Students who participate in this class with their camera on or use a profile image are agreeing to have their video or image recorded solely for the purpose of creating a record for students enrolled in the class to refer to, including those enrolled students who are unable to attend live. If you are unwilling to consent to have your profile or video image recorded, be sure to keep your camera off and do not use a profile image. Likewise, students who un-mute during class and participate orally are agreeing to have their voices recorded. If you are not willing to consent to have your voice recorded during class, you will need to keep your mute button activated and communicate exclusively using the "chat" feature, which allows students to type questions and comments live.

Course Requirements:
Prerequisites for Chem 252.4: C or better in Chem 251.4 and 251.1
Pre or corequisite: Chem 252.1 (C or better if prerequisite)

Note: a C- (or a CR from Queens College) in any pre or corequisite will not permit you to take 252.4/252.1!
If you are a transfer student with a CR in a prerequisite course but your earned grade was a C- or less, there is a strong likelihood that you will not pass 252.4.
You must earn a C or better in Chem 252.4 to go on to Chem 371.

You will need access to Blackboard for exams and handouts, including this syllabus. It is your responsibility to provide a valid e-mail address that you monitor. Announcements will be made via Blackboard and e-mail.

Lecture: Tu, Thurs 4:40 - 6:30 PM, on-line (Blackboard Collaborate Ultra – see CUNY policy above; there will not be any student video or profile images but you will be able to ask questions during class). There will not be a 10 minute break – lecture will be the full 1 hr 50 minutes.

Professor William H. Hersh, 109 Remsen Hall if we are on campus Fall 2021 and you need or want to visit.
Office Hour: Thursday, 11:30 AM - 12:20 PM and by appointment (Blackboard Collaborate Ultra)
Please use video for Office Hour so I can get to know who you are! Office hour will not be recorded.
Telephone: 718-997-4144 (to leave messages, since I will not often be there)
e-mail: william.hersh@qc.cuny.edu - best way to contact me


The text contains many problems - you should do those that appear in the body of the text and at the end of each chapter. These problems will not be graded. They should be done together with the required on-line problems (see below); the on-line problems are not enough by themselves to prepare you to do well in this course.

If you want to understand the lecture material, you must read the textbook chapter before class. For the vast majority of students, it is not possible to understand lecture material if you are seeing it for the first time in class! When you read the textbook and do problems in the text with the reading, plan for a pace of about 4 pages/hour. Do not read it like a novel if you hope to learn the material.

Final piece of advice for how to succeed in organic: ATTEND EVERY CLASS! Attendance has been highly correlated with passing the course with a grade of C or higher. If you have read this, email me at william.hersh@qc.cuny.edu to tell me you have read this (I want to know who has read the syllabus!); please read the rest, especially the section on Course Preparation and Advice.
"Classes will always be recorded and will be available for the semester, but occasionally something goes wrong and recordings fail. You can also ask questions if you come to class. I strongly recommend you attend the class live.

REQUIRED ON-LINE PROBLEMS: You are required to purchase access to the Sapling Learning on-line problem web site for this course. The cost is about $42.

Go to [www.saplinglearning.com](http://www.saplinglearning.com) to log in or create an account. Under Enroll in a new course, you should see Courses at Queens College. Look for CHEM 252.4 – Spring21 – HERSH. If you need help contact Sapling (now Macmillan) support by opening a service request by filling out the webform at [https://macmillan.force.com/macmillanlearning/s/](https://macmillan.force.com/macmillanlearning/s/)

For each problem there are hints and answers, and for most there is explanatory reading material that you can access at the right hand side of the page in the Resources box under “Help with this topic” linking you to the textbook (labeled “Loudon – Organic Chemistry”), so if you are having trouble with the problems, there is a wealth of information available to help you. There is a training module (with extra credit) that you can complete before you start on the chapter problems.

While studying organic with other students is recommended, you will get the maximum benefit from these problems by doing them on your own, and not doing them at the last minute. On-line problem due dates will be announced in class, and will always be by 4:00 PM on the day recitation problems for that chapter are done in class.

Recommended: Molecular model kit (available on-line, about $20-60; the ~$30 kits on Amazon look good)


OR


Grading:

<table>
<thead>
<tr>
<th>Component</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>3 Midterm Exams</td>
<td>60%</td>
</tr>
<tr>
<td>On-line Homework</td>
<td>10%</td>
</tr>
<tr>
<td>Final Exam</td>
<td>30%</td>
</tr>
<tr>
<td>Total</td>
<td>100%</td>
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</tbody>
</table>

The final exam will be similar to the midterm exams.

Exams will stress lecture material and recitation problems.

Midterm Exams are 110 min, multiple choice style and fill-in-the-blank, no going back to questions, and will start at 4:40 PM and end at 6:30 PM.

You may be required to scan/photograph your Queens College ID and submit it with each exam. *All exams are open book, open notes, molecular models permitted, but no Internet, no collaborating with anyone.*

Cheating of any kind will not be tolerated. Your entire exam grade will be zero, and you will be brought up on charges of academic dishonesty to the College.

*See next page for lecture and exam schedule, and tentative CUNY calendar schedule.*
Approximate Lecture and Examination Schedule

<table>
<thead>
<tr>
<th>Date</th>
<th>Chp</th>
<th>Topic</th>
<th>Suggested Chapter-End Problems</th>
</tr>
</thead>
<tbody>
<tr>
<td>Feb 2</td>
<td>10</td>
<td>Alcohols and Thiols</td>
<td>39-50, 56-59, 64, 65, 68</td>
</tr>
<tr>
<td>Feb. 9</td>
<td>11</td>
<td>Ethers, Epoxide, Glycols, and Sulfides</td>
<td>44-61k, 63, 69, 72</td>
</tr>
<tr>
<td>Feb. 16</td>
<td>14</td>
<td>Alkynes</td>
<td>26-36, 42-45</td>
</tr>
<tr>
<td>Feb. 18</td>
<td>15</td>
<td>Dienes, Resonance, and Aromaticity</td>
<td>42-49, 51-53, 57, 61-65, 73, 76, 78, 79</td>
</tr>
<tr>
<td>Mar. 2</td>
<td>16</td>
<td>Chemistry of Benzene and Its Derivatives</td>
<td>35-46, 54, 55, 61a-d,f,h</td>
</tr>
</tbody>
</table>

**Mar. 4 Exam 1 Chapters 10, 11, 14, 15**
- Mar. 11 17  Allylic and Benzylic Reactivity 22-24e, 25-36, 39, 41, 42, 44, 45, 57
- Mar. 18 18  Aryl and Vinylic Halides, Phenols, and Transition Metal Catalysts 46-54, 56-59, 69, 71, 72, 83, 84
- Mar. 25 19  Aldehydes and Ketones 40, 41, 43, 44, 47-49, 52a-m, 53, 55*, 66**, 71**
- Apr. 8 20  Carboxylic Acids 27, 28, 31, 32, 37-41, 43, 47a-d,f-i, 51, 52, 59a

**Apr. 15 Exam 2 Chapters 16-19**
- Apr. 20 21  Carboxylic Acid Derivatives 32-35, 37-41a-d, 46, 47, 52, 54, 55b,f, 58
- Apr. 27 22  Enolate Ions, Enols, and α,β-Unsaturated Carbonyl Compounds 55-57, 60, 64-66, 68, 70, 72
- May 6 23  Amines 44-46, 48, 49, 52, 55, 56, 65a-j, 66a-f,k, 71a, 77

**May 13 Exam 3 Chapters 20-23**
- May 20 or 25 (tentative, 4-6 PM), Final Exam: Chapters 1–23 (but mostly 10, 11, 14-23)

No classes Friday Feb. 12, Monday Feb. 15 (only affects labs)

Spring Break March 27-April 4

*Find the mistake in this problem. **These may be particularly hard.

**Course Preparation and Advice:** Understanding the basic concepts from Organic Chemistry I is critical. Attend every class and read the book before lecture; take seriously the instructions that you really do need to know and understand every reaction (no exceptions). Do problems in the text, and do the on-line problems on your own and not at the last minute – take your time and understand them. Understanding mechanisms will help you remember the reactions. In most cases hiring a tutor will not help and most likely will be a hindrance because you will rely on the tutor rather than yourself.

Most students find the on-line Sapling homework helpful. It is simply another tool to help you understand the material, but by itself will not prepare you for exams. The only way the problems can be helpful is if you do them on your own and use the book or the hints to try figure out problems that you do not get correct the first time.

**Course Objectives:** Students will complete their initial one year course in organic chemistry, with topics including spectroscopy for new functional groups, alkynes, dienes and aromatic compounds, the chemistry of the carbonyl and related functional groups, and amines. At the conclusion, students will have a solid foundation in organic chemistry that will enable them to carry out organic chemistry research and understand the molecular basis of biochemical processes.

**Assessment:** Contrary to its reputation, success in organic chemistry depends far more on understanding of course material than on rote memorization. Problem solving ability will be tested on exams, and representative problems will be discussed in lecture recitations and will be found in the textbook, on the Blackboard course site, and in graded on-line problems for each chapter. Careful reading of the textbook prior to lectures, and attendance at all lectures, is strongly recommended. No “practice” for multiple choice exams will be provided – you still have to understand the material to succeed on the on-line exams.

Understanding of the course material will be assessed via three midterm exams and one 2 hour final exam. Since organic chemistry is a cumulative subject, it is not possible to succeed in this course without knowing the first semester material, so any exam is in effect cumulative.

**GRADE KEY.** This course is not graded on a curve. Everyone in the class can get an A, or everyone can get an F. There is no predetermined percentage of the class that will get any particular grade. The key for all exams is shown below, except for + and – cutoffs. For instance, while “A” is shown as 80-100, an average of 80 will be an A-, and while “B” is shown as 65-79, the cutoffs are approximately 1/3 in each range, i.e. around 65-69 B-, 70-74 B, 75-79 B+. The exact ranges will not be given out except for the C cutoff, since you need a C to go on to further chemistry courses.
The ranges given will never be raised, but they have on occasion been lowered if a test was too hard. Tests in this course (both on-line and in-person) average around 50. Since I am constantly asked to use the ACS final, please read the following: I will not be using the ACS final. It is often available on the Internet, and so I will not use it. It is not easier than the tests I give, and the average grade on the ACS exam is 50. No one gets a perfect score on the ACS organic final, and almost no one gets above 90%.

**Chem 252 exam and course grade key:**

80-100 A  
65-79 B  
55-64 C  
50-54 C-  
40-49 D  
0-39 F