

Always Be Kind

For there is always light.

If only we're brave enough to see it.

If only we're brave enough to be it.

—Amanda Gorman

Darkness can't survive in the presence of light.

—Lara Hope & the Ark-Tones

“Darkness cannot drive out darkness:

Only light can do that.

Hate cannot drive out hate:

Only love can do that.”

--Martin Luther King, Jr.

“Any book worth banning is worth reading.”

--Isaac Asimov

“When a foreigner resides among you in your land, do not mistreat them. The foreigner residing among you must be treated as your native-born. Love them as yourself, for you were foreigners in Egypt.”

--Leviticus 19: 33-34 NIV

It's a dangerous thing to mistake speaking without thought for speaking the truth.

--Benoit Blanc

Introductory Chemistry

Chem. 10.61,62 Syllabus

Lecture 10.61&62: M&W 5:30 PM – 7:20 PM -- Room SC1102

Lab 10.61: M 7:30-10:20 PM -- Room SC2210

Lab 10.62: W 7:30-10:20 PM – Room SC2210

- Instructor:** Dr. James Maxwell, email: maxwelljames@fhda.edu
- Office Hours:** M & W: 4-5pm, Second Floor SC1 or by appointment.
- Description:** An Introduction to the discipline of Chemistry, including chemical laboratory techniques and methods and a survey of important chemical principles. This course emphasizes chemistry as a subject of scientific inquiry and is designed to give the student a general appreciation for chemistry as a science
- Prerequisites:** Advisory: English Writing 211 and Reading 211 (or Language Arts 211), or English as a Second Language 272 and 273. Mathematics 212 or the equivalent.
- Evaluation:** Your grade will be based on your performance in the following:

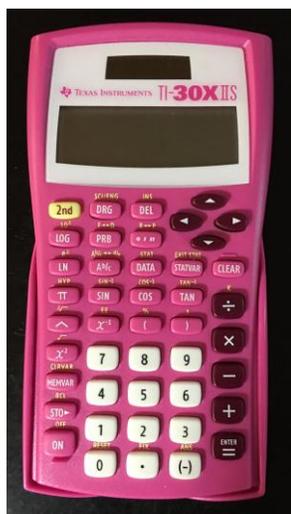
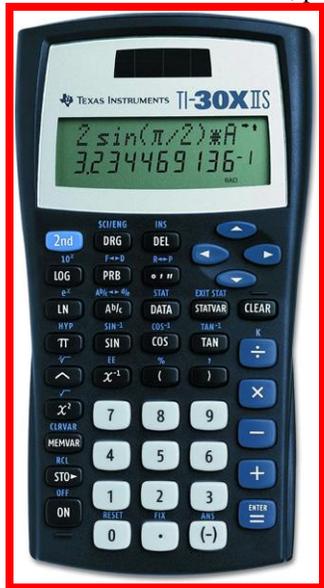
10 best Quizzes (10 pts. each)	100 points
9 Lab reports (20 pts. each)	180
Lab Clean-up	20
Lab Safety Quiz	20
Lab Safety Contract	20
1 Lab Final Exam (100 pts.)	100
3 Lecture Exams (100 pts. each)	300
<u>1 Lecture Final (200 pts.)</u>	<u>200</u>
Total	940 points

Letter grades will be assigned according to the *approximate* scale:

A	90%
B	80%
C	70%
D	50%
F	< 50%

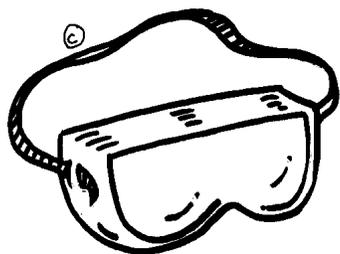
- Attendance:** You MUST attend the first class and lab or you will be dropped from the course. Your attendance is urged for all lectures and required for all quizzes, exams, and labs. Unexcused exam, quiz and lab absences score a zero (0) points. It is the responsibility of the student to contact the professor regarding missed work. If an absence is anticipated, the student should make arrangements to complete the missed assignments prior to the absence. In an emergency, it is the student's responsibility to contact the instructor within one class period of an exam. *There are no laboratory make-up days.* **Please sign the attendance sheet each class and lab.**
- Quizzes:** Quizzes will be given on ZipGrade as scheduled in syllabus and will have a time limit. Answer keys will be available after the quiz. *If you miss the quiz, you will not have a chance to make it up.* The best 10 quiz scores will be used in determining your final grade. The three lowest quizzes will be dropped except for Quiz 12 (20 points). That quiz cannot be dropped.
- Exams:** There will be three exams and one final exam. You must bring your own calculator (if you need one), pencil and eraser for exams. Cell phones may not be used at any time during the exam. Calculators may be used if approved by instructor. Once the exam begins you may not leave the room unless you turn in the exam, so plan to take a bathroom break *before* class. **No Cell Phones during Exam! Answer Keys will be available after the exam.**
- Text Link:** *Chemistry - Atoms First 2e*
<https://openstax.org/books/chemistry-atoms-first-2e/pages/1-introduction>
- Lab Text:** Available in Canvas
- Lab Report:** For Each lab you will be given a printed report sheet for that experiment. You will complete this report sheet and turn it in one week after the lab experiment for credit for that lab. Each lab counts 20 points. All 9 labs count towards your grade. If you miss a lab, there are no make-up labs. Late labs will incur a 5-point penalty each week it is late.
- Lab Clean Up:** You will be assigned one lab to be on the cleaning crew for that lab with a team of your fellow students. You will have a checklist to follow. Proper cleanup will be worth 20 points to each student who participates. If you do not participate you will get 0/20 points.
- Academic Dishonesty:** "Academic dishonesty is a serious offense, which includes but is not limited to the following: cheating, complicity, fabrication and falsification, forgery, and plagiarism. Cheating involves copying another student's paper, exam, quiz or use of technology devices to exchange information during class time and/or testing. It also involves the unauthorized use of notes, calculators, and other devices or study aids. In addition, it also includes the unauthorized collaboration on academic work of any sort. Complicity, on the other hand, involves the attempt to assist another student to commit an act of academic dishonesty. Fabrication and falsification, respectively, involve the invention or alteration of any information (data, results, sources, identity, and so forth) in academic work. Another example of academic dishonesty is forgery, which involves the duplication of a signature in order to represent it as authentic. Lastly, plagiarism involves the failure to acknowledge sources (of ideas, facts, charges, illustrations and so forth) properly in academic work, thus falsely representing another's ideas as one's own."
- Online Help:** Some suggested websites for help. <http://chemistry.about.com/od/homeworkhelp/>
- Help:** If you need help with any aspect of this course, please contact your instructor first. You can also contact the Student Success Center at <http://www.deanza.edu/studentuccess/> to get help with tutoring or with reading, and writing, tutoring or academic skills. Please use this resource.

Calculator: You may **NOT** use your phone for a calculator on any quiz or exam! You still need a simple scientific calculator not associated with your mobile phone. They cost about \$10.00-\$15.00. My recommended favorite calculator is shown below, the TI-30XIIS. I would buy a brightly colored one. My black one disappeared immediately. I have had my pink one for years now. **Target** has good prices on the colored ones. They have black, pink and blue.



Cloud Storage: If you would like free cloud storage, send me an email requesting an invitation to *dropbox*. If you use this invitation to join *dropbox*, your instructor gets a bit extra free storage added to his existing account and your will get 2Gb of free storage that is very useful for sharing files.

Eye Protection: You **MUST** wear full goggles and not safety glasses. Without them, you may not participate in lab and will receive a grade of zero for that lab. Goggles can be borrowed from a common group found in lab. Just clean them before putting on your face. See illustration below. **Only the Safety Goggles sold at the DeAnza bookstore are allowed. No substitutions.**



ZipGrade: This will be used for Quizzes and to keep track of your exams. You will receive an email with instructions. Please create your ZipGrade account.

Changes to Syllabus: **This syllabus may/will change according to the instructor and the needs of the class.** Changes will be announced and published in the Course Studio, but your must read and follow the changes. Please check with the syllabus posted (latest update will be posted and dated) or with your instructor.

Lab Rules: A clean lab is a safe lab!

1. **Wear protective eyewear always during experimentation.** Your instructor will let you know if you may remove your protective eyewear.
2. Clean up all broken glass immediately with broom and dustpan and dispose in special container
3. Clean all chemical spills immediately. Notify your instructor who will advise or help you. Dispose all chemicals in the designated container.
4. Do not pour any chemicals down the drain. Dispose only in designated containers as indicated by your instructor.
5. Go to the stock chemical container. DO NOT take the container to your desk. DO NOT pour used chemicals back in stock container. Only take what you need to minimize waste. Un-needed chemicals must be taken to disposal container.
6. Always carefully read the label to insure you will use the correct chemical reagent.
7. Do **not wear shorts, open-toed shoes or diaphanous clothing** on lab days.
8. Clean your glassware and your lab bench before you leave the lab. The lab should always be in better shape than when you found it.
9. It Is Your Job/Responsibility. It doesn't matter if you did not make the mess, you should clean it up.
10. The balance room should be left in immaculate order: Clean, All balances in perfect order, all chairs under the desks. NO EXCEPTIONS!
11. Wash your hands before you leave lab, no matter what experiment was performed.
12. The lab is always under observation and any unkempt areas will be recorded and reported to me and the head of the department and then to you.
13. Thanks for keeping these concepts and any other concepts necessary for a safe and clean lab.

How to succeed in Chemistry 10:

1. Always come to class prepared. Please read your assignments and work as many homework problems as you can.
2. Form a study group with your classmates. Work homework together.
3. Attend class and pay attention. Ask questions.
4. Stay current with assignments.
5. Stay current with lab: have pre-lab complete before class. Turn in lab reports on time.
6. Get help before it is too late. Use your instructor's office hours or get help from the tutoring center on campus.
7. Keep your life in balance: Study, Play, Relax.

Date Mon	Lecture 61 & 62 + Laboratory 61 M	Date Wed	Lecture 61 & 62+ Laboratory 62 W
22 Sept	Intro to Course and Lab Lecture: Chemistry 61 Lab: Check-in	24 Sept	Lecture: Chemistry cont. Atoms 62 Lab: Check-In
29 Sept	Lecture: Atoms cont. Atomic Structure Quiz 1: Chemistry Quiz 2: Atoms Quiz 3: Atomic Structure Quiz 4: Chemical Bonds 61 Lab 1: Taking Measurements	01 Oct	Lecture: Atomic Structure cont. Chemical Bonds 62 Lab 1: Taking Measurements
06 Oct	Lecture: Chemical bonds cont. 61 Lab 2: Percent Water in Popcorn Lab Safety Statement DUE	08 Oct	Lecture: Review Exam 1 Quiz 1: DUE Quiz 2: DUE Quiz 2: DUE Quiz 4: DUE 62 Lab 2: Percent Water in Popcorn
13 Oct	Lecture: Exam 1: Covers Quizzes 1-4 61 Lab 3: Electron Dot Structures	15 Oct	Lecture: Chemical Accounting Quiz 5: Chemical Accounting Quiz 6: Gasses Liquids . . . Intermolecular forces Quiz 7: Acids and Bases Quiz 8: Oxidation and Reduction 61 Lab 3: Electron Dot Structure
20 Oct	Lecture: Chemical Accounting cont. Gases, Liquids, Solids . . . Intermolecular forces 61 Lab 4: Molecular Shapes	22 Oct	Lecture: Gasses, Liquids, Solids . . . Intermolecular forces cont. Acids and Bases 62 Lab 4: Molecular Shapes
27 Oct	Lecture: Acids and Bases cont. Oxidation and Reduction 61 Lab 5: Solutions	29 Oct	Lecture: Oxidation and Reduction cont. Review for Exam 2 Quiz 5: DUE Quiz 6: DUE Quiz 7: DUE Quiz 8: DUE 62 Lab 5: Solutions
03 Nov	Lecture: Exam 2: Chaps 5-8 61 Lab 6: Upset Stomach	05 Nov	Lecture: Organic Chemistry Quiz 9: Organic Chemistry Quiz 10: Nuclear Chemistry Quiz 11: Biochemistry Quiz 12: Review (20 pts) 62 Lab 6: Upset Stomach
10 Nov	Lecture: Organic Chemistry cont Nuclear Chemistry 61 Lab 7: How Much Fat	12 Nov	Lecture: Nuclear Chemistry cont 62 Lab 7: How Much Fat
17 Nov	Lecture: Organic Chemistry cont. Ch 16: Biochemistry 61 Lab 8: Organic Molecules	19 Nov	Lecture: Biochemistry cont. 62 Lab 8: Organic Molecules

24 Nov	Lecture: Review for Exam 3 Quiz 9: DUE Quiz 10: DUE Quiz 11: DUE 61 Lab 9: DNA Capture	26 Nov	EXAM 3: Covers Quizzes 9, 10, 11 62 Lab 9: DNA Capture
01 Dec	Lecture: Final Exam Review 61 & 62 Lab Final available 29 Nov in ZipGrade DUE on Dec 08 @ 11:30 pm 61 Lab Check-Out Chem 10:61	03 Dec	Lecture: Final Exam Review Quiz 12: DUE 62 Lab: No Lab
08 Dec	Final Exam: Covers Quizzes 1-11 6:15 pm-8:15 pm	10 Dec	No Class

1. Lab Score for each experiment: Your lab score will depend upon your preparedness, participation in class and your completion of the lab report. Lab reports are to be turned in at the end of class one week after the experiment. Late reports will lose points. Improper completion of lab report or improperly answered questions will lose points.
2. Print out, read, sign and return to your instructor the **ACS Essentials for Lab Safety Module**. The completed Certificate is to be saved as a pdf and submitted to assignments in Canvas. This certificate must be submitted to Assignments on Canvas by **7 Oct 2024**. The module can be found in Canvas Modules.
3. You must do your laboratory work at the time assigned. Attendance will be taken. Study the experiment carefully before coming to class so that you don't (waste time going through the procedure during the lab. **NO MAKE UP LABS**.)
4. You must do your own work unless you are told to work in pairs for an experiment. If you need guidance, let the instructor know.
5. Always think through the next step you are going to perform before starting it.
6. **Record all data in ink while you work.** Do not write data on paper towels or other pieces of paper, even temporarily. Make sure your data is complete. **Do not forget to write your name or record any unknown number.** Pay attention to significant figures and units. If you make a mistake, cross it out neatly with a **single** line.
7. All laboratory reports are due one week after the experiment is performed.
8. Children are not allowed in the lab.
9. No eating or drinking in the lab.
10. **ALWAYS WEAR YOUR EYE PROTECTION.** Failure to wear your eye protection will lead to dismissal from lab and a lowered grade for that experiment.
11. You **MUST WEAR LONG PANTS** and **SENSIBLE CLOTHING** when we are doing any lab that required Safety Goggles as discussed during the safety lectures. This is a school policy. If you wear shorts, sandals, or other clothing that is not consistent with safety, you will **not** be admitted to the laboratory. Wear a lab apron if you have one. **You can NEVER WEAR SHORT PANTS or short SKIRTS during LABORATORY PERIODS.**
12. Always work with clean equipment. Clean also means **DRY**.
13. Carefully measure the quantity of each material to be used in the experiment.
14. Always place reaction vials, test tubes or flasks in a clean beaker when standing them on a laboratory bench.
15. Do not take reagent bottles to your laboratory work area. Use test tubes, beakers, or paper to obtain chemicals from the dispensing area. Take small quantities of reagents. You can always get more if you run short.
16. Check carefully the label on each reagent bottle to be sure you have the correct reagent. The names of many substances appear similar at first glance.
17. To avoid possible contamination, never return unused chemicals to the reagent bottles. Never interchange spatulas or droppers.
18. Do not insert droppers into large reagent bottles. Instead pour a little of liquid into a small beaker.
19. Be neat in your work; if you spill something, clean it up immediately.
20. Wash your hands anytime you get chemicals on them and at the end of the laboratory period.
21. Keep the mass balances and the area around them clean. Follow the directions given by the instructor on the proper weighing technique to use. Otherwise, do not place chemicals directly on the balance pans; place a piece of weighing paper or a small container on the pan first, and then weigh your material. Never weigh an object while it is hot.
22. Do not heat graduate cylinders, burettes, pipettes, or bottles with a burner flame.
23. Do not look down into the open end of a test tube in which the contents are being heated or in which a reaction is being conducted.
24. Do not perform unauthorized experiments.
25. After completing the experiment, clean and put away your glassware and equipment. Clean your work area and make sure the gas and water are turned off. A clean lab is a safe lab.
26. Dispose solid waste such as filter paper, litmus paper, and matches in the wastebasket, not in the sink. Dispose broken glass in the broken glass waste boxes. Dispose all other solid chemicals as directed by your instructor. **Pour all the waste liquids into the waste bottles provided or as directed by instructor. Only tap water or deionized water may be poured down the drain.**

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 4:00 PM - 4:50 PM

SC1 Second Floor

M,W 4:00 PM - 4:50 PM

SC1 Second Floor