Introduction to General, Organic and Biochemistry I: Online

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

Chem. 30A:63,64 Winter 2024 **Syllabus**
Lecture: Tu(63)/Th(64) 5:30 PM – 7:20 PM (In Person) – Room SC1102
Lab 63-Tu: 7:30-10:20 PM (In Person)—Room SC2208
Lab 64-Th 7:30-10:20 PM (In Person)—Room SC2208
Office Hours: Tu(63)/Th(64) 4 pm-4:50 pm—SC1 Second Floor

Instructor: Dr. James Maxwell: email: maxwelljames@fhda.edu , rapid response.

Description: An introduction General Chemistry for Allied Health Fields with Laboratory.

Evaluation: Your grade will be based on your performance in the following:

10 best Quizzes out of quizzes 1-11 (10 pts each)	100	points
9 Labs (20 pts each)	180	
ACS Essentials of Lab Safety for Chem 30A W 24	20	
1 Lab Final (100 pts)	100	
3 Exams (100 pts each)	300	
1 Final (200 pts)	200	
Lab Clean-up	20	
Total	920	points

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

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

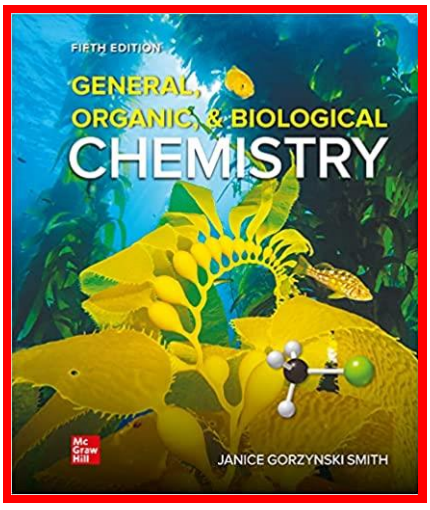
Attendance: **You must attend the first day and the following two weeks of classes or you will be dropped by your instructor. If there is an extenuating circumstance, contact your instructor at once**. Your attendance is urged for all lectures and required for all quizzes, exams, and labs. Always sign the roll sheet to register your attendance at all lectures or labs. Unexcused exam, quiz and lab absences score **0**. 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*. **Roll call will be taken every class and lab.**

Quizzes: Quizzes will be available during class 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.

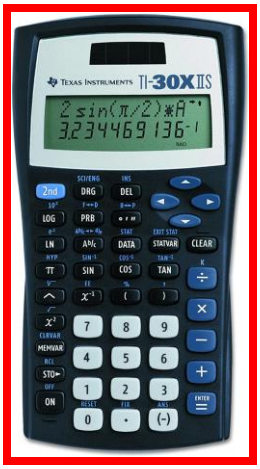
Exams: There will be **three** exams and one **comprehensive** final exam. You must bring your own calculator (NOT YOUR PHONE), pencil and eraser for exams. A Periodic Table is attached to each exam. Cell phones may **not** be used at any time during the exam. **Calculators** may be used if approved 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 Mobile Phones during Exam! Answer Keys will be available after the exam. PLEASE DO NOT send emails asking for your grade or exam score. Your grades exams will be available the next class period.**

Lecture Text: **Free Online Text: https://open.umn.edu/opentextbooks/textbooks/40**

Recommended but not Required: Janice G. Smith, **General, Organic and Biological Chemistry**, 5th ed, 2021, McGraw-Hill. You can acquire a digital text for $30 from the McGraw-Hill using the link below:
Here is reference link for purchasing the $30 eBook
(Smith, 5th Ed Chem 30A-ISBN: 9781307601619-$30)
https://www.mheducation.com/highered/custom/product/9781307713107.html
The bookstore has a loose-leaf version of the textbook for sale. I use a three-ring binder for my version of the loose-leaf version.



Calculator: Recommend the calculator shown (TI-30XIIs). A black one is listed at $9.99 from Amazon.com. Different colors are more expensive.



TWO (2) Notebooks for Lab Reports: **REQUIRED.** You will need two composition notebooks: lined, unlined, graph is your choice. Color is your choice. Try **NOT** to get **BLACK**.
One notebook for the even numbered labs in one notebook and the odd numbered labs in the other notebook.
Below are examples. They are not expensive. Shop around at Safeway or Rite Aid or Amazon.

ACS Lab Safety Essentials Module: This module is available in the Module part of Canvas. Please go through these lessons. You must use Chrome of Foxfire browsers. You must allow popups. The last part will generate a pdf certificate that you will save and submit to Assignments in Canvas for the ACS Lab Safety Essentials. Please complete this by18 January.

Lab Experiments: **The lab experiments are located on Canvas under Lab Experiments.**

Labs: All 8 labs count towards your grade. No make-up labs. Late labs will incur a penalty. You **MUST** wear eye protection during lab.

Lab Notebook: You will need to purchase a *Composition notebook*. They are about $1. The pages are sewn in. Not spiral bound. Not perforated pages. Be sure you buy the correct Composition notebook; no other notebook will be allowed. First, number **all** pages, front and back, at the upper right-hand corner. Number **ALL** pages. Number every single page, front and back.
Contents of book: (This composition book can be used on your lab final. Keep it in up to date.)
-Front page, put your name, Course, and section number.
-After your complete any page, you will sign and date that page at the bottom right.
-Mistakes are lined out with a single line, for example: ~~simgle~~ single. Don't make a huge mess if you make an error. A simple single line or X is adequate. **Do Not Use WHITE-OUT correction fluid**.
-Front page: Table of contents below your name that gives the experiment name and pages (beginning and end) for that experiment.
Before you come to class for each Experiment have the following in your notebook, and get a stamp from your professor for these items before you begin lab. You CANNOT copy and paste. This must be handwritten:
-Title
-Learning Outcomes
-Brief Introduction to the experiment
-Experimental Design
-Supplies, Procedure
-Data Table
(After class and before the experiment is graded complete the following.)
-Results, Summary (including analysis or errors-sources of error and how to prevent them)
When you arrive at lab, you will receive a stamp to indicate that you have *Title, Learning Outcomes, Brief Introduction, Experimental Design, and Empty Data tables*. This is worth 5 points. The week after the experiment is completed, your book will be inspected for completion of the experiment, worth 15 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 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/a/chemistry101.htm**.

Absences: **In case of any absence, please contact me as soon as possible. Contact your instructor before your absence, if possible, otherwise within 24 hours afterwards.**

Important Dates:

Last Day for Adds	January 21, 2024
Census Date	January 22, 2024
Last Day for Drops w/ Refund	January 21, 2024
Last Day for Drops w/o W	January 21, 2024
Last Day for Drops	March 01, 2024

Changes to Syllabus: **This syllabus may ch**ange according to the instructor and the needs of the class. Please check with the syllabus posted in the Course Studio. Updated changes will be published in Canvas and noted by a date. Use the most current date. Please notify your instructor if you find any errors.

INSTRUCTIONS for the Laboratory:

1. Print read and complete the **ACS Essentials of Lab Safety and ACS Safety Certificate**. This must be completed by the **second** laboratory period **(18 January 2024).** You can download a pdf copy of the Certificate from the Module for the Essentials of Lab Safety in Canvas. The download the completed **ACS Essentials of Safety Course** Certificate in Assignments in Canvas. You **must** download this certificate to earn the 20 points for this assignment.
2. 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**. If you miss a lab, contact your instructor ASAP to see if you can recoup any lost points.
3. 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.
4. Always think through the next step you are going to perform before starting it.
5. **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.
6. All laboratory reports are due one week after the experiment is performed.
7. **Children or visitors** are not allowed in the lab.
8. **No eating or drinking in the lab at all at any time!**
9. **ALWAYS WEAR YOUR EYE PROTECTION. ALWAYS WEAR YOUR EYE PROTECTION. ALWAYS WEAR YOUR EYE PROTECTION. ALWAYS WEAR YOUR EYE PROTECTION. ALWAYS WEAR YOUR EYE PROTECTION. ALWAYS WEAR YOUR EYE PROTECTION.** Failure to wear your eye protection will lead to dismissal from lab and a zero or lowered grade for that experiment.
10. **WEAR SENSIBLE CLOTHING**. INO SHORTS, NO LOOSE LONG HAIR, NO LOOSE FLOWING CLOTHING, NO SANDALS OF OPEN TOE SHOES. If you wear shorts, sandals, or other clothing that is not consistent with safety, you will not be admitted to the laboratory and receive a zero for the lab. Wear a lab apron or gloves if you have them.
11. Always work with clean equipment. Clean also means **DRY**.
12. Carefully measure the quantity of each material to be used in the experiment.
13. Always place reaction vials, test tubes or flasks in a clean beaker when standing them on a laboratory bench.
14. 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.
15. Carefully check the label on each reagent bottle to be sure you have the correct reagent. The names of many substances appear similar at first glance.
16. To avoid possible contamination, never return unused chemicals to the reagent bottles. Never interchange spatulas or droppers.
17. Do not insert droppers into large reagent bottles. Instead pour a little of liquid into a small beaker.
18. Be neat in your work; if you spill something, clean it up immediately.
19. Wash your hands with soap anytime you get chemicals on them and at the end of the laboratory period.
20. 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.
21. Do not heat graduate cylinders, burettes, pipettes, or bottles with a burner flame.
22. 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.
23. Do not perform unauthorized experiments.
24. 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.
25. 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 toxic liquids into the waste bottles provided or as directed by instructor. DeAnza can be penalized if disposal procedures are not followed. I will get disciplined if disposal procedures are not followed. You will get disciplined if disposal procedures are not followed.
26. **WASH YOUR HANDS** with soap and water before leaving lab.
27. Leave the lab and balance room in pristine condition. If this becomes a problem, the entire class will be assessed penalty points to your lab grade. Wipe up all spills in the lab and balance room, close all the doors on the balances, wipe of all water, replace all chemicals and materials to their original storage spaces. Remember: there is not such thing as “NOT MY JOB.” Everything if everyone’s job if you are enrolled in this class.
28. **Thanks for a safe and clean lab.**

Chem 30A:63,64 Winter 2024 Class Calendar

All Quizzes are on ZipGrade

Date (Tu)	63/64: Lecture (RM SC1102) 63:Lab (RM SC2204)	Date (Th)	63/64: Lecture (RM SC1102) 64:Lab (RM SC2204)
9 Jan	Lecture: Intro to Course and Lab; & Math Skills Ch. 1: Chemistry, Matter and Measurement **Lab Check-in**	11 Jan	Lecture: Ch. 1: Cont. Ch. 2: Elements, Atoms and the Periodic Table **Math Quiz** **Lab Check-in3/**
16 Jan	Lecture: Ch. 2: Cont. **63 Lab 1: Density** **Quiz 1: Ch. 1** **Math Quiz : DUE**	18 Jan	Ch. 3: Ionic Bonding and Simple Ionic Compounds **Quiz 2: Ch. 2** **Quiz 1: DUE** **64 Lab 1: Density** **63/64 Lab: ACS Lab Certificate Due in Canvas Assignments on 22 Jan**
23 Jan	Lecture: Ch. 3: Cont. Ch. 4: Covalent Bonding and Simple Molecular Compounds **63 Lab 2: Nomenclature + Structures** **Quiz 2: DUE** **63 Lab 1: DUE**	25 Jan	Lecture: Ch. 4: Cont. **Quiz 3: Ch. 3** **Quiz 4: Ch. 4** **64 Lab 2: Nomenclature + Structures** **64 Lab 1: DUE**
30 Jan	Review Exam 1: Chap 1-4 **63 Lab 3: Sand/Salt Separation** **Quiz 3 & 4 DUE** **63 Lab 2: DUE**	1 Feb	**EXAM 1: Chap 1-4** **64 Lab 3: Sand/Salt Separation** **64 Lab 2: DUE**
6 Feb	Lecture: Ch. 5: Introduction to Chemical Reactions **63 Lab 4: Chemical Reactions** **63 Lab 3: DUE**	8 Feb	Lecture: Ch. 5: Cont. Ch. 6: Quantities in Chemical Reactions **64 Lab 4: Chemical Reactions** **64 Lab 3: DUE**
13 Feb	Lecture: Ch. 6: Cont. Ch. 7: Energy and Chemical Processes **Quiz 5: Ch. 5** **63 Lab 5: Yield of Sodium Carbonate** **63: Lab 4 DUE**	15 Feb	Lecture: Ch. 7: Cont. **Quiz 6: Ch. 6** **Quiz 5: DUE** **64 Lab 5: Yield of Sodium Carbonate** **64: Lab 4 DUE**
20 Feb	Lecture: Ch. 8: Solids, Liquids, and Gases Solutions **63 Lab 6: Synthesis of Alum** **Quiz 6: DUE** **63 Lab 5: DUE**	22 Feb	Lecture: Ch 8: Cont. **Quiz 7: Ch. 7** **64 Lab 6: Synthesis of Alum** **64 Lab 5: DUE**
27 Feb	Review Exam 2: Ch. 5-7 **63 Lab 7: Gas Formation Reaction** **Quiz 7 DUE** **63 Lab 6: DUE**	29 Jan	**EXAM 2: Ch. 5-7** **64 Lab 7: Gas Formation Reaction** **64 Lab 6: DUE**
5 Mar	Lecture: Ch. 9: Solutions **Quiz 8: Ch. 8** **63 Lab 8: Citric Acid Titration (I)** **63 Lab 7: DUE**	7 Mar	Lecture: Ch. 9: Cont. Lecture: Ch. 10: Acids and Bases **64 Lab 8: Citric Acid Titration (I)** **64 Lab 7: DUE**

12 Mar	Ch. 11: Nuclear Chemistry **Quiz 9: Ch. 9** **Quiz 8: DUE** **63 Lab 9: Citric Acid Titration (II)**	14 Mar	Lecture: Ch. 11: Cont. Review for Exam 3: Ch. 8-10 **Quiz 10: Ch. 10** **Quiz 11: Ch.11** **Quiz 9: DUE** **64 Lab 9: Citric Acid Titration (II)**
19 Mar	Review for Exam 3: Ch. 8-10 Review for Final: Ch. 1-10 **Quiz 11: DUE** **Quiz 10: DUE** **Quiz 12: Ch. 1-11 (Not Dropped)** **63/64 Lab: Lab Final in ZipGrade Due 25 March 11:30 pm** **63 Lab: Check-Out** **63 Lab 8/9 DUE**	21 Mar	**Exam 3: Ch. 8-10** **Quiz 12 DUE** **64 Lab: NO Check-Out. Will be done by 63 Lab** **64 Lab 8/9 DUE**
26 Mar	**Lecture Final Exam: Ch. 1-10** *****6:15-8:15 PM***For All In Class**	28 Mar	**Class Over (No Class)**

Student Learning Outcome(s):

• Solve stoichiometric problems by applying appropriate molar relationships.
• Identify the differences between elements and compounds and describe the chemical bonding in compounds-ionics vs. covalent.

Office Hours:

T,TH	04:00 PM	04:50 PM	In-Person	SC1102 Second Floor
T,TH	04:00 PM	04:50 PM	In-Person	SC1102 Second Floor