ORGANIC CHEMISTRY I
Columbia University
Chemistry S3443D
Prof. Savizky

COURSE OVERVIEW: This course is the first part of an intensive two-semester sequence in organic chemistry taught over the summer in two summer sessions. **It is equivalent to Organic Chemistry I (3443) taught during the regular academic year.**

INSTRUCTOR: Prof. Ruben Savizky
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REQUIRED TEXT: Klein, *Organic Chemistry,* 1st edition (Wiley), 2012

CLASS HOURS: Monday-Thursday 10:45-12:20 (Room 209 Havemeyer)

RECITATION HOURS: Monday-Thursday 9:00-9:50 (Room 209 Havemeyer)

OFFICE HOURS: Immediately before class and after class. If you would like to set up an appointment please email. Room Number: Chandler 454.

Topics to be covered:

1. Structure and bonding
2. Polar covalent bonds; acids and bases
3. Overview of organic reactions
4. Alkanes
5. Cycloalkanes
6. Stereochemistry
7. Alkenes
8. Alkynes
9. Halides
10. Nucleophilic substitutions and eliminations
11. Alcohols, phenols, ethers, epoxides, thiols and sulfides
12. Synthesis

Quizzes: Quizzes will generally be given every Thursday, except the last week of the course. The total number of quizzes will be 5 for the entire semester. They will be short (1-2 questions) and done during the recitation section. The lowest quiz grade will be dropped. There are no make-up quizzes.

Exams: There will be three exams (90 minutes, 100 points each), and the final (3 hours, 100 points). The lowest grade from the first three exams will be dropped. There are NO make-up exams. If you miss an exam, that is the one that will be dropped. They will be

cumulative in the sense that the material from later in the course will rely on your understanding of concepts introduced earlier on.

Homework: Problem sets will generally be assigned at the end of each chapter. They will be graded, and they will be discussed in recitation.

Grades: Your grade will be determined as follows:

Homeworks:	15%
Quizzes:	15%
Exam 1:	20%
Exam 2:	20%
Final:	30%

Each student's raw score will be calculated using the weighted average above. All the scores will be normalized (i.e. out of 100) and grades will be determined by cluster analysis. In accordance with the guidelines of the Dean of Columbia College and the Chemistry Department, final grades will be assigned such that the overall class GPA is 3.20 ± 0.04 and the percentage of "A range grades" (A+/A/A-) will be 32.0 ± 1.0 %.

Tentative schedule:

Week	Topic	Chapter
1	Introduction: Molecular representations and structures	1, 2
1	Acids and bases	3
1	Alkanes and cycloalkanes	4
1	Alkanes and cycloalkanes (continued)	
2	Stereochemistry	5
2	Stereochemistry (continued)	
2	Chemical reactivity and mechanisms	6
2	Chemical reactivity and mechanisms (continued)	
3	EXAM 1	
3	Substitution reactions	7
3	Substitution reactions (continued)	
3	Alkenes: Reactions and synthesis	8
4	EXAM 2	
4	Alkenes: Reactions and synthesis	9
4	Alkenes: Reactions and synthesis (continued)	9
4	Alkynes	10
5	EXAM 3	
5	Radical reactions	11
5	Radical reactions (continued)	
5	Synthesis and retrosynthesis	12
6	Synthesis and retrosynthesis (continued)	
6	Alcohols and phenols	13
6	Alcohols and phenols (continued)	
6	FINAL	