

DEPARTMENT OF CHEMISTRY

Online Organic Chemistry II (CHEM 2410; CRN 16144; 3 credits) Spring 2020

Note: changes/updates are highlighted in yellow

Instructor: Dr. Joan Mutanyatta-Comar
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E-mail: jmutanyattacomar@gsu.edu
Office hours: **ONLINE (via iCollege WebEx), MWF: 10:30 am – 1:30 pm.**
Any other time by appointment. Please email me.

Lecture: **MWF 9:30 am – 10:20 am. ONLINE**
Watch assigned YouTube Videos uploaded on iCollege and write notes.

Required Text: 1. “Organic Chemistry: 9th Ed, by John McMurry
Chapters **14-24** will be covered at a rate of approximately **one chapter per week.**
Purchase from bookstore or online.
ISBN: 978-1-305-63871-6

2. Preparing for Your ACS Examination in Organic Chemistry: The Official Guide, ISBN 0-9708042-1-0
Purchase from GSU bookstore or from GSU Chem club

Optional Text: 1. Organic Chemistry I & II: A Student Workbook”, ISBN # 978-0-7575-8271-4, By Keith O. Pascoe

2. Organic Chemistry II as a Second Language, 2nd Ed, by David Klein
ISBN -13 978-0470-12929-6
Purchase online

Prerequisite: Organic Chemistry I (CHEM 2400) with a C or higher.

Communication:

- 1. Please send emails to me from your GSU e-mail account only.**
(e.g., jcole1@student.gsu.edu). Please put the course name in the subject of your email. **(Please do not email me from iCollege).**
- 2. Please check iCollege daily for class announcements and updates**

Course Introduction:

Organic chemistry has great relevance for all students in STEM disciplines. It is important for biologists and health professionals because nearly all of biochemistry involves the organic chemistry you'll learn in this class. For chemical engineers, understanding the properties of organic molecules and how reactions occur is critically important to understanding the processes in an industrial plant. Even if you don't buy the relevance of this class to your field, organic chemistry teaches important problem-solving skills that are directly relevant to all scientists, engineers, and health professionals.

Learning Outcomes: Students in this class will:

- Gain an understanding of how to determine the structure of organic molecules using ^1H and ^{13}C NMR spectroscopy.
- Demonstrate understanding of the properties and reactivity of important functional groups including conjugated π -systems, aromatic compounds, alcohols, phenols, ethers, epoxides, thiols, sulfides, nitriles, amines, and carbonyl compounds.
- Be able to write detailed mechanisms for important reaction classes: electrophilic aromatic substitution reactions and carbonyl nucleophilic additions, substitution and condensation reactions.
- Analyze and plan multi-step syntheses of organic compounds.
- Apply knowledge gained from class to solve problems.
- Demonstrate inquiry skills that will enable them to formulate questions and to develop explanation of organic concepts.
- Demonstrate confidence as independent thinkers and life-long learners.

Grading Scheme:

- **Four in-course exams** will be given during the semester. At the end of the semester, the lowest grade will be dropped. The average score from the remaining three exams will count **65% of your final grade**. You are strongly encouraged to take all four 'in-course' exams. **NO make-up exams will be given. If you miss an exam, that will count as your drop exam. Exams 3 and 4 will be done online.**
- **Eleven online quizzes** will be given during the semester. At the end of the semester, the lowest grade will be dropped. The average score from the remaining ten quizzes will count for **10% of the final grade**. You are strongly encouraged to take all eleven quizzes. **NO make-up quizzes will be given. If you miss a quiz, that will count as your drop quiz.**
- **Eleven homework assignments** will be given during the semester. At the end of the semester, the lowest grade will be dropped. The average score from the remaining ten homework assignment will count for a total of **5% of the final grade**. You are strongly encouraged to take all eleven assignments.
- There will be a **final exam which will count 20% of the final grade**. **The final exam will be cumulative and will consists of material covered in both Organic Chemistry I & II.**

Tentative Letter Grades:

A+	=	95%
A	=	90%
A-	=	87%
B+	=	84%
B	=	80%
B-	=	77%
C+	=	74%
C	=	70%
C-	=	67%
D	=	60%
F	=	< 60%

Note: CHEM 2410 is a prerequisite for Biochemistry. A grade of "C" or higher in CHEM 2410 is required for registration into Biochemistry (CHEM4600).

Impt. Dates:	Jan.	13 th	Classes begin
	Jan.	20 st	Martin Luther King Jr. Holiday
	Mar.	3 rd	Last day to withdraw with grade "W"
	Mar.	16 th - 29 th	Extended Spring Break
	April	27 th	Last day of class
	May	1 st	Final Exam: Friday, (8:00 am – 9:50 am, 1 hr 50 min.), ONLINE

Tentative Teaching Schedule:

Note: This calendar is subject to change with prior notice, at the instructor's discretion

Wk. #	Wk. Of:	M	W	F
01	Jan 13	Lecture	L	L + HW1 Due + Quiz 1
02	20	MLK Holiday	L	L + HW2 Due + Quiz 2
03	27	L	L	L + HW3 Due + Quiz 3
04	Feb 03	L	Exam 1	L
05	10	L	L	L + HW4 Due + Quiz 4
06	17	L	L	L + HW5 Due + Quiz 5
07	24	L	Exam 2	L
08	Mar 02	L	L	L + HW6 Due + Quiz 6
09	09	L	L	L + HW7 Due + Quiz 7
10	16	H	H	H
11	23	H	H	H
12	30	L	L	Exam 3
13	Apr 06	L	L	L + HW8&9 + Quiz 8&9
14	13	L	L	L + HW10 Due + Quiz 10
15	20	L	L	L + HW11 Due + Quiz 11
16	27	Exam 4	NO CLASS	Final Exam

L = Lectures 9:30-10:20 am. Please watch YouTube Videos uploaded on iCollege and write notes in your notebooks during this time. In order to keep everyone on track, each assigned video will have a date indicating when you should watch it and write notes. I

will also post an announcement on iCollege (on Sunday/Tuesday/Thursday) to let you know which videos to watch for Monday, Wednesday and Friday

Quizzes and Exams will be online. Some homework may be handwritten and will be submitted online for grading.

Remaining Topics to be Taught Online (John McMurry, 9th edition)

The following remaining chapters (highlighted in yellow) will be taught online using YouTube Videos.

1. Chapter 13: Structure Determination: Nuclear Magnetic Resonance Spectroscopy
2. Chapter 14: Conjugated Compounds, Ultraviolet Spectroscopy
3. Chapter 15: Benzene and Aromaticity
4. Chapter 16: Chemistry of Benzene: Electrophilic Aromatic Substitution
5. Chapter 17: Alcohols and Phenols
6. Chapter 18: Ethers and Epoxides; Thiols and Sulfides
7. Chapter 19: Aldehydes and Ketones: Nucleophilic Addition Reactions
8. Chapter 20: Carboxylic Acids and Nitriles
9. Chapter 21: Carboxylic Acid Derivatives: Nucleophilic Acyl Substitution Reactions
10. Chapter 22: Carbonyl Alpha-Substitution Reactions
11. Chapter 23: Carbonyl Condensation Reactions
12. Chapter 24: Amines and Heterocycles

Notes:

Final grades are only available on PAWS/GoSolar. They will not be posted on iCollege. Please note that grades cannot be given to students by phone or email.

Class Preparation: Students are **expected** to write all assigned class notes from YouTube videos uploaded on iCollege. Students are solely responsible for the timely completion of all assignments.

Chemistry Departments Student Integrity Policy: The Department of Chemistry follows the University policy on academic honesty published in the “Faculty Affairs Handbook” and the “On Campus: The Undergraduate Co-Curricular Affairs Handbook”. All tests taken must represent the student’s individual, unaided effort. To receive or offer information during any examination will be considered cheating. Any suspected offense may be referred to the Department’s Chairman for appropriate action.

Class will never be cancelled unless an official from the Chemistry Department gives the class personal notification. Don’t assume a note to be enough without checking the Department’s office.

The University requires that faculty members must, on a date after the mid-point of the course to be set by the Provost (or his designee)

1. Give a **WF** to all students who are on their rolls but are no longer taking the class and
2. Report the last day the student attended or turned in an assignment. Students who are withdrawn may petition the Departmental Chair for reinstatement into their classes.

NOTE:

- ✓ **If you are caught cheating during any exam, you will receive “F” for the course.**
- ✓ **No programmable calculators will be allowed during the exam.**

Athletes:

You **MUST** bring proper documentation to your instructor, **BEFORE** you leave for a game/tournament to be able to make-up the work for that week. Tournaments are scheduled months in advance so there is no excuse to not have provided proper documentation before the event.

Keys for success in organic chemistry:

Students who do well in organic chemistry possess the following characteristics:

- **Complete assigned class notes on iCollege on time:** There is a very good correlation between students who complete assigned tasks on a timely manner and how well a student will do in this course. Some students may be able to teach themselves from the book, but generally, students who struggle most rarely complete assigned tasks on time.
- **Are prepared:** You will get the most out of class if you have read the sections to be covered that day.
- **Ask questions:** If you don't understand something, ask the instructor during online office hours.
- **Keep up:** This course is cumulative and covers a lot of content. You will find it much easier if you study a little bit each week, or even better after each lecture. Study however you find most useful: flashcards, review outlines, practice problems, reaction lists, etc.
- **Practice, Practice, Practice:** Organic chemistry, like any skill, is best learned by doing. The best possible advice is to work as many example problems as you can find. **Start with assigned questions from the textbook, followed by ungraded worksheets on iCollege, then ACS study guide, recommended workbook, SI worksheets,** but also look for other sources of problems if you need to. When working problems, make sure that you understand why the correct answer is the right one.
- **Learn fundamental concepts:** Organic chemistry is very difficult to learn by rote

memorization. If you understand the concepts, you will find it much easier to keep track of the large amount of information, and more importantly be able to apply it on the tests. Again, practice, practice, practice!!!.

- **Get help early if they need it:** If you get behind, it can be very difficult to catch up. If you feel you are falling behind, increase your effort. Make use of the FREE STEM Tutoring Center. I am happy to work with you during online office hours. If you feel you need more extensive help, consider hiring a tutor. I can recommend some excellent tutors but a list of active tutors is also available from the Chemistry Department web page.
- **Make extensive use of FREE support services:** office hours, SI sessions, STEM Tutoring Center, Student Support Services (SSS)-STEM (contact: Deidre Steed, dsteed1@gsu.edu, 404-413-1682, in person: 145 sparks Hall).

***Students requiring testing accommodations:** Students who wish to request testing accommodations may do so by registering with the **A**ccess & **A**ccommodations **C**enter (**AACE**). Students may only be accommodated upon issuance by AACE of a signed Accommodation Plan and are responsible for providing a copy of that plan to instructors of all classes in which an accommodation is sought.

***A student who intends to observe a religious holy day should make that intention known in writing to the instructor prior to the absence. A student who is absent for the observance of a religious holy day shall be allowed to take an exam or complete an assignment scheduled for that day within a reasonable time after the absence.**

***Your constructive assessment of this course plays an indispensable role in shaping education at Georgia State. Upon completing the course, please take time to fill out the online course evaluation.**

***Deviations from this syllabus may be required.**