

ORGANIC CHEMISTRY I Fall 2016 Syllabus

Lecture for recitation sections T9AR-T9LR

General Information

Lecturer: Dr. Maria Contel (<http://mariacontel.blog.brooklyn.edu/>)

Office: 3149N Ingersoll

Email: mariacontel@brooklyn.cuny.edu (I will not read/answer my work email on Saturdays and Sundays and therefore do not expect an answer during weekends)

Office Hours: **Tues 11-12:30, Thurs 11-12:30** (3149 NE) and by appointment (min. 24 hours in advance)

Phone: 718-951-5000 x2833

Lecture times/Classroom: Tuesdays and Thursdays 9:30-10:45/ 2310NE

Recitation Instructors	Email address	Office hours/Location	Recitation Session Date/Classroom
Rosemary Mollica (T9AR)	rmollica@brooklyn.cuny.edu	Wed 2-3 (and by appointment) 357NE	Wednesday 8-8:50 232NE
Dr. Gail Horowitz (T9BR, T9CR)	GHorowitz@brooklyn.cuny.edu	Mon 10:45-12:45 5315 Ingersoll	<u>T9BR</u> Wednesday 1:10-2:00 3214N <u>T9CR</u> Tuesdays 11:00-11:50 3146N
Gan Zhang (T9DR, T9LR)	Gan.Zhang89@brooklyn.cuny.edu	Wed 2:10-3:10 and 3:30-4:30 353NE	<u>T9DR</u> Wednesday 8-8:50 236NE <u>T9LR</u> Wednesday 1:10-2:00 234NE
David Zilberman (T9ER, T9JR)	dbzilb@yahoo.com	Thu 12-2 (and by appointment) 307NE	<u>T9ER</u> Monday 8:00-8:50 234NE <u>T9JR</u> Friday 8:00-8:50 3214N
Alex Berkowitz (T9GR)	aberkowitz13@gmail.com	Mon 2-3 (and by appointment) NE 437	Monday 1:10-2:00 236NE

Statement of Course Goals:

The goal of the lecture component of Organic Chemistry I is to introduce students to fundamental concepts of organic chemistry. By the end of the semester, a successful student will:

- 1) *Have a firm grasp on the language of organic chemistry*
- 2) *Be able to successfully think about and explain chemical reactions through illustration of mechanisms (including stereochemistry)*
- 3) *Be knowledgeable of chemical reactions and be able to plan multi-step syntheses employing them*
- 4) *Be able to interpret spectroscopy and assign chemical structures using spectroscopic data*

Required Purchases For Lecture:

1. Organic Chemistry, 7th Edition by W. Brown, C.S. Foote, B.L. Iverson, E. (ISBN-13: 9781305945715)
2. Molecular Modeling Set

Recommended Purchases For Lecture & Recitation:

1. Solutions Manual for 7th Edition of the Textbook (ISBN-10: 1285185862 | ISBN-13: 9781285185866)
2. Sapling Learning Online Homework. Students are recommended to purchase access to the online homework posted on the sapling learning website. To access the homework every student must register at <http://bit.ly/saplinginstructions> and follow the instructions given there. If you experience technical problems, please, email support@saplinglearning.com explaining the problem. The company will provide assistance throughout the semester. There will be a set of about 45 questions posted for each chapter, with the solutions. In addition, students will have access to other useful tools (links to online videos, online modeling kit, etc).

Resources for Students:

1. Blackboard for the course (pdf's of slides, some problems and reviews)
2. Nomenclature: <http://www2.chemistry.msu.edu/faculty/reusch/VirtTxtJml/nomen1.htm#start>
3. Professor Horowitz's Peer-Led Tutor Sessions
 - a. Thursdays 1-2:30, 0311 Ingersoll. Email Prof. Horowitz if any details are needed.
4. Practice Problems (check websites of Professors Murelli and Horowitz, see below) (<http://userhome.brooklyn.cuny.edu/rpmurelli/course.html>); <http://userhome.brooklyn.cuny.edu/ghorowitz/>
 - a. You should try to use old quizzes and exams in exam and quiz-like atmospheres (timed, no books) to gauge where you are in your understanding of the material.
5. Highly recommended tutorial/supplement
 - a. <http://masterorganicchemistry.com/organic-1/>
6. Library: Textbook, Solutions Manual & Molecular Models are on Reserve
7. Practice Problems on Prof. Horowitz' Website: Online Video Tutorials: <http://www.youtube.com/user/freelanceteach>
8. Online Tutorials: <http://ochem.jsd.claremont.edu/tutorials.htm#>
9. Animations of Reaction Mechanisms: www.chemtube3d.com
10. Supplementary Problems Online: <http://www.cem.msu.edu/~reusch/VirtualText/Questions/problems.htm>
<http://www.mc.maricopa.edu/~minger/CHM235.htm>,
<http://www.utdallas.edu/~scortes/ochem/>

How to Succeed In Organic Chemistry:

1. Start learning arrow pushing/mechanisms as soon as possible. Get comfortable pushing arrows in right direction.
2. Set aside 9-13 hours per week of study time for the lecture component of this course. More time may be required, especially during the first two months.
3. Attend class (lecture and recitation) religiously.
4. Review the textbook before class.
5. Take notes in lecture.
6. Problem solving is key:
 - Spend the majority of your study time doing problems, not reading.
 - Do the assigned textbook problems plus problems posted on recommended websites.
 - Practice each topic until you have mastered it. Don't stop just because you have completed the assigned problems.
 - Study with a partner or in a group.
 - Don't be afraid to ask for help. Get help immediately if you get stuck.

More specifics will be discussed on the first day of class!

Course grade breakdown, key dates and calendar with course content on pages 5-8

COURSE POLICIES AND PROCEDURES

Academic Integrity:

The faculty and administration of Brooklyn College support an environment free from cheating and plagiarism. Each student is responsible for being aware of what constitutes cheating and plagiarism and for avoiding both. The complete text of the CUNY Academic Integrity Policy and the Brooklyn College procedure for policy implementation can be found at www.brooklyn.cuny.edu/bc/policies. If a faculty member suspects a violation of academic integrity and, upon investigation, confirms that violation, or if the student admits the violation, the faculty member must report the violation.

Students with Disabilities:

In order to receive disability-related academic accommodations students must first be registered with the Center for Student Disability Services. Students who have a documented disability or suspect they may have a disability are invited to set up an appointment with the Director of the Center for Student Disability Services, Ms. Valerie Stewart-Lovell at (718) 951-5538. If you have already registered with the Center for Student Disability Services, please provide your professor with the course accommodation form and discuss your specific accommodation with him/her.

Absence from Examinations:

No make-up examinations will be given to students who are absent from lecture examinations or recitation quizzes. Lecture exams and quizzes have been scheduled not to coincide with most common religious holidays. If you observe a religious holiday and there is a quiz scheduled on that day, please notify your instructor in the beginning of the course so he/she can offer an alternative.

Students who miss one of the exams 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 must apply to the Academic Advisement Center for permission to take a makeup final examination given during following semester. No make-up final will be given to any student who is failing the course heading into the final.

Re-grade Requests: Any request for a regrade must be submitted in writing using the standardized regrade request form, which can be found on my blackboard materials or on Professor Horowitz's website (<http://userhome.brooklyn.cuny.edu/ghorowitz/index.htm>).

Illness During Examinations. If you become ill during any examination and feel that you are unable to complete it, notify a proctor immediately, write the words "I am sick", and hand in your paper. Your paper will not be graded and you will be considered absent from the examination. If you complete the exam, your paper will be graded and your grade will not be changed by a later claim of illness.

Expectations for Recitation:

Students are expected to attend all recitation meetings and to arrive on time. Recitation will be spent mostly working on problem solving. Students are expected to actively participate in this activity. 5 quizzes will be administered throughout the semester. The grade of the best 4 of these 5 quizzes will be considered for the quizzes final grade. Make-up quizzes will not be allowed.

Cell, smart phones, tablets and laptops:

You are not allowed to take or make phone calls during class, send emails or txts or search the internet (your recitation instructors and me as your lecturer will pay attention to this and we will invite you to leave the class if you take or make a phone call). Your cell phone should be in a silent mode or switched off. Phones, tablets and laptops are not allowed on desks during exams or quizzes. Your cell phone is not a substitute for a calculator.

Important:

You are **NOT ALLOWED** to use **PENCILS** in the **EXAM**. **Only exams written with PEN will be considered for grading.**

Classroom Behavior

Disruptive classroom behavior negatively affects the classroom environment as well as the educational experience for students enrolled in the course. Any serious or continued disruption of class will result in a report to the Office of Judicial Affairs. Public Safety will be summoned immediately if a serious disruption prevents the continued teaching of the class and you may be subject to disciplinary action. For disruptive behavior that does not prevent the continued teaching of the class, you will receive a warning after one such disruption. If the disruptive behavior is repeated in the same or subsequent classes, you may be asked to leave the classroom for the remainder of class and you may be subject to disciplinary action.

Course Grade Breakdown:

Lecture/Recitation

Quizzes 25%

Exam I 17.5%

Exam II 17.5%

Final Exam 35%

Recitation Attendance 5%

There will be no curve for the grades of this course.

Final course grade (based on a total of 100) will be as follows: **100-90 A+, 89-85 A, 84-80 A-, 79-75 B+, 74-70 B, 69-65 B-, 64-60 C+, 59-55 C, 54-50 C-, 49-45 D, 44 or less F.**

KEY DATES

Dates of Quizzes and Exams (please be knowledgeable of your recitation session schedule since there are **NO MAKE-UP** quizzes, conversion days provided on the calendar on page 6)

Quiz 1* – 3rd recitation session

Quiz 2* – 5th recitation session

Exam 1 – 10/13 week 8

Quiz 3* – 8th recitation session

Quiz 4* – 11th recitation session

Exam 2 – 11/15 week 13

Quiz 5* – 14th recitation session

Final Exam – 12/20 week 18

Administrative Dates

Last day to add a course/ Last day to file pass/fail application – Wed 08/31 (with late-add form signed by instructor and departmental permission)

Last day to drop a course without a grade – Wed 09/14

Last day to file for fall 2016 graduation – Thu 09/15

Last day to resolve spring and summer 2016 incomplete (INC) grades – Wed 11/09

Last day to withdraw from a course with a W (non-penalty) grade – Thu 11/10

** Quizzes will be held at your respective recitation section. Remember that recitation attendance is part of the grade.*

I have scheduled lecture exams and recitation quizzes bearing in mind most common religious holidays but if you observe a religious holiday and there is a quiz scheduled on that day, please notify your instructor in the beginning of the course so he/she can offer an alternative.

Calendar

- No classes Saturday-Monday September 3rd-5th, Monday and Tuesday October 3rd and 4th, Monday-Wednesday October 10th-12th, Thursday-Sunday November 24th-27th (Thanksgiving Holiday)
- Thursday October 6th is a MONDAY conversion day (classes follow a Monday Schedule)
- Friday October 14th is a TUESDAY conversion day (classes follow a Tuesday Schedule)

First Lecture Examination: October 13th (Thursday) Week 8

Second Lecture Examination: November 15th (Tuesday) Week 13

Final Exam: December 20th (Tuesday) Week 18

ALWAYS bring **NOTEBOOK, textbook, supplement, molecular models and hand-outs to class and recitation.**

WEEK 1 Aug 25 th , WEEK 2 Aug 29 th , Sept 1 st WEEK 3 Sept 6 th	Subject: How to study organic chemistry? How can I succeed in this class Subject: Covalent Bonding and Shapes of Molecules, Molecular Orbital Theory Reading: Lewis structures, Hybridization, Polar and Non-Polar Molecules, Functional Groups, Resonance, Molecular Orbital Theory (1.1-1.10) Nomenclature (to be studied on your own): http://www2.chemistry.msu.edu/faculty/reusch/VirtTxt[ml]/nomen1.htm#start
WEEK 3 Sep 8 th WEEK 4 Sept 13 th	Subject: Alkanes and cycloalkanes Reading: Chapter 2 (2.2-2.6, 2.8)
WEEK 4 Sept 15 th WEEK 5 Sept 20 th	Subject: Stereochemistry Reading: Chirality, Stereoisomerism, Naming Chiral Centers, Acyclic and cyclic molecules with two or more stereocenters. Chapter 3 (3.1-3.8)
WEEK 5 Sept 22 nd WEEK 6 Sept 27 th	Subject: Acids and Bases Reading: Arrhenius and B-L acid and bases. Relative Strengths of Acids and Bases, PKa. Chapter 4 (4.1-4.7)
WEEK 6 Sept 29 th	Subject: Nucleophilic substitution and B-elimination Reading: Mechanisms of nucleophilic substitution, substitution and β-elimination, substitution versus β-elimination. Chapter 9 (9.1-9.9)

WEEK 7	No class
WEEK 8 Oct 13 th	FIRST LECTURE EXAMINATION (Chapters 1-4) 9:30-10:45 AM
WEEK 8 Oct 14 th WEEK 9 Oct 18 th	Subject: Nucleophilic substitution and E-elimination (careful, class on Friday October 14 th due to conversion day) Reading: Mechanisms of nucleophilic substitution, substitution and β -elimination, substitution versus β -elimination. Chapter 9 (9.1-9.9)
WEEK 9 Oct 20 th WEEK 10 Oct 25 th	Subject: Reactions of Alkenes Reading: Reaction mechanisms, electrophilic addition, hydroboration-oxidation, oxidation, reduction. Chapter 6 (6.2-6.7).
WEEK 10 Oct 27 th WEEK 11 Nov 1 st	Subject: Reactions of alkynes Reading: Acidity of alkynes, preparation of alkynes, electrophilic addition, hydration of alkynes, reduction. Chapter 7 (7.4-7.9). Organic Synthesis (materials provided by Prof. Contel)
WEEK 11 Nov 3 rd WEEK 12 Nov 8 th	Subject: Halogenation of alkanes Reading: Preparation of haloalkanes, mechanisms of halogenations, regioselectivity, Hammond's postulate, allylic halogenation. Chapter 8 (8.4-8.8).
WEEK 12 Nov 10	Subject: Organometallic Reactions Synthesis Reading: organomagnesium and organolithium compounds and alkyl cuprates. Chapter 15 (15.1 A-C, 15.2 A-C)
WEEK 13 Nov 15	SECOND LECTURE EXAMINATION (chapters 9, 6, 7 and 8) 9:30-10:45 AM
WEEK 13 Nov 17 th WEEK 14 Nov 22 nd WEEK 15 Nov 29 th	Subject: Nuclear Magnetic Resonance (NMR) Reading: Chapter 13 (13.1-13.12) extra problems available at: http://www.chem.ucla.edu/~webspectra/
WEEK 15 Dec 1 st	Subject: Infrared Spectroscopy and Mass Spectroscopy Reading: Chapter 12 (12.1-12.4) and chapter 14 (14.1-14.3)

WEEK 16 Dec 6 th , Dec 8 th	Revision of concepts
WEEK 17 Dec 13 th	Final Exam Laboratory (If you have questions, please contact the Lab coordinator, Dr. Gail Horowitz at GHorowitz@brooklyn.cuny.edu and check lab syllabus)
WEEK WEEK 18	FINAL LECTURE EXAMINATION (all subjects) December 20 th (Tuesday) 8:00 -10:00 AM