Introduction to General, Organic and Biochemistry II
(Chem. 30B.30Z, W21) Syllabus

Lecture: Mon & Wed 5:30 PM – 7:20 PM – Zoom Link (code: JRMCHEM)
https://fhda-edu.zoom.us/j/99838323813

Lab: Mon. 7:30-10:20 PM (7:30-8:20 synchronous) Zoom Link (code: CHEMISTRY)
https://fhda-edu.zoom.us/j/98616719505

Office Hours: Mon & Wed. 4-5 pm – Zoom Line (code: 94587) https://fhda-edu.zoom.us/j/95657586281

One-On One Zoom meeting, link upon request.

{Always Be Kind}

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

Office Hours: Monday & Wednesday: 4-5pm, Zoom 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 11 & 12 =20 pts. each, Q 11 & 12 cannot be dropped)	120 points
7 Labs (20 pts.)	140
Lab Final (100 pts)	100
3 Exams (100 pts each)	300
1 Final (200 pts)	200
Total	**860 points**

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

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

{Always Be Kind}

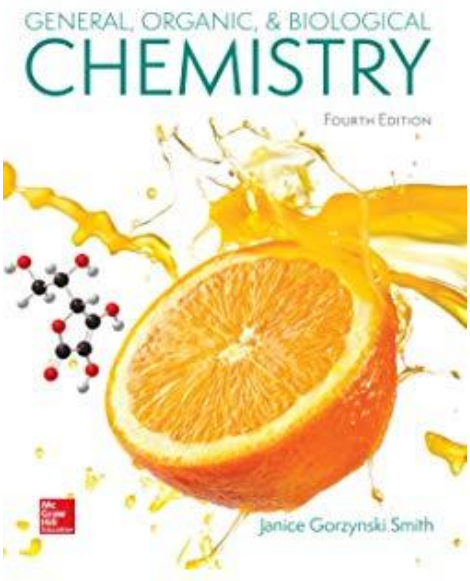
Attendance: **You MUST attend class on the first day of the quarter and the first two weeks or you will be dropped.** Your attendance is urged for all lectures and required for all quizzes, exams and labs. Unexcused exam, quiz and lab absences score 0. It is the responsibility of the student to contact 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 class 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.**

Text: ***General, Organic and Biological Chemistry***, Janice G. Smith, 4rd ed., 2016, McGraw-Hill. See image below. To purchase an online version from McGraw Hill use: Chem 30B-ISBN: 9781307601626-$30



Lab Text: ***On Line; HOL (Hands on 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 eperiments***

Labs: All 7 labs count towards your grade. No make-up labs. Late labs will incur a penalty. You will be able to order your HOL Lab Kit directly from the Bookstore (no charge to you) on the January 19, 2021. You will receive a kit containing 4 labs. Be sure to save the code number on the box. You need it for the to log into the experiments on https://myhol.holscience.com. There are 4 experiments associated with https://myhol.holscience.com. The links will be on Canvas. You **MUST** wear eye protection during labs that use chemicals! If you miss a lab, you may receive half credit if you complete the lab write up.

Lab Reports are due one week after completion. 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 are no gloves due to the pandemic. You must supply your own. There is also a list of items you must supply as a student. Do your best is gathering these items. Let your instructor know if you have difficulties.

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. You can get a phone app also.

CATQR: We will use CATQR to take attendance the first two weeks. Please download the app to your phone and create an account.

Important Dates:

January 4 First day of winter quarter
January 18 Martin Luther King Jr. Holiday – No Class
February 12-15 Presidents' Holiday – No Class
February 26 Last day to drop classes with "W"
March 1 Last day to file for winter degree or certificate
March 22-26 Final exams
March 26 Last day of winter quarter

Final Grades: Your Official Final Grade will be posted by DeAnza 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.**

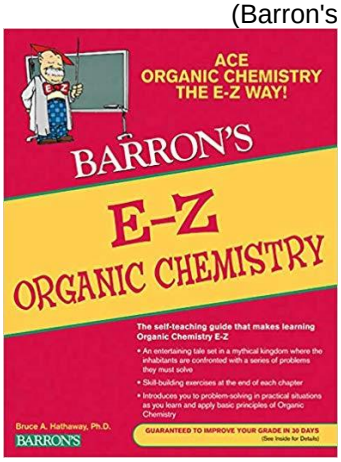
Academic Dishonesty: "Academic dishonesty is a serious offense, which includes but is not limited to the following: cheating, complicity, fabrication and falsification, forgery, and plagiarism. Cheating involves copying another student's paper, exam, quiz or use of technology devices to exchange information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

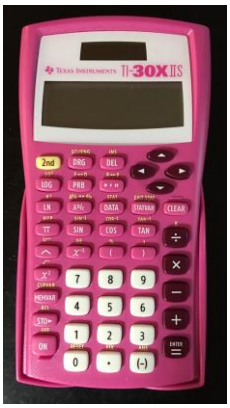
Scanning App: The app *Scannable* is free and does a great job with your smart phone.

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/studentsuccess/ to get help with tutoring or with reading, and writing, tutoring or academic skills. Please use this resource.

Calculator: You still need a simple scientific calculator not associated with your mobile phone for exams. It will cost about $15.00. My preference is the Texas Instruments Fundamental, Two-Line Scientific Calculator, 30XII. I would buy a color other than black. 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 **HOL (Hands On Lab) Kits**. Without them, you should **never** participate in lab.

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

{Always Be Kind}

Date Mon Lecture Lab		Date Wed Lecture	
4 Jan	Intro to Course and Lab Ch. 11: Intro to Organic Molecules and Functional Groups **Lab 1: Alkanes** **HOL Getting started and Lab Safety (No Points. Must complete before Lab 3 can begin) Due 20 Jan**	6 Jan	Ch. 11: cont. Ch. 12: Alkanes
11 Jan	Ch. 12: cont. Ch. 13: Unsaturated Hydrocarbons **Lab 2: Alkenes and Alkynes** **Quiz 1: Ch. 11** **Lab 1: Alkanes DUE**	13 Jan	Ch. 13: cont. Ch. 14: Organic Compounds That Contain Oxygen, Halogen or Sulfur **Quiz 2: Ch. 12**
18 Jan	**Holiday: Martin Luther King Day** **No Class**	20 Jan	Ch. 14: cont. **Quiz 3: Ch. 13** **HOL Getting Started and Laboratory Safety should be completed by this date or earlier**
25 Jan	Review for Exam 1 **Quiz 4: Ch. 14** **Lab 3: Organic Compounds with Oxygen, Halogen, or Sulfur** **Lab 2: Alkenes and Alkynes Due**	27 Jan	**Exam 1: Ch. 11-14**
1 Feb	Ch. 15: The Three-Dimensional Shape of Molecules **Quiz 5: Ch. 15** **Lab 4: HOL Hydrolysis of Acetylsalicylic acid** **Lab 3: Organic Compounds with Oxygen, Halogen or Sulfur DUE**	3 Feb	Ch. 15: cont. Ch. 16: Aldehydes and Ketones **Quiz 6: Ch. 16**
8 Feb	Ch. 16: cont. Ch. 17: Carboxylic Acids, Esters, and Amides **Lab 5: HOL Synthesis and Analysis of Soap** **Lab 4: HOL Hydrolysis of Acetylsalicylic acid DUE**	10 Feb	Ch. 17: cont. Ch. 18: Amines and Neurotransmitters **Quiz 7: Ch. 17**
15 Feb	**Holiday: President's Day** **No Class**	17 Feb	Ch. 18: cont. **Quiz 8: Ch. 18**
22 Feb	Review for Exam 2 **Lab 6: HOL Enzymes: Temperature, pH, and Specificity** **Lab 5: HOL Synthesis and Analysis of Soap DUE**	24 Feb	**Exam 2: Ch. 15-18**
1 Mar	Ch. 19: Lipids Ch. 20: Carbohydrates **Lab 7: HOL Extraction of DNA** **Quiz 9: Ch. 19** **Lab 6: HOL Enzymes: Temperature, pH, and Specificity DUE**	3 Mar	Ch. 20: cont. Ch. 21: Amino Acids, Proteins, and Enzymes **Quiz 10: Ch. 20**

8 Mar	Ch. 21: cont. Ch. 22: Nucleic Acids and Protein Synthesis **Quiz 11: Ch. 21 & Ch. 22 (20 pts)** **Lab 7: HOL Extraction of DNA DUE**	10 Mar	Ch. 23: Metabolism and Energy Production Ch. 24: Carbohydrate, Lipid, and Protein Metabolism **Quiz 12: Ch.23 & Ch.24 (20 pts)**
15 Mar	Review for Exam 3 and Final **Lab Final**	17 Mar	**Exam 3: Ch. 19-24**
22 Mar	**Final Exam: Chap 11-24 @ 6:15-8:15 pm**	25 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.