

Introduction to General, Organic and Biochemistry II (Chem. 30B.30Z,31Z W22) Syllabus

Lecture: Mon & Wed 3:30 PM – 5:20 PM (Synchronous)

Lecture Zoom Room Code: Zoom Room Code: 964 9202 7795, Passcode: SILVER

30Z Lab: Mon. 11:30am-12:20 PM (Synchronous)

30Z Lab Zoom Room Code: 954 8143 3379, Passcode: COBALT

31Z Lab: Wed. 11:30am-12:20 PM (Synchronous)

31Z Lab Zoom Room Code: 925 0691 7522, Passcode: FLASK

Office Hours for ALL: M & W, 1:30-2:20 pm (waiting room)

Office Hours Zoom Room Code: 912 3483 8868, Passcode: CARBON

One-On-One Zoom meeting, Room Code available upon request.

{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

Instructor: Dr. James Maxwell, Mobile phone: (773) 454-7779 (texts also), email (is best): maxwelljames@fhda.edu

Office Hours: Monday & Wednesday: 1:30-2:20 pm, Zoom Room Link: see above

Description: This class is for students entering the allied health fields. The focus of the second part of Introduction to General, Organic, and Biochemistry is organic and biochemistry. The topics included in organic chemistry are hydrocarbons, alcohols, thiols, ethers, carboxylic acids, esters, amines, and amides. Various physical and chemical properties of these organic substances will be studied along with nomenclature and structural features. The topics included in biochemistry are carbohydrates, fatty acids and lipids, amino acids and proteins, nucleic acids, and DNA. Various physical and chemical properties of these biological molecules will be studied. A brief introduction to metabolism will also be discussed.

Prerequisites: Chemistry 30A or 25 or 1A. Advisory: English Writing 211 and Reading 211 (or Language Arts 211), or English as a Second Language 272 and 273.

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

10 best Quizzes (10 pts. each except Q's 11 & 12 =20 pts. each, Q's 11 & 12 cannot be dropped)	120 points
6 Labs (Includes L1 and L2 written assignments) (30 pts.)	180
Getting Started (15 pts) & Laboratory Safety (15 pts)	30
Lab Final (100 pts)	100
3 Exams (100 pts each)	300
1 Final (200 pts)	200
Total	930 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 class on the first day of the quarter and the first two weeks or you will be **dropped**. Your attendance is urged for all lectures and required for all quizzes, exams, and 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.

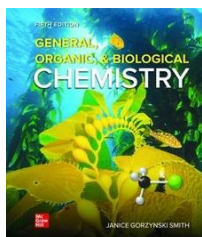
Quizzes: Quizzes will be given as scheduled in syllabus and will have a time limit. You will use ZipGrade to record your answers. Answer keys will be available after the quiz on Canvas. *If you miss the quiz, you will **not** have a chance to make it up after the KEY is posted.* Contact your instructor a.s.a.p. if you have an **excused** absence and before the KEY is posted. The best 10 quiz scores will be used in determining your final grade.

Take-Home Quizzes: You are expected to do your own work on take-home quizzes. You may consult your notes, your text, your PowerPoint slides, or your instructor, but **not** other students. Not following this rule will result in all future quizzes being given during a more restricted time without the benefit of any other assistance.

Exams: There will be three exams and one final exam. You must bring your own calculator (if you need one). Exams will be online. Cell phones may not be used at any time during the exam. Calculators may be used. There is no chance to make up an exam after the KEY is posted. Please contact your instructor a.s.a.p. if you have an **excused** absence and before the KEY is posted. **No Cell Phones during Exam! Answer Keys will be available after the exam. Do your own work. NO CHEATING!**

Text: *General, Organic and Biological Chemistry*, Janice G. Smith, 5th ed., 2022, McGraw-Hill ISBN-13: 978-1260732023, ISBN-10: 1260732029. See image below. Here is a link to purchase the online text for \$30. The bookstore should have the text, but it is a loose-leaf version.

<https://www.mheducation.com/highered/custom/product/9781307713121.html>



- Lab Text:** *Online; SI (Science Interactive Lab Kit). When requested, you must supply a valid shipping address that will accept a box of the 4 experiments. The links will be on Canvas for these experiments. Student Enrollment Link for SI Labs: <https://myhol.holscience.com/enroll/fvtb-cpzb-mdsk-fxhs>*
- Labs:** All 6 labs (Lab 1 and Lab 2 and 6 experiment included in the lab kit) count towards your grade. Late labs will incur a penalty. You will be able to order your SI (Science Interactive) Lab Kit directly from the Bookstore (no charge to you) on the January 18, 2022. You will receive a kit containing 4 labs. Be sure to save the code number on the document that is in the box. You need that code to log into the experiments on <https://myhol.holscience.com>. There are 4 experiments associated with <https://myhol.holscience.com>. The finished lab report will be saved as a pdf and submitted to the appropriate site on Canvas Assignments. You **MUST** wear eye protection during ALL experiments! Glassware can be dangerous if it shatters and flies towards your eyes. Lab Reports are due one week after completion, see the class calendar. Be sure you give the bookstore a valid shipping address. If you live outside the U.S., please let me know right away. When you receive your kit, take inventory that all parts are present. There may be no gloves in the kit due to the pandemic. You may need to supply your own. There is also a list of items you must supply as a student that are not in the kit. Do your best in gathering these items before the date of the lab where they are used. Let your instructor know if you have difficulties.
- Late Lab Penalty:** Late labs will incur a one (1) point penalty for each **day** past due date
- Smart Phone:** A smart phone or similar device will be extremely useful. You will need to submit photos and documents in pdf format.
- Canvas:** We will use canvas as part of this class.
- ZipGrade:** We will use ZipGrade to record your quiz and exam responses. You will need to get an account in ZipGrade.com. You can get a phone app also. Use this link to create a ZipGrade account for the Student Portal. <https://www.zipgrade.com/s/> I will send you the access code.
- Important Dates:**
- January 3: First day of winter quarter
 - January 15: Last day to add classes
 - January 17: Last day to drop classes without a W
 - January 17: Martin Luther King Jr. Holiday - no classes, offices closed
 - January 28: Last day to request "Pass/No Pass"
 - February 18-21: Presidents' Holiday - no classes, offices closed
 - February 25: Last day to drop classes with a W
 - March 1: Last day to file for fall degree or certificate
 - March 21-25: Final Exams
- Final Grades:** Your Official Final Grade will be posted by De Anza College. I will **not** be posting the grade or giving it out by email. Please keep track of your own grades. I will return all graded Labs, Quizzes and Exam.
- Lab Report:** Your lab reports will consist of two reports posted in Canvas modules and 4 reports from <https://myhol.holscience.com>. These 4 reports are based on the HOL experiments. The HOL reports will be uploaded as a pdf document to Canvas in the designated area. Along with your lab report you need to upload a photo of your lab set up. Lab reports are due one week after the Experiment is assigned. All 7 labs count towards your grade. Late labs will incur a penalty. You **MUST** wear eye protection during lab!

Lab Safety: Follow the safety guidelines provided in your HOL lab kits. **Always be safe.**

- **Be sure to keep any chemicals out of reach of children and pets.**
- **Never use any of the HOL lab equipment for food purposes no matter how much you have cleaned it.**
- **Please properly dispose of all chemicals after the quarter is over. Do not keep any chemicals.**

Academic Dishonesty:

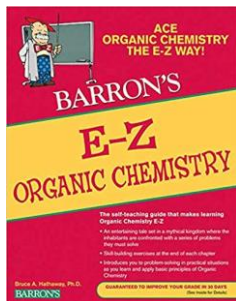
"Academic dishonesty is a serious offense, which includes but is not limited to the following: cheating, complicity, fabrication and falsification, forgery, and plagiarism. Cheating involves copying another student's paper, exam, quiz or use of technology devices to exchange information during class 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."

Please Do Not Cheat. Cheating invalidates your, your classmates and your instructor. I am trusting you to do your own work on all quizzes, exams and experiments. You are preparing to be a professional. Now is the time to behave like one. Be honest in everything.

Word Processing: If you are looking for a **free** word processor compatible with WORD, checkout www.openoffice.org .

Scanning App: The app [Scannable](#) is free and does a great job with your smart phone.

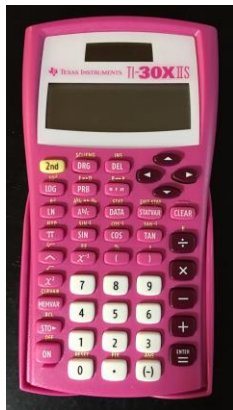
Help: This book may help. It is available from Amazon.com for about \$15.00. "E-Z Organic Chemistry" (Barron's Easy Series) Fifth Edition by Bruce Hathaway Ph.D. (Author). See Image Below.



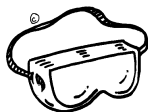
Tutor Help: If you need help with any aspect of this course, please contact your instructor first. You can also contact the Student Success Center at <http://www.deanza.edu/studentssuccess/> to get help with tutoring or with reading, and writing, tutoring or academic skills. Please use this resource.

{Always Be Kind}**Calculator:**

You still need a simple scientific calculator not associated with your mobile phone for exams. It will cost about \$19.00. My preference is the Texas Instruments Fundamental, Two-Line Scientific Calculator, 30XII. I would buy a color other than black. Black ones tend to disappear. Put your name and phone number on your calculator for its return if it is lost. See image below.

**Eye Protection:**

You must wear full goggles that are provided by the **SI (Science Interactive) Kits**. Without them, you should **never** participate in lab. Anyone near you should also wear safety goggles. If you purchase goggles, be sure they fit over your prescription eyeglasses and have an ANSI rating of Z87+D3 for protection against chemical spills and impact. Your prescription eyeglasses are **NOT** appropriate protection. You must also use Safety Goggles over them.

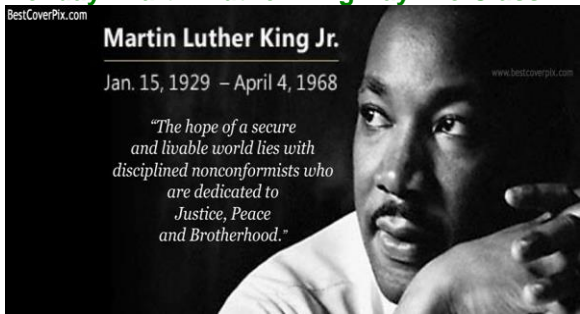


Changes to Syllabus: This syllabus may change according to the instructor and the needs of the class. Please check with the syllabus posted.

Class Calendar

Chem 30B:30Z,31Z W22

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Date Mon	Lecture Lab	Date Wed	Lecture
3 Jan	Intro to Course and Lab Ch. 11: Intro to Organic Molecules and Functional Groups 30Z: Lab: Introduction 30Z SI Getting Started 30Z SI Laboratory Safety	5 Jan	Ch. 11: cont. Ch. 12: Alkanes 31Z: Lab: Introduction 31Z SI Getting Started 31Z SI Laboratory Safety
10 Jan	Ch. 12: cont. Ch. 13: Unsaturated Hydrocarbons 30Z-L1: Alkanes-ZipGrade Quiz 1: Ch. 11	12 Jan	Ch. 13: cont. Ch. 14: Organic Compounds That Contain Oxygen, Halogen or Sulfur 31Z-L1: Alkanes-ZipGrade Quiz 2: Ch. 12 Quiz 1 due in ZipGrade by 11:30pm
17 Jan	Holiday: Martin Luther King Day: No Class 	19 Jan	Ch. 14: cont. No Lab Lecture for 30Z & 31Z Quiz 3: Ch. 13 Quiz 2 due in ZipGrade Everyone-Order SI Lab Kit from Bookstore (FREE) 30Z & 31Z: L1 due in ZipGrade by 11:30pm on 1/23 30Z & 31Z SI Getting Started & Laboratory Safety due in Canvas assignments on 1/23
24 Jan	Review for Exam 1 30Z-L2: Alkenes, Alkynes and Aromatics-ZipGrade Quiz 4: Ch. 14 Quiz 3 due in ZipGrade by 11:30pm ***Quiz 4 due in ZipGrade 25 Jan by 11:30pm	26 Jan	31Z-L2: Alkenes, Alkynes and Aromatics-ZipGrade 30Z & 31Z Exam 1: Ch. 11-14 in ZipGrade by 11:30pm
31 Jan	Ch. 15: The Three-Dimensional Shape of Molecules Quiz 5: Ch. 15 30Z L3: SI Kit: Synthesis and Analysis of Soap	2 Feb	Ch. 15: cont. Ch. 16: Aldehydes and Ketones Quiz 6: Ch. 16 Quiz 5 due in ZipGrade by 11:30pm 30Z,31Z: L2 due in ZipGrade on 2/6 31Z L3: SI Kit: Synthesis and Analysis of Soap

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7 Feb	Ch. 16: cont. Ch. 17: Carboxylic Acids, Esters, and Amides 30Z L4: SI Kit: Hydrolysis and Acetylsalicylic Acid Quiz 6 due in ZipGrade by 11:30pm	9 Feb	Ch. 17: cont. Ch. 18: Amines and Neurotransmitters Quiz 7: Ch. 17 30Z,31Z: L3 Soap due in Canvas assignments on 2/13 31Z L4: SI Kit: Hydrolysis and Acetylsalicylic Acid
14 Feb	Review for Exam 2 30Z L5: SI Kit: Extraction of DNA Quiz 7 due in ZipGrade by 11:30pm	16 Feb	Ch. 18: cont. 31Z L5: SI Kit: Extraction of DNA Quiz 8: Ch. 18 31Z31Z: Acetylsalicylic acid due in Canvas assignments on 2/20
21 Feb	Holiday: President's Day No Class	23 Feb	30Z & 31Z Exam 2: Ch. 15-18 by 11:30pm
28 Feb	Ch. 19: Lipids Ch. 20: Carbohydrates 30Z L6: SI Kit: Enzymes: Temperature, pH, and Specificity Quiz 9: Ch. 19 Quiz 8 due in ZipGrade by 11:30pm	2 Mar	Ch. 20: cont. Ch. 21: Amino Acids, Proteins, and Enzymes 31Z L6: SI Kit: Enzymes: Temperature, pH, and Specificity Quiz 10: Ch. 20 Quiz 9 due in ZipGrade by 11:30pm 30Z,31Z: DNA due in Canvas assignments on 3/6
7 Mar	Ch. 21: cont. Ch. 22: Nucleic Acids and Protein Synthesis 30Z: Review for Lab Final Quiz 11: Ch. 21 & Ch. 22 (20 pts) Quiz 10 due in ZipGrade by 11:30pm	9 Mar	Ch. 23: Metabolism and Energy Production Ch. 24: Carbohydrate, Lipid, and Protein Metabolism 31Z: Review for Lab Final Quiz 12: Ch.23 & Ch.24 (20 pts) Quiz 11 due in ZipGrade by 11:30pm 30Z,31Z Enzymes due in Canvas assignments on 3/13
14 Mar	Review for Exam 3 and Final 30Z & 31Z Lab Final in ZipGrade by 11:30pm Quiz 12 Due in ZipGrade by 11:30pm	16 Mar	30Z & 31Z Exam 3: Ch. 19-24 in ZipGrade by 11:30pm
21 Mar	30Z & 31Z Final Exam: Chap 11-24 in ZipGrade by 11:30pm	23 Mar	No Class

Student Learning Outcome(s):

*Differentiate the general reactions of the principle organic functional groups.

*Evaluate the major classes of biological compounds from a chemical perspective.