Greetings! This course is intended to introduce you to the major concepts in organic chemistry and prepare you for the upper level chemistry classes you will face in the coming semesters, your research, and the organic requirements for medical schools.

B. Textbook

- The following textbook is available at the Bookstore:


This textbook will give you a good introduction into the basic concepts we cover in the course. It also offers you a variety of educational questions that should help you in learning the course material. Midterms and the Final Exam are based mainly on the material and concepts we cover IN CLASS and in RECITATIONS. The assigned chapters in the book are required reading.

- The following Molecular Model Kit is strongly recommended:

Duluth Lab Organic Chemistry Molecular Model Student Kit

Molecular modeling kits are VERY important. Start making models of as many compounds as possible so that you can visualize compounds in 3D and in your head. You will not survive the stereochemistry part of the class without a model set. Model sets are allowed during exams. If you cannot afford a model set, you can make your own set with play doh and sticks.
C. Requirements and Grading

This class is very demanding. We will cover a lot of material VERY fast. The class is designed such that you have to review the class notes and read the book chapters before class for AT LEAST three additional hours every week (not including working on problems). Therefore, at least a ten-hour weekly commitment to the lecture part of this class is expected (class meeting, preparations, recitations, etc.). It is important that you start to review the material early on!

Homework: To be successful in this course, you need to work through every problem set in the back of each chapter. Unfortunately, we do not have the staff to grade all of these. However, these questions are a vital part for passing the exams. They serve as PERFECT study guide for all exams. I strongly urge you to start working on these questions in week one. Starting three days before the first exam will be too late!

The Recitation leaders will post sample questions and suggested questions throughout the course.

Exams: There will be two "midterm" exams plus a final exam. Each midterm exam is worth 700 points. The final is worth 1200 points. Midterms and finals are worth a grand total of 2600 points. If you cannot take a midterm, you must provide an official doctors note (please note that I do not accept a basic note stating that you went to the student health center. I require a note from a doctor stating that you CANNOT ATTEND a class or an exam for medical reasons) or a notification from the Dean of CAS (Dean Richard Kalb) to be allowed to take the make-up exam. There will be no make-up exam for the final. If you cannot attend the final or you are missing both midterms, you will get an incomplete in the class and will be required to take the organic chemistry II final (or midterm) in the spring semester with one of my colleagues.

In the unlikely scenario that we go to all remote, your video must be ‘ON’ during the complete length of the exams. If you turn off your video during the exam(s), your exam(s) will NOT be graded and you will receive a 0 on the exam(s). You will get additional time for each exam to download the exam and upload your answers (approx. 15 minutes). It is your responsibility to make sure you are using a stable internet connection during the exam time frames. We will not accept any exams that are uploaded AFTER the submission deadline.

Class Participation: Attendance in lectures and recitation sections is mandatory! Recitation participation is an important part of the class. That can be through questions in recitation sessions, answers to questions I pose during class, or other class related activities. Recitation attendance will be taken AT THE BEGINNING of each recitation. Late-comers will not be accounted for. If you miss more than four (4) recitations for ANY reason, i.e. you miss 33% of recitations, 300 points will be automatically deducted from your overall point summary.

Quizzes: The quizzes are part of the recitations will take 10-15 minutes and can be scheduled at any time during a recitation, i.e. at the beginning or the end. There will be 10 or 11 quizzes, and each will be worth 50 points. The eight highest quizzes will be counted towards your grade for a grand total of 400 points. There will be NO make-up quizzes for any reasons. The two drop quizzes account for any medical, religious, or personal reason.

Lab Grade: The laboratory portion accounts for 25% (1000 points) of the overall grade.

Final Grade: Tentative grading scale/scheme is shown below. Note that I will NOT give C- or D+ grades in this class. You need a grade of C or higher to be able to take Biochemistry I.
You must pass the laboratory portion of the class with 55% or higher. If you score below 55% in the laboratory part of the class, you will automatically receive an F in the class (independent of your performance in midterms and finals). I am not using a grading curve in this class. You do NOT have to work against each other. In contrast, this class is so demanding that study groups etc. are strongly encouraged.

**Extra Credit: BACON: Biology and Chemistry Online Notes and Tutorials**

Up to 180 points can be very easily earned by completing ‘BACON’ tutorials, a handy resource created by students and faculty at UCLA. BACON is an online tutorial designed to help connect the wonders of organic chemistry to medicine, other aspects of real life, and even pop culture. Please note that there is a $5 charge per student per semester to use this resource. You will have to create an account and log in every time you work on a tutorial.

Each BACON tutorial can be accessed when a specific topic is being introduced in class and you will have one or two week(s) time to complete the tutorial. You will have eleven BACON tutorials available this term (20 points each). Six are reviews of last semester and open the first day of class and five tutorials are new ones. Each time you complete a BACON tutorial, you will also complete a brief multiple choice post-BACON quiz (the quiz will be built into the tutorials). We will count the nine highest BACON scores for a max of 180 points of extra credit.

To sign up:

1. Visit [learnbacon.com](http://learnbacon.com) and click ‘Sign Up’ to create your account. If you already have a BACON account, you can sign in and then follow instruction #2.

2. Follow the instructions and then register for the appropriate course. The Course Pin number is RH*XLK.

The BACON system is simple and automated. After you sign up, you will receive emails when tutorials become available, in addition to reminders if you have not completed a tutorial as a deadline approaches. Each tutorial will be active for 1 or 2 weeks. Tutorial deadlines will not be extended and closed BACON tutorials will not be re-opened.

If you encounter any problems related to BACON during the semester, please email support@learnbacon.com for help.

There will be NO other possibility for extra credit.

**Preliminary Grading Scale:**

- Two written midterms (1400 points) 35%
- Final exam (1200 points) 30%
- Quizzes (400 points) 10%
- Lab grade (1000 points) 25%
- Extra Credit (180 points)

**Tentative Grading Scheme:**

- 4000-3500 (87.5-100%) A and A-
- 3000-3499 (75-87.49%) B+, B, B-
- 2240-2999 (56-74.9%) C+ and C
- 2000-2239 (50-55.99%) D
- 0-1999 (<50%) F
D. General

You are required to wear a mask during lectures, recitations, and the labs unless NYU waves its mask requirement. We will ask you to leave the lecture hall, recitation room, or labs if you either do not wear a mask OR your mask does not cover your mouth and nose.

At this time, the class is in person ONLY. I will not ZOOM or record any lectures. There is a chance that the lectures and recitations will move to fully remote for Covid or monkeypox related reasons. If this is the case, you are required to turn on your video during lectures and recitations. I will post notes prior to the lectures on NYU classes and will write on these notes. Print them out in advance of the lecture or download them onto a tablet where you can edit them. If we are fully remote, the lectures will be recorded. The recitations will NOT be recorded.

No cell phones are allowed in class. No computers are allowed in class but you can use tablets to make comments. If you have time to text during class, check Facebook, Instagram etc. I am either too slow and will increase the pace of the class or you are not interested. It is essential to stay engaged throughout the class.

All students who may need special accommodations for any sort of disability or know they will have to take a make-up exam because of a religious holiday, please e-mail me asap. Following NYU’s policy, you must contact the MOSES center, fill out the online form, and make sure that I receive the online form/verification at least three work days BEFORE a scheduled exam. Note that based on past years’ experience, the Moses center can fill up fast. It is your responsibility to secure a seat in the Moses center for any scheduled exam. Any reasons for missing an exam/requests for special accommodations after an exam will not be entertained.

E. Academic Honesty

It is expected that all students are aware of their responsibilities not to cheat (see NYU’s policy at https://www.nyu.edu/about/policies-guidelines-compliance/policies-and-guidelines/academic-integrity-for-students-at-nyu.html). Currently, the exams are designed to be in person. If we go fully remote, all exams will be fully online and, most likely, a combination of multiple choice - computer graded questions and questions you have to download/print out, answer in person and upload as a SINGLE PDF file to the exam website! We will not accept any other file type but a SINGLE PDF file. If you use word, take images etc. convert them to a single pdf file prior to submission of your exam. You are NOT allowed to use any resources during the exams including class notes, old exams, the internet or other people. Any student who is cheating on any exam, will automatically receive a F in the class and will be reported to the CAS deans office.

(1) Do not upload any exam or assessment materials or solutions to Chegg or other sharing sites unless specifically authorized by the Professor.

(2) Do not engage in group chat activity during an exam or assessment. Even if it seems safe from scrutiny, there is always a digital signature somewhere, even if only on some people’s phones, and it has happened in the past that students report their peers.

(3) You HAVE to sign the honor code on the first page of the exams (https://cas.nyu.edu/content/nyu-as/cas/academic-integrity/honor-code.html) and upload the page as part of your exams. If you do not sign the honor code, your exams will not be graded and counted as zero (0) points.

All information required for exams will be supplied. Again, no notes, books, internet, group chat, Chegg etc. are allowed during the exams.
We are aware that students may resort to sharing or receiving answers using platforms that include, but are not limited to, group chats and Chegg during exams or assessments. NYU is now able to obtain the identities of people who upload and view answers on Chegg and similar platforms (indeed Chegg’s honor code states: “in the event your institution contacts Chegg as part of an investigation into academic integrity, Chegg is authorized under our Terms of Service and Privacy Policy to cooperate fully in that investigation and we commonly do. This can include providing information to your institution about your user profile, account, site usage activity, and interactions with Chegg Tutors. ”https://www.chegg.com/honorcode”). Anyone identified in some way to upload exams questions, interacting with internet sites during exams and quizzes etc. will be subject to sanction according to CAS guidelines and will receive an automatic F in the course.

Use of any previous semester course materials as material for test and class preparation is allowed for this course. I remind you that while they may serve as examples, they are not guidelines for any tests.

We all make mistakes. It will happen that we make mistakes during grading of an exam. I apologize in advance but we grade hundreds of exams. For re-grading, you have to submit your exam within one week after the graded exam has been released online. You have to include a detailed written statement why a question should be re-graded, i.e. a statement such as ‘re-grade question 2’ is not acceptable. Tell us why you think your answer deserved more points. Do NOT make any marks/comments on the graded electronic version of the exam (any marks directly invalidate any exams for re-grading). Note that you hand in your complete exam. We will re-grade the whole exam. While your grade may go up, it can also go down.

All students who violate the honor code will receive a F in the class and reported to the Dean’s office, no exceptions.

F. Tentative Dates

Exams:
First Exam: 10-13-22 during class time
Second Exam: 12-01-22 during class time
Make Up Midterm Exam: 12-08-22 TBD
Final: TBD

G. Basic Advise to Succeed in Organic Chemistry
- Attend lectures and recitations!
- Stay on top of the material. Start working on day 1 not just before the exam.
- Learn the concepts and fundamentals of organic chemistry. You cannot memorize millions of compounds and thousands of reactions.
- Ask questions! Don’t be shy. If you do not understand something, other students might have the same problems. In any case, speak up. I can always go over a concept or class material again.
- Contact your recitation leaders if you have problems.
H. Course Schedule (Tentative)

<table>
<thead>
<tr>
<th>Lecture Topic</th>
<th>Tentative Dates</th>
<th>Mandatory Readings</th>
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<tbody>
<tr>
<td>Introduction (review of org I)</td>
<td>09.01</td>
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<tr>
<td>I. Dienes and Allyl Systems</td>
<td>09.06 – 09.08</td>
<td>Chapter 13</td>
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<tr>
<td>Allenes, Ketenes and Cumulenes</td>
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<td>Conjugated Dienes</td>
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<td>Control of Addition Reactions</td>
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<tr>
<td>The Allyl System</td>
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<td>The Diels Alder Reaction</td>
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<tr>
<td>II. Pericyclic Reactions</td>
<td>09.08 – 09.20</td>
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<td>Symmetry</td>
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<td>Molecular Symmetry and Point Groups</td>
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<td>Orbital Symmetry</td>
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<td>Woodward Hofmann Rule</td>
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<td>Cycloaditions</td>
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<td>Electrocyclic Reactions</td>
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<td>Sigmatropic Rearrangements</td>
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<td>Cheletropic Reactions</td>
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<td>Group Transfer</td>
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<tr>
<td>III. Aromaticity</td>
<td>09.22 – 09.27</td>
<td>Chapter 14</td>
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<td>Benzene</td>
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<td>Aromaticity (Hückel Rule)</td>
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<td>Substituted Benzene</td>
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<td>Heterobenzene</td>
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<td>Polycyclic Aromatic Compounds</td>
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<td>IV. Substitution Reactions of Aromatic Compounds</td>
<td>09.29 – 10.06</td>
<td>Chapter 15</td>
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<td>Hydrogenation</td>
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<td>Electrophilic Aromatic Substitution</td>
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<td>No class (classes meet on a Monday schedule)</td>
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<tr>
<td>First Exam</td>
<td>10.13.22 (during class time)</td>
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<td>Chapters 13 - 15, 23</td>
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<td>V. Carbonyl Chemistry: Addition Reaction</td>
<td>10.13 – 10.20</td>
<td>Chapter 16</td>
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<tr>
<td>The Carbonyl Group</td>
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<td>Basic Addition Reactions</td>
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<td>Thermodynamics</td>
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<td>Organometallic Reactions</td>
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<td>Wittig (Horner Emmons) Reaction</td>
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<tr>
<td>VI. Carboxylic Acids</td>
<td>10.25 – 10.27</td>
<td>Chapter 17</td>
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</table>
Carboxylic Acids
Acidity and Basicity of Carboxylic Acids
Synthesis of Carboxylic Acids
Basic Reactions of Carboxylic Acids

VII. Derivatives of Carboxylic Acids 11.01 – 11.08 Chapter 18
The Acyl Group
Acid Chlorides
Anhydrides
Esters
Amides
Nitriles
Ketenes

VIII. Carbonyl Chemistry: Reactions at the α Position 11.10 – 11.29 Chapter 19
Enols and Enolates
Halogenation
Alkylation
Aldol Condensation
Claisen Condensation
Mannich Reaction

No recitations (fall break) 11.23

Second Exam 12.01.22 (during class time)
Chapters 16 – 19

IX. Carbohydrates and Amino Acids 12.06 – 12.08 Chapters 20 and 22
Formation and Reaction of Carbohydrates
Amino Acids
Reaction of Amino Acids
Peptides

Make Up Exam for Midterms 12.08.22 TBD

Lab Final 12.13.22 (during last lecture class time)

Final (tentative) Given at the assigned lab final date and Time. Most likely morning of December 16th