Syllabus
Queens College of the City University of New York
Department of Chemistry and Biochemistry
Chem 351/750/7931-1 Advanced Organic Chemistry Fall 2015

Professor William H. Hersh, 109/257/259 Remsen Hall (lab in Annex)
Office Hour: Wednesday, 4:00 PM - 4:50 PM and by appointment
Lecture: Mon, Wed 5:00-6:50 PM
Telephone: 718-997-4144
Check Blackboard for handouts
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If you are registered in Chem 750, it is only 3 credits, even though this is supposed to be a 4 credit course. At your option, you can register for 7931-1 (course No. 41288, Tutorial in Chemistry), in order to receive the 4th credit. The grade will be the same in 7931-1 as in 750.

Course Requirements:
Prerequisites for Chem 351/750: C or better in Chem 252.4 and 252.1
Pre or corequisite: C or better in Chem 211 and 212

Note: a C- in any pre or corequisite will not permit you to take 351/750

There is a sophomore organic homework assignment on Blackboard, due Sept. 2. Use it to study for the course.

You will need access to Blackboard for 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 email.


Lecture Topics (tentative)
Chp 1: Chemical Bonding and Molecular Structure – skip p8, skim 1.1.6, 1.2.6, 1.3; skip 1.4; skim 1.4.1; skip 1.4.2-1.4.6; will cover topic 1.1, 1.3

Chp 8: Aromaticity

Chp 10: Concerted Pericyclic Reactions

Chp 2: Stereochemistry and Conformational Analysis

Chp 3: Structural Effects on Stability and Reactivity - Use of kinetics to study reaction mechanisms

Other possible topics:
Oligonucleotide chemistry – non-enzymatic synthesis of DNA
Chiral phosphorus compounds – synthesis and use
Transition metal organometallic chemistry
Use of computers in organic chemistry

Grading
Homework: 15%
Quizzes: 35%
Midterm exam: 20% (Tentative exam date: Oct. 28)
Final exam (comprehensive): 30%
Approximate grading key: 80-100 A, 60-79 B, 50-59 C.

DATES TO REMEMBER:
First class Monday August 31.
Thursday Sept. 10 is a Monday schedule so class will meet then; note that we have class as usual Wed. Nov. 25
Last day of class Mon. Dec. 14; Final Exam is most likely on Dec. 16, 21, or 23.

**Course Objectives:** Students will be expected to come into the course with a clear grasp of sophomore organic chemistry, and this course will pick up at that point with more sophisticated coverage of modern physical organic chemistry, including molecular orbital theory, calculational methods, new areas of aromaticity, and coverage of pericyclic reactions. To a much greater extent than in the 1st year organic course, experiments and their interpretation will be used to explain new ideas, including the use of kinetics. At the conclusion of this semester students will be ready to apply modern calculational and kinetic methods to organic research.

**Assessment:** Problem-solving ability will be tested using exams and problems.