CHEM 222 - ORGANIC CHEMISTRY I Summer 2020

Instructor:
Dr. Manashi Chatterjee
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Lecture: Monday, Tuesday, Wednesday &Thursday
12:55 - 3:00 PM; Online BB Collaborate from Course BB link

Office Hours (Dr. Chatterjee):

Tuesday: 5:00 pm – 6:00 pm and Wednesday: 5:00 pm – 6:00 pm
All office hours will be held via BB Collaborate (Course BB page), please join office hours regularly.

During office hours, I will be help small groups of students, so please drop by even if you do not have any questions and learn from each other.

Wiley Plus Student Partner: Peer Teaching Assistant (Molly) will help you with Wiley Plus related question.
hunterorganicchemwileyhelp@gmail.com

Textbook and Course Materials:

1. **David Klein, Organic Chemistry, Third Edition is required. A complete online version of the textbook is included with WileyPLUS.**
2. A PRS transmitter "i-clicker", which will be used for in-class discussions and quizzes.
3. WileyPLUS online Homework - register from BB, see separate announcement on blackboard for instructions.
4. A set of *molecular models* is highly recommended. It is often difficult for students to learn how to visualize a molecular structure in three dimensions. Models will almost certainly help. If you want to take a look at models before buying some, come by my office.
   Type A: These can be purchased at the bookstore -MOLECULAR VISIONS™ Model Kit [MolecularVisions.com]
   Or
   Type B: online http://hgs-model.com/model/index.html

Online Exams will be administered through Wiley Plus Online HW (lockdown browser). Students will be monitored using Zoom.
You will need a second device that will run Zoom (camera should be turned ON during the entire exam duration).
Please note the Lockdown browser does not work on iPads and devices Chrome OS.

The Skirball Science Learning Center is fully online now.
https://library.hunter.cuny.edu/skirball-science-learning-center

Website:
Materials related to this course, including this syllabus, announcements, course documents, exam keys, and grades will be posted on Blackboard.

Be sure to check and update your email address associated with Blackboard. ***It is imperative that you check your Hunter email as well as Blackboard regularly.***

Prerequisites: "C" or better in CHEM 104 or equivalent or permission of the instructor.
It is suggested that you review your general chemistry notes, especially topics on periodic trends, atomic structure and acids and bases at the beginning of the course.

A student taking a four credit course that meets for four hours a week should expect to spend at least an additional eight hours a week on coursework outside the classroom.

Course Objective:
CHEM 222 is the first semester of organic chemistry and is designed to follow a one-year course in general chemistry. It assumes a general knowledge of atomic structure, chemical bonding, acids/bases, reaction stoichiometry, equilibria, transition states, and free energy.

Most biological processes involve organic chemistry; understanding most biological processes at the biochemistry level requires knowledge of organic chemistry. While the second semester course (CHEM 224) will focus much more on synthetic chemistry and on the organic chemistry of biological processes, CHEM 222 will provide you with a strong introduction to the basic principles of organic chemistry related to process involved in life and society.

- How to name compounds and how to "build" compounds from their names?
- How to recognize and predict common bonding patterns; how to predict molecular structure from a formula?
- How to predict the shapes of organic molecule, including those capable of existing in multiple forms (conformations)?
- The properties, importance, and reactivity of some common functional groups: alkanes, alkenes, alkynes, alkyl halides, aromatic compounds, alcohols.
- How to predict whether reactions will occur and how fast they might occur; reaction transition states; reaction intermediates such as carbocations and free radicals?
- The fundamentals of organic synthesis (how to construct larger, more complex structures through controlled application of organic reactions).
- The importance of stereochemistry.

Overall, the study of organic chemistry teaches as skill set and a logical pattern of thinking that is prized in many fields.

Goals:
The student will develop an understanding of-
1. Bonding and three-dimensional structure of carbon based compounds.
2. Nomenclature of organic compounds
3. Organic chemical reactions and their mechanisms.

OBJECTIVES: At the end of the class the student will be able to-
__ demonstrate a knowledge of the hybridization of the carbon atom
__ demonstrate a knowledge of the three dimensional nature of carbon based compounds
__ identify and name organic compounds, using the proper nomenclature
__ draw structures (condensed and structural) of compounds
__ demonstrate an understanding of chirality and stereochemistry
__ demonstrate a knowledge of free radical reactions
__ demonstrate a knowledge nucleophilic substitution reactions

__ determine which substitution mechanism is operating (S_N1 or S_N2)
__ demonstrate a knowledge of elimination reactions
__ determine which elimination mechanism is operating (E1 or E2)
__ predict the products of reactions
__ write a reaction scheme to produce desired product
__ understand how stereochemistry affects reaction
__ understand how IR spectroscopy and Mass spectrometry can be used for structure determination

Recitations: Recitations will focus on problem solving and reviewing material that is being covered in class. **Recitation attendance is mandatory.** *I may use unannounced quizzes to determine your participation and preparation during recitation.* **You will have clicker questions during some recitations**. You will also take three quizzes during reictations. You must only attend the recitation that you are registered for.

Course Title: Chem 22204 - Org.Chem.1 Lec Rec Course #: 5155
Section: 1R03 Day of Week: M,W
Time: 11:35-12:45pm

Course Title: Chem 22204 - Org.Chem.1 Lec Rec Course #: 5113
Section: 1R01 Day of Week: M,W
Time: 3:10-4:20pm

Course Title: Chem 22204 - Org.Chem.1 Lec Rec Course #: 5156
Section: 1R04 Day of Week: T,Th
Time: 11:35-12:45pm

Course Title: Chem 22204 - Org.Chem.1 Lec Rec Course #: 5114
Section: 1R02 Day of Week: T,Th
Time: 3:10-4:20pm

Recitation Participation points assigned at the end of course are non-negotiable for change. Your will lose all bonus points that are assigned during the course if you appeal for a grade change based on recitation points.

Grading: Grades will be based on a total of 730 points

Clicker questions	50 pts	(total clicker points will be scaled to 50 pts)
Electronic Homework (WileyPLUS)	50 pts	(total Online HW points will be scaled to 50 pts)
Quiz (3 * 20)	60 pts	
Recitation Participation	20 pts	
Midterms (2 x 150)	300 pts	
Comprehensive Final	250 pts	

Grading Scale: Over the years, the average GPA for CHEM 222 has ranged from 2.25 to 2.75; the actual average grade in a given course can vary tremendously with the background, talent, and work ethic of students in that course. If your score falls in a given bracket (below), you are guaranteed to receive at least that grade. This is an extremely fast passed course and requires consistent effort throughout the semester.

A+: 694 and above	A : 657 - 693	A- : 636 - 656
B+: 621- 635	B : 548 - 620	B- : 511- 547
C+: 475 - 510	C : 438 – 474	
D : 402 - 437	F : 401 and below	

Exams:

- Exams will draw from lecture, text, and assignments/online HW, recitation problems, practice problems to name a few. Molecular models may be used during exams. No other notes, materials, or websites are permitted. No communication of any sort is permitted. **Recitation Quiz will be based on any material covered in class and recitation till the day before you take your quiz. Practice exams will be posted on BB.**
- Exams & Quizzes will be proctored using Zoom. You will need your camera's on during the entire exam and Quiz durations. You will need two devices (2 computers or computer and a phone).
- Missed Exams: **NO MAKE UP EXAMS**: In any class this large, there will be emergencies that cause students to miss exams. In the event of a verified emergency (medical or death in family), the student is to contact Dr. Chatterjee by **email and provide documents.** If, in my judgment, the excuse is valid, ***I will substitute your final exam percentage for the test grade.*** If you miss **more than one test you will have to withdraw**. I will require you to bring a Proof to document your absence for any missed exam. IF YOU MISS THE FINAL FOR A VALID REASON – YOU WILL EARN GET AN "INCOMPLETE" IF YOU MAINTAINED A PASSING GRADE OR BETTER PRIOR TO FINAL IN ALL EXAMS ADMINISTERED IN COURSE. YOU WILL HAVE TO TAKE THE MAKE UP WITH THE INSTRUCTOR WHO WILL BE TEACHING THE FOLLOWING SEMESTER. IF YOU HAVE HAD A FAILING GRADE TILL THE FINAL AND MISSED THE FINAL EXAM YOU WILL EARN - F OR A NCr.
- **Any sharing of questions with peers or tutors will be treated as academic dishonesty.**
- There will be no re-grade on any exams.

Clicker Quizzes:

The PRS i-clickers (Reef) will be used to facilitate classroom discussion and group learning as well as to administer short quizzes during many/most lectures on materials presented in the previous lectures or current lecture.
Please register your clicker on the clicker website. Announcement (steps to register) will be posted on BB.

- During the first AND second lecture, we will use the i-clickers for several short exercises to make sure everyone is ready to use the system. Beginning in the THIRD LECTURE, we will have clicker questions in most lectures, AND THEY WILL COUNT TOWARDS CLICKER POINTS.
- There are no make-ups for missed clicker or if your clicker is not working and you can not join the class.
- Misrepresentation of identity on a clicker quiz is academic dishonesty.

- Points you earn over the semester will be scaled to 50 points. I will scale so that you can miss 10 % of the clicker questions and still earn full points. This will take care of the day you miss class or your clicker did not work.
- i-clicker Reef information is posted on BB Announcement.

Electronic Homework:
Information to purchase WileyPLUS code has been posted on BB as an announcement.

WileyPLUS will be a useful practice/study tool, which will be used as an additional learning resource along with Klein's text. Homework will be scaled to 50 pts. You will be able to attempt each question 2 times without penalty and 3 times with a % deduction. You are responsible for completing the assignments by the deadlines (these will show up on the online homework link). You may need to get a little practice using MarvinSketch or the embedded drawing software. Please do not leave to work on the online HW till the due date. The last HW will be due during the last week and will be part of your grade. **Misrepresentation of identity on an online HW & online Exams (whether you pretending to be someone else or sharing passwords) is academic dishonesty.**
Your overall homework grade will be taken by determining what possible homework points that you earned. That is,
homework grade = (your total homework points/maximum homework points possible) * 50
Some questions may have software problems which your instructor will report to Wiley. Please do not get worked up and spend a lot of time in solving such questions to get to 100%. I will try my best to remove these questions or make an announcement as soon as it comes to my attention. Read instructions carefully: drawing all lone pairs, use correct arrows (radical, resonance, curved arrow) and get help if you miss the first two attempts. **To account for problems that have software issues you will be assigned full points on the HW when you score 90% or above and other scores will be scaled accordingly.**

WILEYPLUS Resources from BB (in addition to the Online HW)

Please visit the WileyPLUS Reading resources where you will find the entire textbook online, selected videos, solved problems and ORION Adaptive Learning
Research shows that students who have used ORION for just a few minutes per week have shown improved test scores.

Incomplete, C/NCr, Add/Drop, Withdrawal: An incomplete (IN) grade will only be considered for a student who has completed the majority of the course and is unable to complete the course due to health reasons, military service, hardship or death in the immediate family. The course will follow standard Hunter College policies and deadlines for add/drop, C/NCr, and withdrawing.

Policy on Incomplete grade: Incomplete (IN) grade may be given if a student has a reasonable chance of passing the course but cannot complete it because of a valid reason. In order to be considered for the IN grade, students need to present verifiable proof.

Policy on CR/NC grade:
See the Hunter College Catalog or visit http://md2.hunter.cuny.edu/webgrade/regmemo.jsp for College grading policy on CR/NCr, INC, WU, etc.

Academic Honesty:
Any case involving academic dishonesty (see "Code of Conduct" in *Undergraduate Bulletin*) will result in a **failing grade for the student(s) involved** and will be reported to the Director of Student Judicial Affairs. Any student found cheating will be subject to the penalties stated in the Code of Student Conduct; including, but not limited to, a score of zero on exam, expulsion from the class, or expulsion

from the University. If a student is accused of cheating in a lecture course in the chemistry department, the student's case will be submitted to the Office of Student Conduct. If the student is found guilty of cheating on an exam, the student will be given an exam grade of 0 but will be allowed to continue in the course. The student will receive an Academic Sanction. The student's grade will be calculated with the zero and the student will be permitted to pass the **course with the highest grade possible grade of C** (if the student does in fact pass the course). If any student requests a re-grade of a test, that student's future tests will be copied.

Misrepresentation of identity on an online HW & online Exams (whether you pretending to be someone else or sharing passwords) is academic dishonesty.

Students with Disabilities:
Accommodations are provided for students who are registered with AccessABILITY Services and make their request sufficiently in advance to take exams and final at the accessibility center.
It is recommended that you take **quiz during recitation** so that you do not miss the later half of the recitation problem solving session, but it is your choice.

AccessABILITY information:
"In compliance with the American Disability Act of 1990 (ADA) and with Section 504 of the Rehabilitation Act of 1973, Hunter College is committed to ensuring educational parity and accommodations for all students with documented disabilities and/or medical conditions. It is recommended that all students with documented disabilities (Emotional, Medical, Physical and/ or Learning) consult the ***Office of AccessABILITY located in Access & Technology Center in Room 300, North Building to secure necessary academic accommodations.*** If you have any questions regarding the Office of AccessABILITY, please contact them by phone at (212) 772-4857, email: accessability@hunter.cuny.edu

Important Dates:

https://ww2.hunter.cuny.edu/students/academic-planning/academic-calendar/

Friday, May 29	Last day to drop Summer Session 1 (8-Week) for 50% tuition refund. Late registration/change of program period ends for Summer Session 1 (5-Week & 6-Week).

Wednesday, June 3	Last day to drop Summer Session 1 (6-Week) for 25% tuition refund.
Thursday, June 4	First day to withdraw from Summer Session 1 (6-Week) course with a grade of "W."
Sunday, June 21	Last day to withdraw from Summer Session 1 (6-Week) course with a grade of "W."
Monday, July 6	End of Summer Session 1 (6-Week).

Chemical Dynamics and Reactivity: Introduction to Organic Chemistry

Monday, Tuesday, Wednesday and Thursday 12:55 PM - 3:05 PM

Week 0	T	May 26	Ch 1	Isomers, Hybridization, Properties of organic compounds
	W	May 27	Ch 1	Isomers, Hybridization, Properties of organic compounds
	R	May 28	Ch 1	(Molecular Representations)
Week 1	M	Jun 01	Ch 2	(Molecular Representations)
(QUIZ)	T	Jun 02	Ch 14	(IR Spectroscopy Portion)
	W	**Jun 03**	Ch 3	(Acids and Bases)
	R	**Jun 04**	Ch 3	(Acids and Bases)
Week 2	M	Jun 08	Ch 3	(Acids and Bases)
	T	Jun 09	Ch 4	(Alkanes)
	W	Jun 10	Ch 4	(Alkanes)
	R	**Jun 11** ***Exam-I***		
Week 3	M	Jun 15	Ch 5	(Stereochemistry)
(QUIZ)	T	Jun 16	Ch 5	(Stereochemistry
	W	**Jun 17**	Ch 6	(Reactivity and Mechanism)
	R	**Jun 18**	Ch 7	(Substitution Reactions and Elimination)
Week 4	M	Jun 22	Ch 7	(Substitution Reactions and Elimination)
	T	Jun 23	Ch 8	(Addition Reactions of Alkenes)
	W	Jun 24	Ch 8	(Addition Reactions of Alkenes)
	R	**Jun 25** ***Exam-II***		
Week 5	M	June 29	Ch 09	(Alkynes)
	T	June 30	Ch 09	(Alkynes)
(QUIZ)	**W**	**July 01**	Ch 10	(Radical Reactions)
	R	**July 02**	Ch 14	(Mass)
Week 6	***M***	***July 06***	**Final Exam (Comprehensive)**	

Note: **Chapter 11 material will be introduced during chapter 7, 8, 9 and 10**
Chapter 6 and 11 will not be covered in detail during lecture but you will have HW and recitations to help you with these topics
You will be responsible for reading material from the textbook and coming prepared for lecture
Only important concepts will be addressed during lecture