CHEM 2444 Organic Chemistry II **Fall 2021**

TENTATIVE SYLLABUS

CONTACT:

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CLASSES:

M,W,F
9:05 am – 9:55 am
CHEM A120

STUDENT HOURS:

M/Th 12:00 – 1:00 pm
or by appointment—CHEM A 315
or https://uconn-cmr.webex.com/meet/arh02008

STUDENT HOURS:

All students are welcome to participate. Student hours are not just for asking questions related to homework/tests! We can talk about approaches to studying for this and other classes, about succeeding in college, dealing with challenges, etc. I want you to be successful!

MATERIALS:

Text: Marc Loudon and Jim Parise, Organic Chemistry, 6th Ed.
iClicker or Reef polling

OBJECTIVES:

At the end of the semester, students should be able to:

a. correlate structural features of small organic molecules with physical properties.

** incorporate data from multiple streams into a cohesive model through a guess-test-analyze approach.*

Spectroscopy (NMR, UV, IR)
- analyze signals/spectra and correlate to structural features
- predict structures from spectral data

Mass Spectrometry

b. predict the products of organic reactions.

** apply rules from familiar examples to a new situation by analogy.*

Nucleophilic acyl substitution
Nucleophilic addition
Electrophilic aromatic substitution
Sigmatropic rearrangements (if time permits)

c. draw step-by-step mechanisms for reactions using curved arrow notation to show electron flow.

d. explain the driving force(s) behind a reaction.

** demonstrate understanding of complex phenomena through writing, drawing, and discussion.*

MO theory
Catalysis
Intermolecular association
Nucleophilicity/electrophilicity

e. apply the understanding of reactivity by designing syntheses of target molecules.

** organize information logically so that it can be applied to a target objective.*

f. connect principles from organic chemistry to biochemistry

** extend concepts from one area to see its connections with an [apparently] disparate area.*

Carbohydrates
Metabolism
Nucleic acids

**general skills – how organic chemistry is relevant beyond this class.*

Exams: Four exams will be given on the dates below (subject to slight changes). There will also be a **comprehensive** final exam. NO MAKE-UP EXAMS WILL BE GIVEN. If you miss any exam with an **excused** absence, the portion of the final that is related to the missed exam will be used to calculate a missed exam score. Quarantined students will be able to take the exams at the same time as the rest of the class!
BRING A UCONN ID TO THE EXAMS.

Friday, September 24
Friday, October 15
Monday, November 8
Monday, December 6
Final Exam, week of December 13

Regrading of examinations: If you wish to have an examination re-graded, please submit the exam to me with a brief written explanation of what you would like to be re-graded. Please note that the entire exam will be re-graded. Thus, it is also possible that your score will decrease. Any requests for re-grading **must** be received within 72 hours from when the exam is returned to the class.

GRADES:

Scoring Opportunities.

	Points	%
Participation	100	10
Quizzes	100	10
Exam 1	150	15
Exam 2	150	15
Exam 3	150	15
Exam 4	150	15
Final Exam	200	20
Total (TO)	1000	100

Bonus points from worksheets- Maximum 20

A breakdown of how scores are converted to grades is given below.

Grade	%	Score
A	100-93	1000-930
A-	92-90	924-900
B+	89-87	894-870
B	86-83	864-830
B-	82-80	824-800
C+	79-76	794-760
C	75-72	754-720
C-	71-66	714-660
D	65-60	654-600
F	<60	<594

Participation: Reasonable completion (≥80%) of iClicker responses and in-class worksheets = full credit (100 points/10%). Lower participation (< 80%) will scale directly: e.g. if there were 87 participation points and you got 70 (80% of the points), your participation score would be 100; if you had 65 points, your participation score would be 65/70 X 100 (93 points). Please note that the iClicker frequency for CHEM A120 is AA.

Quizzes: There will be seven quizzes throughout the semester. Each quiz will be 20 points. The total score of the *best five quizzes* will be used to calculate your quiz total. Quizzes are largely homework based. **Since your lowest two quiz scores are dropped, no make-up quizzes will be given (because of the nature of this semester, if you miss more than one quiz we will figure out an appropriate course of action)**. Please note that students who are under quarantine will be able to take quizzes at the same time as the class.

Homework/Reading Assignments Reading assignments and suggested problems will be posted on HuskyCT for each class.

Problem Sessions: There will be worksheets for most chapters we cover. We will work on these in the optional discussion sections (there will not be a session every week—there will be approximately 8 sessions). Each worksheet done "in person" will be worth 4 points to a maximum of 20 points that can be used as a bonus (see course scoring above). More information on this will be given the first week of class.

Old Exams: Practice exams will be available on HuskyCT before each exam.

University support services on campus that stand ready to assist you:
Counseling and Mental Health Services
Academic Achievement Center
Dean of Students Office
Title IX Office

Please be aware:
Cheating and Plagiarism: Cheating and plagiarism are considered to be serious problems, and the sanctions outlined in the Student Conduct Code will be followed in the event that any cases arise. Note that the Student Code states, ***"The appropriate academic consequence for serious offenses is generally considered to be failure in the course."***

Information on University policies for handling cased of academic misconduct can be found at: Student Academic Misconduct

Religious Holiday Observance: *For Absence of students due to religious beliefs see: Statement on Absences from Class Due to Religious Observances and Extra-Curricular Activities.*

From the Dean of Students office regarding finals: Final assessment week for fall 2021 takes place from Monday, December 13th through Sunday, December 19th. Students are required to be available for their exam and/or complete and assessment during the stated time. If you have a conflict with this time you must work with the Dean of Students Office to address the possibility of rescheduling this assessment.
The Dean of Students Office REQUIRES that students who have a conflict about which they have or should have had advanced notice (bunched, religious obligation, legal/medical appointments…) MUST seek permission to reschedule their assessment.
Please note that vacations, previously purchased tickets or reservations, graduations, social events, misreading the assessment schedule and over-sleeping are not viable excuses for missing a final assessment. If you think that your situation warrants permission to reschedule, please contact the Dean of Students Office.

Masking and Social Distancing: As you are aware, until further notice, to ensure a safe learning environment for everyone, masks/face coverings must be worn at all times in the classroom, regardless of vaccination status. If a student is not wearing a mask/face covering, they will be asked to put one on immediately or leave the classroom. Repeatedly failing to follow this expectation will result in a referral to Community Standards. *Please note that, even though we are meeting early in the day (!), activities that involve temporarily removing the mask, such as eating or drinking are not allowed.* More information about proper usage of masks is available from UConn Environmental Health and Safety at this link.

Although *social distancing* will not be required inside classrooms for vaccinated individuals, please be respectful of the wishes of others who prefer to maintain social distancing. For their own protection, unvaccinated individuals are requested to maintain 6 feet social distancing from others.

Study Skills for Organic Chemistry:

- Work problems regularly. You will be assigned problems with each chapter. After reading the chapter and going over your notes, work the problems without consulting the solutions manual and without using the book or notes. When you have completed the problems, you can put your problems away and look at your book/notes again to try to increase your understanding. Try the problems again. If you still don't understand a problem or concept, ask!!
- When working assigned problems with multiple parts, it is a good idea to leave some parts un-worked and return to those later. Work those parts at a later date without notes or other aids. That will be a good indicator of how well you understand those concepts.
- Keep up to date!
- Look for patterns. By the end of the course, we will have covered many new facts and ideas. It is much easier to recall and use these concepts if you have organized them in a logical manner in your own mind. Index cards can be helpful for organizing material.
- Working in small study groups has been shown to be very useful in the past. You will know you understand a concept when you can explain it in such a way that someone else understands it!

Some things to keep in mind about learning:

- When learning is easy it is often superficial and soon forgotten
- Not all of our intellectual abilities are hardwired. In fact, when learning is effortful, it changes the brain, making new connections and increasing intellectual ability.
- You learn better when you wrestle with new problems before being shown the solutions, rather than the other way around

An exercise worth doing after each class:
Free recall. Spend ten minutes at some point on the day of a lecture with a blank piece of paper on which to write everything you can remember from class. You must sit 10 minutes. *After* 10 minutes, go back to your class notes and see what you remembered and what you forgot. Focus on the material you forgot. This exercise helps you pull learning forward and develop a more complex understanding of how the material interrelates (idea taken from *Make it Stick: The Science of Successful Learning*)

Table. Course objectives organized by topics covered.

		Objectives					
Topic	**Sections**	**a**	**b**	**c**	**d**	**e**	**f**
Organic Reactions & Synthesis I							
Introduction to Aromaticity	15.6-15.8,	✔	✔		✔		
Electrophilic Aromatic Substitution/Benzylic Reactivity	16, 17		✔	✔	✔	✔	
Spectroscopy/spectrometry							
Nuclear Magnetic Resonance (NMR)	13	✔					
Mass Spec, UV, IR	12	✔					
Carbonyl Chemistry and Synthesis II							
Organometallic Compounds	9.8		✔		✔		
Carbonyl Additions	19		✔	✔	✔	✔	
Carboxylic Acids/Nucleophilic Acyl Substitution	20/21		✔	✔	✔	✔	
Enolates/Enols/α,β-Unsaturated Carbonyl Compounds	22		✔	✔	✔	✔	
Selected Topics Below if Time Permits							
Organic Reactions							
Transitional Metal mediated reactions	18.5,18.6		✔	✔	✔	✔	
Pericyclic Reactions	28	✔	✔	✔	✔		
Organic Reactions in Biological Systems							
Carbohydrates	24	✔	✔	✔			✔
Amines and Peptide Synthesis	23, 27						✔

Accommodations for Illness or Extended Absences: *Please stay home if you are feeling ill and please go home if you are in class and start to feel ill.* If illness prevents you from attending class, it is your responsibility to notify your instructor as soon as possible. You do not need to disclose the nature of your illness, however, you will need to work with your instructor to determine how you will complete coursework during your absence.
If life circumstances are affecting your ability to focus on courses and your UConn experience, students can email the Dean of Students at dos@uconn.edu to request support.
COVID-19 Specific Information: People with COVID-19 have had a wide range of symptoms reported – ranging from mild symptoms to severe illness. These symptoms may appear 2-14 days after exposure to the virus and can include:

- Fever,
- Cough,
- Shortness of breath or difficulty breathing
- Chills
- Repeated shaking with chills
- Muscle pain
- Headache
- Sore throat
- New loss of taste or smell

Additional information including what to do if you test positive or you are informed through contract tracing that you were in contact with someone who tested positive, and answers to other important questions can be found here: https://studenthealth.uconn.edu/updates-events/coronavirus/

Resources for Students Experiencing Distress. The University of Connecticut is committed to supporting students in their mental health, their psychological and social well-being, and their connection to their academic experience and overall wellness. The university believes that academic, personal, and professional development can flourish only when each member of our community is assured equitable access to mental health services. The university aims to make access to mental health attainable while fostering a community reflecting equity and diversity and understands that good mental health may lead to personal and professional growth, greater self-awareness, increased social engagement, enhanced academic success, and campus and community involvement.

Students who feel they may benefit from speaking with a mental health professional can find support and resources through the Student Health and Wellness-Mental Health (SHaW-MH) office. Through SHaW-MH, students can make an appointment with a mental health professional and engage in confidential conversations or seek recommendations or referrals for any mental health or psychological concern.

Mental health services are included as part of the university's student health insurance plan and also partially funded through university fees. If you do not have UConn's student health insurance plan, most major insurance plans are also accepted. Students can visit the Student Health and Wellness-Mental Health located in Storrs on the main campus in the Arjona Building, 4th Floor, or contact the office at (860) 486-4705, or https://studenthealth.uconn.edu/ for services or questions.

Mask and Social Distancing Expectations. To ensure a safe learning environment for everyone, masks/face coverings must be worn at all times when in the classroom. If a student is not wearing a mask/face covering, they will be asked by the instructor to put one on immediately or leave the classroom. Repeatedly failing to follow this expectation will result in a referral to Community Standards. If an instructor is not wearing a mask/face covering, students should feel comfortable asking the instructor to put one on immediately. More information about proper usage of masks is available from UConn Environmental Health and Safety at this link.

Additionally, we will observe 6 feet of physical distancing in the classroom at all times. Please make sure to sit only in chairs or desks that are marked with a green circle and checkmark, and do not rearrange furniture or stickers. The University has arranged classrooms and seating to maintain physical distancing. Using these visual cues will help keep us all safe.

Activities that involve temporarily removing the mask, such as eating or drinking are not allowed. Please leave the classroom for such activities.

Student Responsibilities and Resources. As a member of the University of Connecticut student community, you are held to certain standards and academic policies. In addition, there are numerous resources available to help you succeed in your academic work. Review these important standards, policies and resources, which include:

- The Student Code
    - Academic Integrity
    - Resources on Avoiding Cheating and Plagiarism

- Copyrighted Materials
- Credit Hours and Workload
- Netiquette and Communication
- Adding or Dropping a Course
- Academic Calendar
- Policy Against Discrimination, Harassment and Inappropriate Romantic Relationships
- Sexual Assault Reporting Policy

Students with Disabilities. The University of Connecticut is committed to protecting the rights of individuals with disabilities and assuring that the learning environment is accessible. If you anticipate or experience physical or academic barriers based on disability or pregnancy, please let me know immediately so that we can discuss options. Students who require accommodations should contact the Center for Students with Disabilities, Wilbur Cross Building Room 204, (860) 486-2020 or http://csd.uconn.edu/.

Blackboard measures and evaluates accessibility using two sets of standards: the WCAG 2.0 standards issued by the World Wide Web Consortium (W3C) and Section 508 of the Rehabilitation Act issued in the United States federal government." (Retrieved March 24, 2013 from Blackboard's website)

Software/Technical Requirements (with Accessibility and Privacy Information).
The software/technical requirements for this course include:

- HuskyCT/Blackboard (HuskyCT/ Blackboard Accessibility Statement, HuskyCT/ Blackboard Privacy Policy)
- Adobe Acrobat Reader (Adobe Reader Accessibility Statement, Adobe Reader Privacy Policy)
- Google Apps (Google Apps Accessibility, Google for Education Privacy Policy)
- Microsoft Office (free to UConn students through uconn.onthehub.com) (Microsoft Accessibility Statement, Microsoft Privacy Statement)
- Dedicated access to high-speed internet with a minimum speed of 1.5 Mbps (4 Mbps or higher is recommended).
- WebCam
- A free phone scanner app (for scanning in class exercises and quizzes for uploading to HuskyCT)
- Slack App
- Familiarity with using WebEx

For information on managing your privacy at the University of Connecticut, visit the University's Privacy page.

NOTE: This course has NOT been designed for use with mobile devices.

Help.
Technical and Academic Help provides a guide to technical and academic assistance.

This course uses the learning management platform, HuskyCT. If you have difficulty accessing HuskyCT, you have access to the in person/live person support options available during regular business hours through the Help Center. You also have 24x7 Course Support including access to live chat, phone, and support documents.

Student Technology Training. Student technology training is now available in a new HuskyCT short course created by students for students. It will prepare you to use the IT systems and services that you will use throughout your time at UConn, whether learning online or on-campus. It is available at https://lms.uconn.edu/ultra/courses/_80016_1/cl/outline .

Minimum Technical Skill. To be successful in this course, you will need the following technical skills:

- Use electronic mail with attachments.
- Save files in commonly used word processing program formats.
- Copy and paste text, graphics or hyperlinks.
- Work within two or more browser windows simultaneously.
- Open and access PDF files.

University students are expected to demonstrate competency in Computer Technology. Explore the Computer Technology Competencies page for more information.