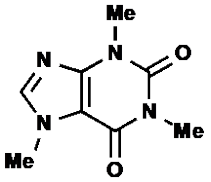
Organic Chemistry II (CHEM 2420) – Syllabus
T/Th 8:30-9:59AM and T/Th 10:15-11:44AM (CHM 102)



Instructor: Aaron Clark clark1@upenn.edu
Office hours will be in my office CHM 551 or chem library

Peer Tutors:
Peer tutors will be available during study hall to help with homework and other questions.
Tutors:

Books:
Required: *Wade, Organic Chemistry, Ninth Edition, and Study Guide and Solutions Manual (https://www.amazon.com/Organic-Chemistry-Leroy-G-Wade-ebook/dp/B01B7OIMLG/ref=tmm_kin_swatch_0?_encoding=UTF8&qid=1692127319&sr=8-1).*

For those of you interested in other supplemental materials:

Suggested: *Organic Chemistry: A Tenth Edition.* A free online text from OpenStax.
https://openstax.org/details/books/organic-chemistry?Student%20resources

Suggested: *Organic Chemistry as a Second Language: Second Semester Topics* by David R. Klein, 4th Ed.

Suggested: *Organic chemistry model kit*

Course Websites:
Canvas will house lecture and other materials. Notifications will be sent by via email.

Model Kit:
Strongly suggested and can be used during assessments: many great options, such as Swpeet 240 Pcs Organic Chemistry Molecular Model Student and Teacher Kit, Chemistry Molecular Model Student and Teacher Set - 86 Atoms & 153 Bonds & 1 Short Link Remover Tool available on Amazon.

Course Learning Goals:
Students will be able to visualize molecular compounds in a variety of ways allowing for a deeper understanding and appreciation of the world around them.

Students will gain social constructive learning skills that will enable them to work effectively with their peers in future careers.

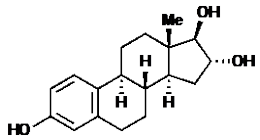
Students will find joy in learning about organic chemistry.

Class set up:
CHM 2420 will be taught and assessed in an active learning environment. Individuals learn and retain information better when they can process and explain their ideas to other individuals. You will be assigned to work with a group of 3 individuals during lectures. Every assessment will have one question that will be solved with your group. There will be two group projects that you will work and submit as a group. You are highly encouraged to work with your group outside of class on problems. The groups will change several times during the semester.

Pre-class reading:

It is required that students come to class having read either the Wade textbook or organic chemistry 2nd language readings. These are posted on the schedule (next page).

Grades:



Assessments: The dates of the 5 assessments and the cumulative final exam are listed on the schedule (next page). Your lowest scoring midterm assessment will be dropped.

Group assessment: You will work on one problem on the assessments with your group to cultivate your ability to collaborate.

Re-grading policy: If you would like an assessment re-graded, provide Aaron with an email request and the hard copy of the original assessment within two weeks of the assessment date.

Grades determined by averaging according to the following weights:

Lab component = 30%

Assessments, individual component = 24% (6% each with one drop)

Assessments, group component = 12% (3% each with one drop)

Projects = 12% (6% each)

Final individual = 12%

Final group = 6%

Participation = 4% (graded based on lecture attendance, participation with group, assigned office hour meetings, and general engagement with the course)

Letter grade breakdown:

This breakdown may be adjusted slightly but the intent is to allow every student the opportunity to achieve an A in the course.

A >92.99
A- 92.99-90.00
B+ 89.99-87.00
B 86.99-84.00
B- 83.99-80.00
C+ 79.99-77.00
C 76.99-74.00
C- 73.99-70.00

Assessment times:

Due to the nature of course being a more interactive and meaningful way to engage with the material, the individual portions of the assessments will be outside of the normal lecture time. These will be held on Monday evenings. They will be approximately 45 minutes. Flexibility on start times will be standard. There group portion of the assessments will take place during the class periods, as they only take 20 minutes. As this a outside of class requirement of your time, recitations will be optional to allow you to balance out your demands outside of class.

Assessment drop:

One of the five assessments can be dropped. If you take all five assessments, your four best assessments will automatically count. It is in your best interest to properly prepare for all five assessments in preparation for the final.

Missed assessments:

If you must miss an assessment for any reason (sports, science, sick, etc.), this will count as your dropped assessment. Advance notice is appreciated but not required to drop the assessment.

Final exam:

I firmly believe that learning is different experience for every individual. Your final exam can replace all your assessments if your score on the final is higher than your average assessment grade. This allows you to show mastery of the material even if your initial foray at the content did not go well. This can only be beneficial as your final will not replace your assessment scores if it is lower. Also, any student who has an average above 95% in the course on the last day of the regular semester is excused from the individual portion of the final.

Participation:

Attendance is mandatory and part of your grade for the class. This is important as you will have questions every class period that will require you to work through with your group. This is part of the skill building that will allow you to do well on the group assessments. However unforeseen circumstances can happen and so you are allowed to miss 3 classes at no penalty. You should still talk to your peers about missed material.

Projects:

There will be two group projects in this class. One involving spectroscopy (IR, NMR, and MS) and one involving synthesis. Solving spectroscopy problems and synthesis problems often take larger quantities of time than can be allowed during our assessments. These problems are complicated but are very rewarding when solved. Working with your groups you will be tasked to solve these. More details will be given when the projects are given.

Living document:

My goal is to give you as clear as picture as possible for the expectations and setup of this course. However, unforeseen circumstances can and will happen. I will try to give as much advance notice as possible if something needs to be changed or adjusted in the course.

Schedule (this is a tentative outline and may be adjusted)

Date	Topic	Wade	Klein
1/16	Introductions and why a collaborative approach? /Review of OC1	--	
1/21	HNMR	13.1-9	3
1/23	CNMR	13.10-13	3
1/28	Tying together spectroscopy MS/IR/HNMR/CNMR	12.7-14	2,3
1/30	Ethers	14.1-9	
2/4	Epoxides	14.10-16	
2/6	Conjugated systems: Thermodynamics and Kinetic reactions	15.1-10	
2/10	*Assessment 1 topics from chapters 13, 14, and parts 15*		
2/11	Diels-Alder reactions (4 +2 pi systems)	15.11-13	10
2/13	Aromatic compounds, Bromination of Benzene	16	1, 4
2/18	**Project 1 Due**		
2/18	EAS reactions, Ortho, meta, para directing	17.1-9	4
2/20	Friedel-Crafts, SnAr	17.11-12	5
2/25	Oxidation and Reduction of aromatic compounds, phenols	17.13-16	
2/27	Aromatic reactions with nitrogen groups	19.10,17	
3/3	*Assessment 2 topics from chapters 16, and 17*		
3/4	Assessment review: Aldehyde and Ketone introduction	18.1-8	6
3/6	Nucleophilic addition to C=O	18.9-13	6
3/8-16	Spring break		
3/18	Nucleophilic addition to C=O	18.14-17	6
3/20	Nucleophilic addition to C=O	18.18-20	6
3/24	*Assessment 3 topics from chapter 18*		
3/25	amines	19.1-11	9
3/27	amines	19.12-20	9
4/1	Carboxylic acids	20.1-11	7
4/3	Carboxylic acids	20.12-15	7
4/7	*Assessment 4 topics from chapters 19, and 20*		
4/8	Carboxylic acid derivatives	21.1-9	7
4/10	Carboxylic acid derivatives	21.10-16	7
4/15	Enolates	22.1-5	9
4/17	Carbonyl condensation reactions	22.6-14	9
4/22	Carbonyl condensation reactions	22.15-19	9
4/24	Sugars, Amino acids	23,24	
4/28	*Assessment 5 topics from chapters 21, 22; parts from 23 and 24*		
4/29	Assessment review and start final review		
5/4	**Project 2 Due**		
	Final exam: in class date/time TBD		

Additional Important Resources and Information

Violations of the Code of Academic Integrity: Academic integrity is the intellectual currency of our community. We expect honorable behavior from everyone. While study groups and strong interactions between classmates are encouraged (including working on homework together), your work on exams must be your own. Students are expected to be familiar with and comply with Penn's Code of Academic Integrity, which is available in the Pennbook or online at https://catalog.upenn.edu/pennbook/code-of-academic-integrity/. Any case of suspected cheating on any of the examinations or on a regrade of an examination will be directed to the Center for Community Standards & Accountability (CSA). Possible consequences are zero on the assignment or quiz, F in the course, note on your transcript, suspension, or expulsion. If you have any doubts or questions about what constitutes academic misconduct, please do not hesitate to contact me.

Policy of Drops, Withdrawals or Incompletes. The deadlines for **dropping** (Monday February 24) and **withdrawing** (Monday March 31) must be rigorously observed as well as the **Grade Change** deadline to or from pass/fail of Friday March 21.

Weingarten Center The Weingarten Center offers a variety of resources to support all Penn students in reaching their academic goals. All services are free and confidential. To contact the Weingarten Center, call 215-573-9235. The office is located in Stouffer Commons, 3702 Spruce Street, Suite 300.

Academic Support. Learning consultations and learning strategies workshops support students in developing more efficient and effective study skills and learning strategies. Learning specialists work with undergraduate, graduate, and professional students to address time and project management, academic reading and writing, note-taking, problem-solving, exam preparation, test-taking, self-regulation, and flexibility. Undergraduates can also take advantage of free on-campus tutoring for many Penn courses in both drop-in and weekly contract formats. Tutoring may be individual or in small groups. Tutors will assist with applying course information, understanding key concepts, and developing course-specific strategies. **Tutoring support is available throughout the term but is best accessed early in the semester**.

Disability Services. The University of Pennsylvania is committed to the accessibility of its programs and services. Students with a disability or medical condition can request reasonable accommodations through the Weingarten Center website. Disability Services determines accommodations on an individualized basis through an interactive process, including a meeting with the student and a review of their disability documentation. Students who have approved accommodations are encouraged to notify their faculty members and share their accommodation letters at the start of each semester. Students can contact Disability Services by calling 215-573-9235.

Title IX Statement

As a faculty member, I am deeply invested in the well-being of each student I teach. I am here to assist you with your work in this course. If you come to me with other non-course-related concerns, I will do my best to help.

It is important for you to know that all faculty members are trained and required to report any incidents of gender-based discrimination, including discrimination based on gender identity, gender expression, and sexual orientation. This means that I cannot keep information confidential about sexual harassment, sexual assault, dating violence, domestic violence, stalking, or other forms of gender-based discrimination, and that I will report that information to the Title IX office, if it is shared with me. However, the Title IX office typically only acts on formal complaints, and in response to notice from me will reach out to you to offer support and resources and offer you the opportunity to file a formal Title IX complaint, which is up to you.

Classroom Recording

With the exception of those granted accommodations through the Office of Student Accessibility Services, students are prohibited from audio, video, or photographic recording during class periods or out-of-class meetings with the instructor without explicit permission from the instructor. Recordings approved in this manner may not be shared in any form without permission of the instructor. Violations of this policy shall be considered an Honor Code violation.