CHEM 211 Organic Chemistry I (with Lab)
Fall 2024

Instructor: Dr. Adharsh Raghavan *(pronounced Ah-the-ersh Rah-guv-un)*
Office: 433 Jepson (433 JEPS)
Contact: araghava@umw.edu
Office Ph: 540-654-1144
If you have an emergency, text me at 765-637-3026
Lecture: MWF, 329 Hurley Convergence Center (HCC 329), 11:00–11:50 am
Lab: Tuesdays, Jepson 213, 12:30–3:15 pm
Office Hours: M 12:30–1:30p*, 3:30–4:30 pm
W 9:30–10:30 am, 12:30–1:30 pm
F 9:30–10:30 am, 12:30–1:30 pm*
* Virtual office hours, on Zoom

Textbooks and Supplies
Required:
- Organic Chemistry 4th Ed. by David Klein (ISBN 978-1-119-65959-4)
  - I strongly encourage you to purchase the loose-leaf version
  - NO WILEY PLUS assignments this semester. You are welcome to use the resources.
- Laboratory Techniques in Organic Chemistry 4th edition. Jerry R. Mohrig et.al. ISBN 1-4641-3422-7. Paper copy required for use in the lab. Older editions are fine, you'll just need to use the index a lot.
- Lab coat and Lab goggles
- Lab notebook with duplicating pages
- $20 on your Eagle One card for printing or a working printer
- Ability to convert paper documents to .pdf

Recommended:
- Molecular model kit
- Pushing Electrons by Daniel Weeks (any edition)

Prerequisite: C or better in CHEM 112
Continuation to CHEM 212: You must earn a grade of C or better in this course (CHEM 211) in order to proceed to CHEM 212.

Course website: This course will make use of the Canvas course management system. Please check here frequently as materials posted will include course announcements, assignments, lecture videos, and other course materials as necessary. Adjust your notification settings in order to remain up-to-date with the course.

Classroom Policies
Attendance: Attendance will not be taken in lecture, and there is no attendance component of the grade, however my lecture will provide structure and focus to the text material and is essential to this course. Exercises (see below) will not always be announced, and there will be no make-ups, nor will they be

accepted late, so missing class may cost you. Tardiness is a distraction to your classmates, and I discuss "class business" during the first 5 minutes of the class, therefore it is important that you arrive on time. If you are late, enter and get organized quietly. If you need to leave the room during class, please go and return quietly. Attendance is required in the lab. Making up labs is difficult, and is therefore only possible if the circumstances surrounding your absence are extremely extenuating, or are pre-ordained due to university-approved reasons. **Missing more than two laboratory sessions will result in a grade of F for the course.**

Electronic devices

All electronic devices must be turned to 'silent' mode. If you choose to use electronic devices, please do not distract yourself or your classmates with it; use it solely for the class engagement. Laptops, iPods, iPads etc won't be needed in lab. The Chemistry Department is not liable for damage to electronic devices in the lab. Headphones are not allowed to be worn in the laboratory at any time. All devices will be placed at the front of the room during exams, except for approved calculators or medical devices.

Communication

I will make use Canvas to communicate with you regularly. Make sure that you know how to use Canvas and set up the needed alerts. Please keep your UMW mailboxes empty enough that you can receive any e-mails and keep this line of communication open. You may email me at any time, or text me in case of a genuine emergency.

Course Calendar

See last page and on Canvas

Recommended problems

Solving organic chemistry problems with pencil and paper is essential to learning the material. Your text has excellent problems, and I recommend that you solve ALL OF THE PROBLEMS IN EVERY CHAPTER. Once you have completed those problems, you are welcome to seek out additional problems in other organic textbooks in the Chem Pod or my office.

Grading

This course will be graded on a straight scale of 1000 points as outlined below. None of the exams, quizzes, or assignments will be graded on a curve.

Assignment category	Points
Exams (4 @ 75 points each)	300
Final exam (cumulative)	250
Exercises, quizzes etc	150
Book problems	50
Laboratory	250
Total	1000
Points	**Letter grades**
900-1000	A-/A
800-899	B-/B/B+
700-799	C-/C/C+
600-699	D

0-599	F

Midsemester grades will be calculated using the estimated grade formula below. Students with a grade of 750 or lower at that time will receive a midsemester grade of U.

$$Estimated\ grade = \frac{Points\ earned\ to\ date}{Possible\ points\ to\ date} \times 1000$$

Exams

There will be four 75-point exams. You will have 50 minutes to take each exam. Exams will be given at the beginning of the class period. A review sheet will be posted on Canvas prior to each exam. Due to the building nature of organic chemistry, they will be somewhat cumulative. You must begin and end the exam on time with the rest of the class. If you must miss an exam for a serious reason, you must contact me by phone email before the exam begins, telling her when you will return to campus and what documentation you will be providing to support the serious reason why you missed the exam. I will decide if you will be taking a make-up exam (different exam, possibly different format) or if the grade will be replaced with the average of the other three exams. This decision will be sent to you by email. Any make up exams must be taken within 24 hours of your return to campus. Failure to abide by these policies will result in a grade of zero. If you are missing an exam due to a conflicting University event (athletics, conference presentation, study abroad etc), I will work with the faculty sponsor of that event for you to take the exam during the scheduled time. Please notify me and the faculty sponsor of that conflict by the end of the first week of classes.

Final Exam

The final exam for this course is the First Term Organic Exam from the American Chemical Society. It is a 70 question, 110-minute multiple course exam, including spectroscopy. The final exam for this course will be held in accordance with the schedule posted by UMW Academic Services. It is University policy that missing a final exam will result in a grade of F for the course. A study guide is available for the ACS exams, and there are several copies of the guide on reserve in the library.

Details on UMW's final exam policy, including the exam schedule, can be found here. https://academics.umw.edu/registrar/students/final-examinations/

Laboratory (250 pts)

Policies and procedures for the laboratory component of the course are spelled out in the lab syllabus.

Exercises, Quizzes, etc (150 pts)

Exercises may be completed in class our outside of class. Exercises may include individual problem sets, group activities, chemical literature exercises and anything else that I think of!! They are designed to encourage you to engage with the material and help me see what you understand and what you need more assistance with. These activities will not always be announced. Exercise points will be scaled to 125 points, if necessary. Exercises will returned one week after they are submitted. Answer keys to exercises will be posted on Canvas. There are no make-ups for exercises, nor will they be accepted late. In-class exercises may include individual problem sets, group activities, interactive experiences etc. Outside of class exercises may include, take home exercises, Canvas activities, molecular visualization exercises, solving and correcting book problems, attending office hours, and/or anything else that I think of!!

There will be several closed book quizzes that to encourage you to keep up with course material between exams. The quizzes are worth 10-15 points each, and you'll have 15 minutes to complete the quiz. After

the quiz, we will continue with class.

Book problems
Each chapter will have a list of assigned book problems. You will complete those book problems, then using a different color, you'll check your work against the solutions manual. You will upload images of those problems to Canvas. Grading will be primarily based on completeness of the problems and corrections, although I may select 1-2 problems to grade more carefully and give additional feedback. Book problems are worth 5 points per chapter,11 chapters, and I will drop the lowest score.
Note that the assigned book problems will be the bare minimum of problems you should be solving while studying and preparing for this class.

Accessibility statement
The Office of Disability Resources has been designated by the university as the primary office to guide, counsel, and assist students with disabilities. Students requesting accommodation for disabilities must discuss their needs with the Director of Disability Services (654-1266), and provide appropriate documentation. In order for me to best meet your needs, I encourage you to send your documentation and discuss your needs by Tuesday Sept 3. I will hold any information you share with me in the strictest confidence unless you give me permission to do otherwise. The University's disability policy is outlined at http://www.umw.edu/disability/.

Honor Code statement
The honor system, as outlined on the UMW Fredericksburg Honor Council Website will be strictly enforced in this course. Students are reminded of their obligation to abide by the code, including reporting observed violations to the Honor Council. The honor pledge will be written on all graded work. Books, notes, cell phones, tablets and other electronic devices are not allowed during exams. I will provide calculators on exams when they are needed. All written work is to be prepared "in your own words". Guidelines for source use must be followed.
http://www.umw.edu/honor/fredericksburg/default.php

Artificial Intelligence (AI)
I'm still learning about AI and how it can be used in Organic Chemistry. Any writing assignments you are given in this class are using writing as a way to develop your thoughts, learn the material or prepare for lab. Using AI (or other sources) doesn't help you to develop your thoughts, learn the material, or work efficiently in the lab. If you do use AI tools, cite them in your assignment. Using AI tools without proper citation is an honor violation.

Policy on Recording Class and Distribution of Course Materials
Classroom activities in this course may be recorded by students enrolled in the course for the personal, educational use of that student only, and may not be further copied, distributed, published, or otherwise used for any other purpose without the express written consent of the course instructor.
All students are advised that classroom activities may be recorded by students for this purpose.
Distribution or sale of class recordings or recorded lecture videos is prohibited without the written permission of the instructor and other students who are recorded.
Any class materials (any document or other item provided by or made available
by the instructor to students enrolled, including but not limited to coursepacks, lecture videos, annotated lectures, handouts, laboratory experiments, quizzes, exams, review sheets or past exams)

provided for this course (in the coursepack, during class or lab, or posted on Canvas or YouTube) are for the personal, educational use of that student only, and may not be further copied, distributed, published, or otherwise used for any other purpose without the express written consent of the course instructor.
Distribution or sale of any and all class materials (any document or other item provided by or made available by the instructor to students enrolled, including but not limited to coursepacks, lecture videos, annotated lectures, handouts, laboratory experiments, quizzes, exams, review sheets or past exams) provided for this course (in the coursepack, during class or lab, or posted on Canvas or YouTube) is prohibited without the express written permission of the instructor.
Distribution or sale of any and all class materials (any document or other item provided by or made available by the instructor to students enrolled, including but not limited to coursepacks, lecture videos, annotated lectures, handouts, laboratory experiments, quizzes, exams, review sheets or past exams) provided for this course (in the coursepack, during class or lab, or posted on Canvas or YouTube) without the express written permission of the instructor is a violation of copyright law.
****Students in violation of any part of this policy are subject to disciplinary action through the Office of Student Conduct and Responsibility.****
This policy is consistent with UMW's Policy on Recording Class and Distribution of Course Materials.

Title IX Statement
University of Mary Washington faculty are committed to supporting students and upholding the University's *Policy on Sexual and Gender Based Harassment and Other Forms of Interpersonal Violence.* Under Title IX and this Policy, discrimination based upon sex or gender is prohibited. If you experience an incident of sex or gender based discrimination, we encourage you to report it. ***While you may talk to me, understand that as a "Responsible Employee" of the University, I MUST report to UMW's Title IX Coordinator what you share***. If you wish to speak to someone confidentially, please contact the below confidential resources. They can connect you with support services and help you explore your options. You may also seek assistance from UMW's Title IX Coordinator. Please visit UMW's Title IX website to view UMW's policy and to find further information on support and resources.

Ruth Davison
Title IX Coordinator
Fairfax House
Confidential Resources
On-Campus
Talley Center for Counselling Services
Lee Hall 106
540-654-1053

Student Health Center
Lee Hall 112
540-654-1040

Off-Campus
Empowerhouse
24-hr hotline: 540-373-9373
Rappahannock Council Against Sexual Assault (RCASA)
24-hr hotline: 540-371-1666

The schedule is tentative. The exam dates are firm, but the subject matter may be changed if deemed necessary. You should have worked on the listed sections before coming to class. We will use that info to complete the problem set in class.

Mon Lecture	**Wed Lecture**	**Fri Lecture**	**Lab Tues**
Aug 26 Intro, Chapter 1	Aug 28 Chapter 1.1-1.7	Aug 30 Chapter 1.7-1.10	Lab safety, policies
Sep 2 Labor Day NO CLASS	Sep 4 Chapter 2.1-2.11	Sep 6 Chapter 2.12-2.13	Melting point
Sep 9 Chapter 3.1-3.3, 3.6	Sep 11 Chapter 3.4-3.5	Sep 13 Chapter 3.7-3.10	Recrystallization
Sep 16 Chapter 4.1-4.3, 7.2, 12.1	Sep 18 Exam 1 Chapter 1-4.3	Sep 20 Chapter 4.5-4. 8	Extraction
Sep 23 Chapter 4.9-4.11	Sep 25 Chapter 4.12-4.15	Sep 27 Quiz Ch 4 Chapter 5.1-5.4	Distillation and GC
Sep 30 Chapter 5.1-5.4	Oct 2 Finish Chapter 5	Oct 4 Chapter 6	Stereochemistry Ch. 5.5-7
Oct 7 Chapter 7.1-7.2	Oct 9 Exam 2 Ch. 4-6	Oct 11 Chapter 7.7.3-4	IR spectroscopy
Oct 14 FALL BREAK NO CLASS	Oct 16 Chapter 7.7.5-7	Oct 18 Chapter 7.8 and 6.11 Quiz	Fall break No lab
Oct 21 Chapter 7.9-7.10	Oct 23 Finish Chapter 7	Oct 25 Chapter 8.1-8.3	Chromatography
Oct 28 Chapter 8.4-8.12	Oct 30 8.4-12	Nov 1 8.4-8.12	NMR spectroscopy
Nov 4 Chapter 8.13-8.14	Nov 6 Chapter 8.15	Nov 8 Exam 3 Chapter 7-8	Day on Democracy
Nov 11 Chapter 9.1-9.3, 9.10, 9.4	Nov 13 Chapter 9.3-9.9	Nov 15 Chapter 9.11	Bromination of Cinnamic acid
Nov 18 Chapter 10.1-10.5	Nov 20 Chapter 10.7-10.13	Nov 22 Chapter 11	Intro to computational chemistry
Nov 25	Nov 27 Thanksgiving break	Nov 29 Thanksgiving break	No lab Gobble
Dec 2 Chapter 11	Dec 4 Exam 4 Chapter 9-11	Dec 6 Review	Integrated spectroscopy & checkout
Dec 9 **Final exam 12:00 pm**	Dec 13	Dec 15	

Drop deadline Sept 13
Mid-semester grades due Friday October 18
Advising October 21-November 1
Withdraw deadline November 1
Grades due December 17