

ORGANIC CHEMISTRY I SPRING 2017

Lecturer: Dr. Gail Horowitz
Office: 5315 Old Ingersoll
It is tricky to find my office:
You must first be in Old Ingersoll.
Then take the *CENTER* elevator or stairs to the 5th floor
Office Hrs: Mon & Tues: 11am-noon; Wed & Thurs: 11am-1pm
Or by appointment.
Drop ins are also welcome
Email: Ghorowitz@brooklyn.cuny.edu
Webpage: <http://userhome.brooklyn.cuny.edu/ghorowitz/index.htm>
Phone: 718-951-5000 x6689

Recitation Instructors	Prof. Berkowitz	Prof. Khajo	Prof. Zhang	Prof. Zilberman
Email	alex.berkowitz@brooklyn.cuny.edu	khajo@brooklyn.cuny.edu	gan.zhang89@brooklyn.cuny.edu	David.Zilberman@brooklyn.cuny.edu
Office Hrs	Mon 2-3 pm or by appt	Mon, Tues & Thurs 8-9 am	Thurs 2-4 pm or by appt	Fri 9-11 am
Office	437 New Ingersoll	357 New Ingersoll	353 New Ingersoll	307 New Ingersoll

Required Purchases:

1. Organic Chemistry by W. Brown, C.S. Foote, B.L. Iverson, E. (get the 6th or 7th edition)*
2. Solutions Manual for Organic Chemistry (get the 6th or 7th edition)*

Highly Recommended Purchases:

1. Organic Chemistry as a 2nd Language (1st Semester Topics) by David Klein (any edition)*
2. Molecular Modeling Set (any set is fine; it can be easily shared by 2 or 3 people)*

*** All these items are available on reserve in the library.**

Resources:

1. Weekly Problem Sessions with Professor Horowitz: Thurs 1-2 PM, 0311 Ingersoll (Basement).
2. Tutoring in Learning Center: 1300 Boylan Hall, Times TBA
3. Online Tutorials:
<http://www.youtube.com/user/freelanceteach>
<http://www.khanacademy.org/>
<http://ochem.jsd.claremont.edu/tutorials.htm#>
http://www.youtube.com/channel/UCGEi3UHuzHKDuMJkf_iRq5g/videos?view=0
4. Online Practice Problems:
<http://userhome.brooklyn.cuny.edu/ghorowitz/>
<http://www.cem.msu.edu/~reusch/VirtualText/Questions/problems.htm>
<http://www.utdallas.edu/~scortes/ochem/>
5. Online Animations: www.chemtube3d.com

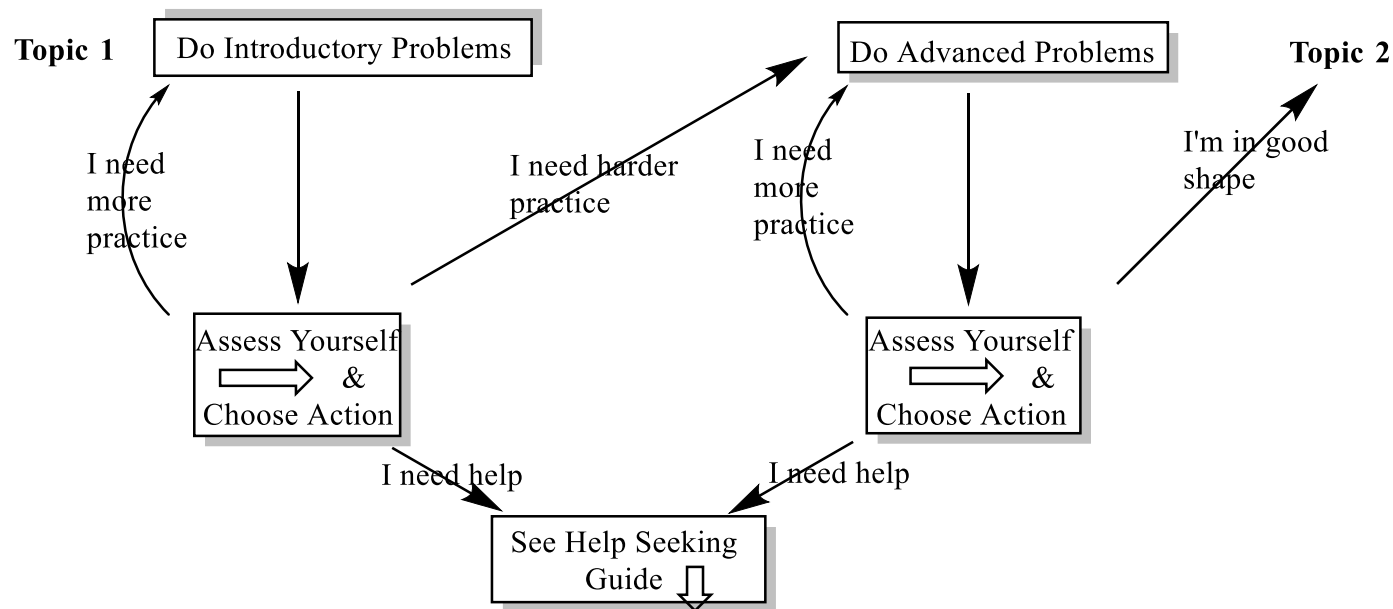
How to Succeed In Organic Chemistry:

1. Set aside 10 hours per week of study time for this course.
2. Skim the textbook before class.
3. Attend class religiously and come on time to class.
4. Take notes in lecture.
5. Review your lecture notes as soon as you can after each class meeting.
6. Think of this class like a math class - problem solving is the most important thing.
Spend the majority (at least 75%) of your study time doing problems, not reading!
Do all the assigned homework problems (textbook and internet).
Practice each topic until you have mastered it. Don't just stop when you have completed the assigned problems. Make sure you really understand what you are doing.
7. Study with a partner or in a group.
8. Don't be afraid to ask for help. Get help immediately if you get stuck.

Course Grade Breakdown:

Exam I 20%	Recitation Quizzes 20%
Exam II 20%	Recit Attendance 5%
Final Exam 30%	Self Assessments (In Recitation & Online) 5%

HOW TO STUDY FOR THIS COURSE:



Ways to Assess Yourself:

- Check your work against an answer key.
- Try explaining your answers out loud to a friend or classmate.
- Try to convince a friend or classmate that your point of view is right (and theirs is wrong).
- Take the assigned question and modify it slightly but in a way that you think will matter and see if you can still answer it.

Help Seeking Guide:

1. Are you feeling lost about a specific topic or topics?
 - a. A good source for simple explanations of Organic Chemistry concepts is Organic Chemistry as a Second Language by Klein.
 - b. Sometimes a short, online video tutorial (no more than 10 minutes!) can help. See URLs listed above.
 - c. Don't waste hours searching for or watching videos. If you don't find what you need quickly, ask a classmate or the course instructor for suggestions.
2. Are you getting some of the content, but missing bits and pieces, like parts of the HW you get right, parts you get wrong? Or you are not always sure why you get things right or wrong? In these kinds of situations (where you need quick, short explanations), it can be very helpful to
 - a. Go to the tutors in the learning center.
 - b. Ask questions of your recitation instructor, e.g. before or after class or during office hours.
 - c. Ask questions of the lecture instructor, e.g. before or after class or during office hours.
 - d. Ask questions of your lab instructor during quieter times in the lab (when there are waiting periods or when lab ends early).
3. Are you feeling completely lost in the course?

This is a time to see someone like the course instructor (who is an expert at helping students succeed in Organic Chemistry) or another mentor/advisor that you know well and trust.

LECTURE SCHEDULE

Topic	Dates	Homework (From Textbook & Internet)
Course Requirements & Grading, Reading versus Problem Solving, Valence Electrons, Formal Charges, Lewis Structures: 1.1, 1.2	1: 1/31	Chapter 1: 27-32, 65, 70
Bonding, Hybridization, Geometry, Polarity: 1.4, 1.5, 1.6, 1.7, 1.10	2: 2/2	Chapter 1: 24-26, 35-40, 49, 56-58, 71, 72
Line-Angle Formula, Resonance: 1.8, 1.9, 2.1	3: 2/7	Chapter 1: 52-55, 73-75; Chapter 2: 16-18 http://userhome.brooklyn.cuny.edu/ghorowitz/documents/resonance.pdf
Last Day to Drop	Feb 19	
Quiz I: Chapter 1, 2.1 + In Class Self Assessment		Feb 15 (Mon Schedule), 16, 22
Nomenclature, Functional Groups, Constitutional Isomers: 1.3, 2.2, 2.3, 2.4 & Appendix 9	4: 2/9	Chapter 1: 42-48; Chapter 2: 20-30 Chapter 5: 13b-e, h, k, m, o, 14a, d-h Chapter 10: 10.14, 10.15a, c, n, o Chapter 16: 14a-c, I; Chapter 17: 7b,c
Alkane Conformers: 2.5	5: 2/14	Chapter 2: 30-35 http://www.napavalley.edu/people/sfawl/Documents/Chem%20240/1%20%20Exam%201%20Practice%20Problems%20and%20Keys.pdf do 1-2
Cycloalkanes, Chair Conformers, Cis/Trans: 2.5, 2.6	6: 2/16	Chapter 2: 36, 42-44, 46, 48-51 https://www2.chemistry.msu.edu/faculty/reusch/virttxtjml/Questions/Stereocem/axialequ.htm
Quiz II: 1.3, Chapt 2, Appendix 9 + In Class Self Assessment		Feb 23, 27, March 1
Chirality, Stereoisomers, Optical Activity: 3.1, 3.2, 3.7	7: 2/21	Chapter 3: 14, 16-18 https://www2.chemistry.msu.edu/faculty/reusch/virttxtjml/Questions/Stereocem/cipnomen1.htm do 1-3
R/S Naming System: 3.3	8: 2/23	Chapter 3: 20 https://www2.chemistry.msu.edu/faculty/reusch/virttxtjml/Questions/Stereocem/rscnfg1.htm https://www2.chemistry.msu.edu/faculty/reusch/virttxtjml/Questions/MOEDITOR/rs_cnfig.htm https://www2.chemistry.msu.edu/faculty/reusch/virttxtjml/Questions/Stereocem/cnfgprb.htm
Multiple Chiral Centers: 3.4, 3.5, 3.6	9: 2/28	Chapter 3: 22, 24-26, 30-31, 37, 39 https://www2.chemistry.msu.edu/faculty/reusch/virttxtjml/Questions/Stereocem/symmetr2.htm do 1-2 http://www.utdallas.edu/~scortes/ochem/OCHEM1_Lecture/exercises/ch5_stereo2.pdf do part B
Quiz III: Chapter 3		March 2, 6, 8

Topic	Dates	Homework (From Textbook & Internet)
Types of Acids & Bases, pKa's & Equilibria, Ranking of Organic Bases: 4.1-4.7	10: 3/2	Chapter 4: 10-11, 15-17, 22-23, 25, 31-38, 41-42, 44-45 http://www.utdallas.edu/~scortes/ochem/OChem1_Lecture/exercises/bronst_acid_base_qs.pdf do 1-5
Online Self Assessment		Available Feb 27-March 3
Exam I: Chapters 1-4	12: 3/9	
S _N 2 : 9.1, 9.2, 9.3, 9.4 Organic Reactions: 6.2	11: 3/7	Chapter 9: 11- 19, 21, 24, 28- 29, 48-52
S _N 1 & E1: 9.1-9.4, 9.6, 9.7 Carbocation Stability: 6.3	13: 3/14	Chapter 9: 20, 22, 23, 25, 26, 27, 34-36
E2: 9.5, 9.6, 9.7 E/Z: 5.1C, 5.2C Competition Among the 4 Mechanisms: 9.8, 9.9	14: 3/16	Chapter 9: 37-42 Chapter 9: 43-46
Complex Mechanisms & Rearrangement: 9.10, Appendix 10	15: 3/21	Chapter 9: 30-33
Online Self Assessment		Available March 13-March 17
Quiz IV: Chapter 9		March 29, 30, April 3
Electrophilic Addition Reactions: 6.1, 6.3	16: 3/23	Chapter 6: 15-19, 21-24, 26-33
Stereochemistry of Additions to Chiral/Acyclic Systems: 6.7	17: 3/28	Chapter 6: 46a,d, 48a-e
Complex Mechanisms: Appendix 10	18: 3/30	Chapter 6: 34-36
Other Reactions of Alkenes: 6.4, 6.5, 6.6	19: 4/4	Chapter 6: 37-42, 44-45, 46b,c, 48f,g
Reactions of Alkynes: 7.4-7.8 Alkynes in Synthesis: 7.9	20: 4/6	Chapter 7: 10-13, 16-18, 30-32 Chapter 7: 8, 20-25, 29, 33, 34
Last Day to Withdraw	4/19	
Exam II: Chapters 5, 6, 9	21: 4/25	

Topic	Dates	Homework (From Textbook & Internet)
Free Radical Halogenation: 8.4-8.6, 8.8 Synthesis up to Now	22: 4/27	Chapter 8: 13-15, 19, 25, 26, 29-30, 32 Chapter 9: 47, 55-61
Organometallic Reagents: 15.1A, 15.1 B, 15.2A	23: 5/2	Chapter 15: 7-11
Synthesis with Organometallics: 15.1C, 15.2B, Appendix 11	24: 5/4	Chapter 15: 21-23 http://userhome.brooklyn.cuny.edu/ghorowitz/document/s/synthesis_000.pdf http://userhome.brooklyn.cuny.edu/ghorowitz/document/s/synthe.pdf
Quiz V: Chapter 15, Synthesis (Rxns From Chapters 6-9 & 15)		May 10, 11, 15
Introduction to Spectroscopy: IR/MS/NMR Chapter 13: NMR (Index of H Deficiency: 5.1A)	25: 5/9 26: 5/11 27: 5/16	Chapter 13: 15-16, 20, 23-24 Chapter 5: 32 http://userhome.brooklyn.cuny.edu/rpmurelli/coursework%20folder/NMR%20Easy.pdf typos: #6: dt should be dq, #7: C6H12, #9: C5H11N http://userhome.brooklyn.cuny.edu/rpmurelli/coursework%20folder/NMR%20(Medium).pdf typos: #2: C6H10O3, #4: 2H dt should be dq, #6: omit
Laboratory Final	28: 5/18	
Final Examination: Cumulative	May 23 8 AM	

COURSE POLICIES AND PROCEDURES

Academic Integrity:

Academic dishonesty of any type, including cheating and plagiarism, is unacceptable at Brooklyn College. Cheating is any misrepresentation in academic work. Plagiarism is the representation of another person's work, words, or ideas as your own. Students should consult the Brooklyn College Student Handbook for a fuller, more specific discussion of related academic integrity standards. Academic dishonesty is punishable by failure of the "test, examination, term paper, or other assignment on which cheating occurred" (Faculty Council, May 18, 1954). In addition, disciplinary proceedings in cases of academic dishonesty may result in penalties of admonition, warning, censure, disciplinary probation, restitution, suspension, expulsion, complaint to civil authorities, or ejection. (Adopted by Policy Council, May 8, 1991.)

Students with Disabilities:

If you have a disability, it is the responsibility of the university to provide you with reasonable accommodations. You should first register with Ms. Stewart-Lovell, the Director of the Student Disability Services Center (718-951-5538). Then please provide me with a copy of your course accommodation form and if necessary please schedule an appointment with me to discuss your specific accommodation needs.

Absence from Examinations:

No make up examinations will be given to students who are absent from lecture examinations. If you miss an exam, you must notify me of your absence in writing within 24 hours of having missed the exam. Students who miss one exam **with a valid excuse** will be assigned a score for the exam missed on the basis of their performance on the other lecture exam and on the final. A grade of zero for lecture will be given if both lecture exams are missed.

In the event of absence from the final exam, students **with a valid excuse** will be given a grade of INC and scheduled to take a makeup final the following semester. No makeup finals will be given to students whose overall course average before the final exam is less than 50%.

Regrade Policy:

Any student wishing a re-evaluation of an exam question must submit a signed, regrade request form (available on my website) within two weeks of the return of the quiz or examination. A scanned in electronic copy of the quiz or exam will be utilized to re-evaluate your paper.

Expectations for Recitation:

Students are expected to attend all class meetings and to arrive on time. Recitation will be spent working on problem solving. Students are expected to actively participate in this activity. Five quizzes will be administered over the course of the semester. The lowest score of the five will be dropped. Any missed quiz (regardless of the reason) will be assigned a score of zero. No makeups of missed quizzes will be allowed except for absence due to observance of a religious holiday.