chemical properties of compounds.
- Explore the contributions of men and women from a variety of cultures and ethnic backgrounds to the field of chemistry.
- Evaluate ethical issues and environmental effects, from local to global, that have arisen from the extraction, use, and disposal of chemicals.

### Student Learning Objectives

- Develop problem-solving techniques by applying the “Scientific Method” to chemical data.
- Analyze and solve chemical questions utilizing the 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.

### Our community goals

#### What you can expect from me

- I will treat you with dignity and respect and be flexible to support your individual needs.
- I will provide you with a clear, organized course designed to ensure you meet our course outcomes meaningfully.
- I will provide a variety of assignments to ensure your learning needs are met.
- I will grade assignments in a timely manner to facilitate your success on future assignments.
- I will be actively present in your learning.
- I will provide a supportive and safe environment for you to share and discuss ideas with your peers.
- I will reach out to you when I sense that you need support.

#### What I will expect from you

- Treat me and your peers with dignity and respect.
- Strive to be an active participant in this course.
- Maintain an open line of communication with me so I understand how to support you.
- Aim to meet due dates. Contact me if you have a concern with meeting a due date.
- Do your best to have patience with technology. There will be hiccups; expect them. We will get through them together.

## What we can expect from each other

- We will not be perfect. We are human and will make mistakes at times. We will view mistakes as an opportunity to learn and grow.
- We will all strive to contribute regularly in collaborative activities to ensure all members of the community have ample opportunity to read/listen, reflect, and respond to all ideas.
- Disagreements are part of learning and growing, but we will always treat one another with dignity and respect.
- If you sense a negative emotion surfacing within yourself, step away for a while; reflect on what is happening; and then return and respond by focusing on the issue, not the person.

## Important Dates

**(Course Start & End Dates: 06-JAN-2025 to 28-MAR-2025)**

These dates may impact financial aid, refunds, and/or transcript grades. Please contact Financial Aid or Counseling if you have questions.

**Last Day to add a course:** 19-JAN-2025

**Last Day for Drops with Refund:** 19-JAN-2025

**Last Day for Drops without "W":** -19-JAN-2025

**Last Day for Drops with "W":** 28-FEB-2025

## Exam Dates

**Midterm Exam 1:** 6-FEB-2025

**Midterm Exam 2:** 6-MAR-2025

**Final Exam:** 27-MAR-2025

**Lab Exam:** TBA

## Materials Required

**Textbook:** [Chemistry for Changing Times \(Hill and McCreary\)](#)

The primary textbook for this class is Chemistry for Changing Times by Hill and McCreary. This textbook is available as an eBook rental from Pearson, or you may use the roughly equivalent free version on [Libre Texts](#).

### Calculator

A scientific calculator with natural-log and base-10-log functionality is necessary and sufficient for this class. If you have already purchased a graphing calculator for another class, you may use it this quarter.

### Safety Goggles

UV-sterilized shared safety goggles will be provided! If you would be more comfortable purchasing your own safety goggles they must meet “ANSI Z-87.1-1989R” specifications.

### Lab notebook

For maintaining pre-lab work and calculations.

## Communication Policy

### How to Reach Me

You're not on this chemistry journey alone! Whether you find Chem 10 challenging or straightforward, I'm here to guide you every step of the way. If you have questions, concerns, or need clarification, please feel free to get in touch. Here's how you can reach me:

- **Email:** The best way to contact me is through Canvas Inbox or my fhda email id. I strive to respond within 24-48 hours. If you don't hear back within that time frame, feel free to send a follow-up to ensure your message isn't missed.
- **Office Hours:** Office hours are a great opportunity to discuss your questions one-on-one or as part of a group. If meeting individually feels daunting, bring along classmates and make it a collaborative session!
- **Assignment Comments in Canvas:** You can leave comments on specific assignments, but keep in mind I primarily see these while grading. For anything urgent, it's better to email or visit during office hours.

### How I'll Communicate with You

As your instructor, I'll actively keep you informed and support your progress in the following ways:

- **Class Announcements:** Weekly announcements with important updates will be posted on Canvas. Be sure to adjust your Canvas settings to receive these notifications via email if you prefer.
- **Assignment-Specific Updates:** Occasionally, I'll share announcements about labs, exams, quizzes, discussions, or changes to the schedule.
- **Individual Contact:** For personal feedback or concerns, I'll reach out via Canvas Inbox or the email listed on the course roster.

Feel free to reach out whenever you need help or guidance—I'm here to support your success!

## Help and Support

De Anza College is here to help you! You may find many resources at <https://www.deanza.edu/resources/>. If you are in need of any basic resources, your instructor can request campus offices to reach out to directly. Please send me an email with any relevant information as well as permission to share with college offices.

### Academic Support

The MSTRC has tutoring for chemistry classes, and tutoring is available in many languages. Please see their website for additional information:

<https://deanza.edu/studentsuccess/mstrc/>

### Disability Support Services (DSS)

If you require accommodations such as extended time for assessments, please coordinate with Disability Support Services. <https://www.deanza.edu/dsps/dss>

### Grades

I want to make sure you know how you're doing in this class, so I'll be updating grades regularly in Canvas.

Grades are based on overall percentage (not points). Final grades will be assigned based on a plus/minus grading scale. A grade "C" or better is required to pass this course.

Number Grade	Letter Grade
95% to 100%	A+
90% to 94%	A
87% to 89%	A-
84% to 86%	B+
80% to 83%	B
77% to 79%	B-
73% to 76%	C+
70% to 72%	C
66% to 69%	D+
63% to 65%	D
60% to 62%	D-
0% to 59%	F

Grade Computation:

Lab component (25%)

- Lab reports: 20%
- Lab Quizzes: 5%
- **Lecture Component (75%)**
- Lecture Quizzes: 10%
- Midterm 1: 15%
- Midterm 2: 15%
- Final exam: 20%
- Homework: 10%
- Class discussions: 5%

## Attendance

During our time together in class, we'll focus on actively learning chemistry to make the most of your busy schedules. If you are unable to attend a class, please notify me via email with a brief explanation for your absence. This provides a written record, which is required to consider any make-up work. Without prior written notice, missed work cannot be made up.

Depending on the circumstances of your absence, you may need to verify, such as a doctor's note or a jury summons. Please note that absences without justification or notification before the add deadline may result in automatic withdrawal from the class to allow waitlisted students to enroll. Additionally, I am contractually required to drop any student who does not attend the first day of class.

For necessary absences, such as religious observances, legal duties, or medical needs, please inform me well in advance. This allows us to discuss and arrange possible accommodations to support your success in the course.

## Lab Attendance

Regular attendance in the laboratory is essential for your education. Due to time constraints and resource availability, make-up labs will not be offered. If you anticipate an excusable absence, you must inform me no later than three hours before the start of the lab to discuss the situation.

Please note that arriving on time is critical. **If you miss the lecture at the beginning of the lab, you will not be allowed to participate in the experiment and will receive a zero for that lab.** This policy is in place because I cover vital safety precautions specific to each experiment during the lecture, which are mandatory for your safety and the safety of your peers.

Quizzes and exams will follow similar guidelines. Make-up quizzes or exams may be considered depending on the circumstances of your absence, provided you discuss the matter with me in advance.

While I understand that life can sometimes be unpredictable, consistent participation is crucial for mastering the subject. If you are not attending class regularly or are at risk of not passing with a C or

better, I will speak with you about the possibility of withdrawing from the course. This ensures that you are taking the class at a time when you can fully commit to it.

## Submitting Assignments Online

All assignments must be submitted through the Canvas system. Submissions sent via email will not be accepted.

If you have a physical document that needs to be converted into an electronic format, you can use apps like Adobe Scan to turn your phone into a scanner.

Assignments must be submitted as a **single PDF document**. Numerous tools are available to help you convert various file formats into PDF. Ensure your work is properly formatted before submission to avoid delays or rejections.

## Lab Safety Guidelines

The Chemistry Department at De Anza College has adopted the following mandatory lab safety rules, based on the American Chemical Society's *Safety in Academic Laboratories Guidelines, 7th Edition*. These rules apply to all chemistry lab courses:

- **Safety Goggles:** Approved safety goggles must be worn at all times when chemicals or glassware are in use, including when retrieving items from the stockroom or transporting equipment. Goggles may not be removed until all lab work is complete, and all chemicals and glassware are safely stored.
- **Footwear:** Shoes that completely enclose the foot are required at all times. Open-toed or open-topped shoes, sandals, or slippers (even with socks) are not allowed.
- **Clothing:** Shorts, skirts, cut-offs, or pants that expose skin above the ankle, as well as sleeveless tops, are prohibited in the lab.
- **Hair:** Hair that reaches the shoulders or longer must be securely tied back.
- **Clothing Fit:** Loose clothing should be constrained, while tight-fitting items should be avoided, as chemicals can adhere to the skin.
- **Jewelry:** Wearing jewelry (rings, bracelets, watches, etc.) is discouraged, as chemicals can become trapped between the jewelry and skin.
- **Food and Cosmetics:** Eating, drinking, and applying cosmetics are strictly forbidden in the lab, including during lab lectures.
- **Headphones:** Headphones are not allowed in the lab to ensure that you can hear emergency announcements.
- **Safety Equipment:** Students must familiarize themselves with the locations of the eyewash stations, emergency showers, and all exits.
- **Instructor Supervision:** Students may not be in the laboratory, balance room, or instrument room without an instructor present.
- **Non-Enrolled Individuals:** Once the add deadline has passed, individuals not enrolled in the course may not remain in the lab, even during lectures.
- **Health Concerns:** If you feel faint or unwell during lab, inform an instructor immediately before stepping out, so you can be monitored.



- **Heating Safety:** Never point a heated system at any person, including yourself.
- **Glass and Needles Disposal:** Dispose of broken glass and needles in designated containers only—never in regular trash bins.
- **Chemical Disposal:** Do not pour chemicals down the sink, except for soapy or clear rinse water used to clean glassware. All remaining chemicals must be disposed of in appropriately labeled waste containers.
- **Behavior:** Follow the De Anza College Code of Conduct at all times. Any actions that could startle, frighten, or endanger others in the lab are strictly prohibited.

Failure to adhere to these safety rules may result in removal from the lab or other disciplinary action. Safety is our top priority—please take these guidelines seriously to ensure a secure learning environment.

## Eye Safety

### Eye Hazards

While chemicals pose a significant risk to eye safety, glassware often presents a greater hazard in the lab. For instance, if a chemical sample in a test tube unexpectedly explodes, the resulting flying glass shards can cause serious injury. Innocent bystanders are particularly at risk since they may not be aware of incidents occurring nearby.

### Safety Goggles

Goggles must be worn at all times in the lab, including when accessing the stockroom or even if you are finished with your lab work and chatting with peers. Failure to wear safety goggles properly at all times will result in immediate removal from the course.

- Safety goggles must be specifically designed for chemical laboratory work. Goggles intended for yard work or industrial tasks are not acceptable.
- Goggles must form a complete seal around your eyes to prevent objects or chemicals from entering from the sides.
- For prescription glasses users:
  - Regular glasses do not offer adequate protection as they are not shatter-proof and lack proper side shielding.
  - You must wear safety goggles over your prescription glasses.
  - If you frequently take lab classes, consider investing in prescription safety goggles for better comfort and protection.

### Contact Lenses

- While wearing contact lenses in the lab is allowed, there are some concerns about the potential risks posed by certain chemicals, particularly with soft lenses.
- Although the risk is minimal and there is no departmental restriction on contact lens use, it is advisable to make a personal decision based on your comfort level. Always wear appropriate safety goggles over contact lenses for full protection.

### Key Reminder

Safety goggles are essential for protecting yourself and those around you from unexpected hazards in the lab. Wearing them at all times is non-negotiable and critical to maintaining a safe working environment.

## Personal Protective Equipment (PPE)

In addition to wearing safety goggles, you can further minimize your chemical exposure in the lab by utilizing additional personal protective equipment (PPE):

- **Nitrile Disposable Gloves:**
  - Wearing nitrile gloves helps protect your hands from direct contact with hazardous chemicals.
  - Ensure the gloves are intact and replaced immediately if torn or contaminated.
- **Chemically Resistant Lab Coat:**
  - A lab coat provides a protective barrier for your clothing and skin against chemical spills or splashes.
  - Choose a lab coat made of a chemically resistant material for optimal safety.
- **Appropriate Clothing:**
  - Wearing long-sleeve shirts instead of short-sleeve options offers added protection.
  - Avoid loose clothing that could come into contact with chemicals or equipment.

Incorporating these additional PPE measures, along with wearing safety goggles, ensures better protection and a safer laboratory experience.

## Medical Considerations

Your health and medical history are entirely private, and you are under no obligation to share any such information with me. However, for your safety, please consider the following:

- **Allergies**
  - If you are aware of any allergies to specific compounds used in an experiment, inform me before the lab begins. This will allow me to evaluate whether alternative arrangements are necessary.
- **Pre-existing Medical Conditions**
  - If you have a medical condition that may affect your ability to safely work in a lab environment, I encourage (but do not require) you to notify me. This information will help me assist you in case of an emergency.
- **Pregnancy**
  - If you are pregnant or believe you may become pregnant, it is strongly recommended that you consult your doctor regarding participation in this course.
  - A complete list of chemicals used during the quarter is available upon request so that your doctor can provide informed advice about your involvement in laboratory activities.

Your safety is my priority, and sharing relevant information enables me to better support you during the course.

## Emergencies

To ensure everyone's safety, follow these procedures in case of an emergency:

- **Spills:** Do not attempt to clean up spills on your own. Notify me immediately so I can secure the area and implement proper mitigation measures.
- **Chemical Exposure:** If chemicals come into contact with your skin or clothing, immediately rinse the affected area with plenty of water. Have someone inform me right away.
- **Eye Exposure:** If chemicals splash into your eyes, go to the nearest eyewash station and flush your eyes thoroughly. Ensure someone alerts me immediately.
- **Injury:** For cuts, burns, or any other injuries sustained during lab, notify me immediately so I can arrange for appropriate medical attention.
- **Evacuation:** If evacuation is required, use only marked "exit" doors and proceed to the designated assembly area at the track and field.
- **Fire:** Do not attempt to extinguish a fire yourself. Notify me immediately and be prepared to evacuate the room if necessary.
- **Earthquake:** Move away from equipment and take cover under a sturdy desk or table until the shaking stops. Then, evacuate to the track and field area as directed. Always remain calm and follow instructions during any emergency to ensure the safety of yourself and others.

## Chemical Safety Rules

- **Read Labels Carefully:** Always read labels twice, especially when in a hurry. For example, be careful not to confuse "sodium nitrite" with "sodium nitrate."
- **Refer to Safety Data Sheets (SDS):** If you're uncertain about the hazards of any substance or mixture, always refer to its SDS for guidance.
- **Return Reagents Properly:** After using reagents, always return the bottles to their designated secondary containment.
- **Cap Containers After Use:** Never leave any substance or mixture uncapped after use, as it may react with the surrounding environment.
- **Do Not Return Unused Reagents:** Never return unused reagents to their original containers, as they may be contaminated once opened.
- **Avoid Personal Stock of Reagents:** Do not take extra reagents for personal use at your workbench, as any excess cannot be returned and will go to waste.
- **Single-Use Pipettes:** Once a pipette comes into contact with a substance or object, do not reuse it.
- **Do Not Consume Lab Products:** Never consume anything made in the lab, as the reagents and techniques used are not pharmaceutical grade.
- **Do Not Remove Chemicals from the Lab:** You are not licensed to transport hazardous materials, so never remove chemicals from the lab.
- **No Food or Personal Items in Chemical Refrigerators:** Never store food or personal items in chemical refrigerators.
- **Ethanol in the Lab is Poisoned:** All ethanol in the lab is intentionally poisoned to render it unfit for consumption.

## Lab Policy

### Pre-lab

Before each new experiment, you are required to prepare a pre-lab. On the first day of a new experiment, I will verify whether you have completed the pre-lab satisfactorily. **If your pre-lab is not complete, you will not be allowed to perform the experiment and will therefore receive a zero for that lab.** There are four reasons why I insist you complete a pre-lab ahead of time:

- **Safety:** If you are unfamiliar with the procedure for an experiment before coming to class, you are not aware of the hazards you might encounter. You are therefore a danger to both yourself and the other students in the class.
- **Courtesy:** If you are not prepared for an experiment and you constantly ask people around you for help, you are a distraction to those who took the time to properly prepare for their lab.
- **Efficiency:** If you do not prepare for an experiment before coming to the lab, you will waste a lot of time trying to figure out how to conduct the experiment, which means you may not be able to complete the experiment in time.
- **Learning:** Whether or not chemistry is your favorite subject, you have signed up for this course, so you might as well take the time to benefit from it. If you prepare before an experiment, you are far more likely to gain something from it.

### Pre-Labs, Lab Notebook, and 3-Ring Binder

Pre-labs should be prepared directly in your lab notebook. Unless instructed otherwise, do not answer any pre-lab or post-lab questions in the laboratory manual. Your pre-lab must include the following items:

- **Chemical Hazards:** List any important safety information regarding the chemicals you will be using, as provided in the experimental procedure. If the procedure does not specify safety details for certain compounds, you can find additional information online by searching for the compound's Safety Data Sheet (SDS).
- **Chemical Disposal:** Identify each substance or mixture generated during the experiment and note the appropriate waste container for disposal (e.g., acidic aqueous, basic aqueous, or organic). If you're unsure about the proper disposal method, leave space to fill in this information during the lab lecture.
- **Procedure:** Rewrite the full procedure in your own words, ensuring you include enough detail to successfully perform the lab without referring to the lab textbook. Do not simply copy the procedure verbatim. Only include the steps directly related to the procedure, excluding any theoretical portions.
- **Record Keeping and Calculations:** All readings should be taken directly into your lab notebook. Perform all necessary calculations and have them signed by the instructor before proceeding. Once signed, you can copy all relevant information into the lab manual.

- **Lab Manual Organization:** Maintain your lab manual in a 3-ring binder (1 inch or 1.5 inch). This ensures that your work is organized and can easily be reviewed.

## College Agreement

### The De Anza College Mission

Believing a well-educated population is essential to sustaining and enhancing a democratic society, De Anza College offers programs and services that empower students to achieve their goals as members of the workforce, as future students, and as global citizens. We work to obtain equity in the achievement of student outcomes for all California student populations and are guided by our core values of honesty, integrity, trust, openness, transparency, forgiveness, and sustainability.

To support our mission, we offer the following:

**Academic Integrity Agreement:** As a student at De Anza College, you will join a community of scholars-including faculty, staff, and students who are committed to integrity in the teaching and learning process. We value integrity as a core component of our reputation, which we build together.

Your work at De Anza contributes to your own academic reputation—a reputation you'll take with you into your career.

To build and maintain your individual and our collective reputation, all De Anza community members (including faculty, staff, students, and administrators) are asked to be attentive to upholding the highest academic integrity standards, and to actively avoid challenges to academic integrity, including cheating and plagiarism. These are defined as:

- **Cheating** is the act of obtaining, or attempting to obtain, credit for academic work using dishonest, deceptive, or fraudulent means.
- **Plagiarism** is representing someone else's work as your own and submitting it for any purpose or reusing work from one class for another without the express permission of both instructors.

Academic and/or administrative consequences may be applied for violating our shared values of academic integrity. For more information, please see [The Academic Integrity Page](#).

"Education is not the learning of facts, but the training of the mind to think." ~ Albert Einstein

# ACS Periodic Table



**ACS**  
Chemistry for Life®

## PERIODIC TABLE OF ELEMENTS

GROUP	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
PERIOD 1	<b>H</b> Hydrogen 1.008																	<b>He</b> Helium 4.003
PERIOD 2	<b>Li</b> Lithium 6.94	<b>Be</b> Beryllium 9.012											<b>B</b> Boron 10.81	<b>C</b> Carbon 12.01	<b>N</b> Nitrogen 14.01	<b>O</b> Oxygen 16.00	<b>F</b> Fluorine 19.00	<b>Ne</b> Neon 20.18
PERIOD 3	<b>Na</b> Sodium 22.99	<b>Mg</b> Magnesium 24.31											<b>Al</b> Aluminum 26.98	<b>Si</b> Silicon 28.09	<b>P</b> Phosphorus 30.97	<b>S</b> Sulfur 32.06	<b>Cl</b> Chlorine 35.45	<b>Ar</b> Argon 39.95
PERIOD 4	<b>K</b> Potassium 39.10	<b>Ca</b> Calcium 40.08	<b>Sc</b> Scandium 44.96	<b>Ti</b> Titanium 47.88	<b>V</b> Vanadium 50.94	<b>Cr</b> Chromium 52.00	<b>Mn</b> Manganese 54.94	<b>Fe</b> Iron 55.85	<b>Co</b> Cobalt 58.93	<b>Ni</b> Nickel 58.69	<b>Cu</b> Copper 63.55	<b>Zn</b> Zinc 65.39	<b>Ga</b> Gallium 69.72	<b>Ge</b> Germanium 72.64	<b>As</b> Arsenic 74.92	<b>Se</b> Selenium 78.96	<b>Br</b> Bromine 79.90	<b>Kr</b> Krypton 83.79
PERIOD 5	<b>Rb</b> Rubidium 85.47	<b>Sr</b> Strontium 87.62	<b>Y</b> Yttrium 88.91	<b>Zr</b> Zirconium 91.22	<b>Nb</b> Niobium 92.91	<b>Mo</b> Molybdenum 95.96	<b>Tc</b> Technetium (98)	<b>Ru</b> Ruthenium 101.1	<b>Rh</b> Rhodium 102.9	<b>Pd</b> Palladium 106.4	<b>Ag</b> Silver 107.9	<b>Cd</b> Cadmium 112.4	<b>In</b> Indium 114.8	<b>Sn</b> Tin 118.7	<b>Sb</b> Antimony 121.8	<b>Te</b> Tellurium 127.6	<b>I</b> Iodine 126.9	<b>Xe</b> Xenon 131.3
PERIOD 6	<b>Cs</b> Cesium 132.9	<b>Ba</b> Barium 137.3	<b>57-71</b> Lanthanides	<b>Hf</b> Hafnium 178.5	<b>Ta</b> Tantalum 180.9	<b>W</b> Tungsten 183.9	<b>Re</b> Rhenium 186.2	<b>Os</b> Osmium 190.2	<b>Ir</b> Iridium 192.2	<b>Pt</b> Platinum 195.1	<b>Au</b> Gold 197.0	<b>Hg</b> Mercury 200.5	<b>Tl</b> Thallium 204.38	<b>Pb</b> Lead 207.2	<b>Bi</b> Bismuth 209.0	<b>Po</b> Polonium (209)	<b>At</b> Astatine (210)	<b>Rn</b> Radon (222)
PERIOD 7	<b>Fr</b> Francium (223)	<b>Ra</b> Radium (226)	<b>89-103</b> Actinides	<b>Rf</b> Rutherfordium (261)	<b>Db</b> Dubnium (268)	<b>Sg</b> Seaborgium (271)	<b>Bh</b> Bohrium (278)	<b>Hs</b> Hassium (277)	<b>Mt</b> Meitnerium (276)	<b>Ds</b> Darmstadtium (281)	<b>Rg</b> Roentgenium (286)	<b>Cn</b> Copernicium (285)	<b>Nh</b> Nihonium (284)	<b>Fl</b> Flerovium (289)	<b>Mc</b> Moscovium (288)	<b>Lv</b> Livermorium (293)	<b>Ts</b> Tennessine (294)	<b>Og</b> Oganesson (294)
	<b>La</b> Lanthanum 138.9	<b>Ce</b> Cerium 140.1	<b>Pr</b> Praseodymium 140.9	<b>Nd</b> Neodymium 144.2	<b>Pm</b> Promethium (145)	<b>Sm</b> Samarium 150.4	<b>Eu</b> Europium 151.9	<b>Gd</b> Gadolinium 157.3	<b>Tb</b> Terbium 158.9	<b>Dy</b> Dysprosium 162.5	<b>Ho</b> Holmium 164.9	<b>Er</b> Erbium 167.3	<b>Tm</b> Thulium 168.9	<b>Yb</b> Ytterbium 173.0	<b>Lu</b> Lutetium 174.9			
	<b>Ac</b> Actinium (227)	<b>Th</b> Thorium 232.0	<b>Pa</b> Protactinium 231.0	<b>U</b> Uranium 238.0	<b>Np</b> Neptunium (237)	<b>Pu</b> Plutonium (244)	<b>Am</b> Americium (243)	<b>Cm</b> Curium (247)	<b>Bk</b> Berkelium (247)	<b>Cf</b> Californium (251)	<b>Es</b> Einsteinium (252)	<b>Fm</b> Fermium (257)	<b>Md</b> Mendelevium (258)	<b>No</b> Nobelium (259)	<b>Lr</b> Lawrencium (262)			

■ Alkali Metals  
■ Alkaline Earth Metals  
■ Transition Metals  
■ Other Metals  
■ Metalloids  
■ Non-metals  
■ Halogens  
■ Noble Gases  
■ Lanthanides  
■ Actinides

78 Atomic Number  
Pt Symbol  
 Platinum Name  
 195.1 Average Atomic Mass

## Sec. 23 Schedule - CHEM 10 - Winter 2025

<b>CHEM 10 - WINTER 2025 SCHEDULE</b>			
WEEK #		TUESDAY	THURSDAY
Week 1	Date	7-Jan	9-Jan
	Lecture	Introduction to Class, Ch.1 Chemistry	Ch.1 Chemistry (contd.)
	Lab	01: The scientific method is all around us	
Week 2	Date	14-Jan	16-Jan
	Lecture	Ch. 2 Atoms	Ch.2 Atoms (Contd.)
	Lab	02: Measurements & Math Workshop	
Week 3	Date	21-Jan	23-Jan
	Lecture	Ch.3 Atomic Structure	Ch.3 Atomic Structure (Contd.)
	Lab	03: Models of the atom through history	
Week 4	Date	28-Jan	30-Jan
	Lecture	Ch.4 Chemical Bonds	Ch.4 Chemical Bonds (Contd.)
	Lab	04: Identifying greenhouse gases	
Week 5	Date	4-Feb	6-Feb
	Lecture	Ch.5 Chemical Counting	Ch.5 Chemical Counting (Contd.)
	Lab	05: Fighting smog in Los Angeles	
Week 6	Date	11-Feb	13-Feb
	Lecture	Midterm Exam I(Review)	<b>Midterm Exam I</b>
	Lab	06: Kinetic molecular properties of gases	

Week 7	Date	18-Feb	20-Feb
	Lecture	Ch.6 Gases, Liquids, Solids, .... and Intermolecular forces	Ch.6 Gases, Liquids, Solids (Contd.)
	Lab	07: Titration Simulation	
Week 8	Date	25-Feb	27-Feb
	Lecture	Ch.7 Acids & Bases	Ch.8 Oxidation & Reduction
	Lab	08: TBD	
Week 9	Date	4-Mar	6-Mar
	Lecture	Ch.11 Nuclear Chemistry	Ch.11 Nuclear Chemistry (Contd.)
	Lab	09: SLAC Virtual Tour	
Week 10	Date	11-Mar	13-Mar
	Lecture	Ch.11 Nuclear Chemistry (Contd.)	Ch.15 Energy
	Lab	10: Coffee cup calorimetry	
Week 11	Date	18-Mar	20-Mar
	Lecture	Ch.15 Energy (Contd.)	Final Exam Review
	Lab	End of Quarter Presentations	
Week 12 Finals Week	Date	25-Mar	27-Mar
	Lecture	<b>Final Exam:</b> Thursday 27th March (No Lab)	
	Lab		



**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:**

T,TH 02:30 PM 04:20 PM In-Person SC1102