

4:123

Organic Chemistry I for Majors

Fall 2007

Instructor: Professor Chris Pigge Office: 419 CB

Web Site: Online course management will be through ICON.

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Textbook: "Organic Chemistry", 7th Edition, 2008, by John McMurry, ISBN #0-495-11258-5 (available in the IMU bookstore).

Optional Materials: Students are advised to obtain a set of molecular models because they are very useful in helping to visualize the 3D-structures of organic compounds. However, such models cannot be used during the examinations. An optional study guide (ISBN # 0-495-11268-2) contains answers to problems from the text. These items are also available in the IMU bookstore.

Course Notes: Copies of the Powerpoint slides used in class will be made available on the course web site. These notes are intended to be helpful—not to alleviate the need for attending class. Efforts will be made to post these notes at least three days before each class, if not sooner. They are most useful if you look them over before class, and add highlights or additional notes to them during lecture.

Lectures: MWF, 10:30-11:20 AM in W107 PBB

Exam Schedule:

Exam 1: Wednesday, Sept. 26 at 5:30 PM

Exam 3: Wednesday, Dec. 5 at 5:30 PM

Exam 2: Wednesday, Oct. 24 at 5:30 PM

Final Exam: Thursday, Dec. 20 at 7:30 AM

Exams: There will be three regular exams and a final. Each regular exam will be given on a Wednesday at 5:30 PM and will last 90 minutes. The final exam will be held during the scheduled time of Thursday, December 20 at **7:30 AM**, and will last two hours. Room assignments and any room changes will be announced in class. Rooms for finals have not yet been assigned. *All exams will be comprehensive, since understanding of material encountered later in the course will require application of concepts learned previously.* However, each *regular* exam will focus mainly on material covered since the previous exam.

Announcements will be made in class regarding the material to be covered on each exam. All exams will be closed-book. Extraneous materials (e.g., models, notebooks, papers, backpacks, etc.) should be left at home or brought to the front of the room. The exams will be of a short-answer type wherein you write out answers and/or draw appropriate chemical structures in spaces provided on the exam itself. All exams must be written in ink, but not red ink. Exams written in pencil or in red or erasable ink, or those on which "white-out" has been used, cannot be regraded. Exams will be graded and returned as soon as possible. Grades and answer keys will be posted on the 4:123 ICON course web site.

Office Hours: Monday 1:00-2:00 PM, Tuesday 10:00-11:00 AM, Wednesday, 2:00-3:30 PM.

Questions will be answered during class, immediately after class (if possible), during discussions, or during office hours. Email is the best way to contact me and I might be able to answer relatively straightforward questions via this medium. If a meeting is needed outside these times, *please make an appointment*. The TA will announce his/her office hours at your first discussion section meeting.

Regrades: If you feel that a mistake has been made in grading your exam, you may turn it in to me for regrading. Write on the front of the exam the number of the question to be checked and a one-sentence explanation of what you believe was done incorrectly. *The entire exam will be regraded--if points were incorrectly awarded, the corresponding score change will also be made.* Regrade requests must be submitted within one week of the time the graded exams are made available to you. No regrades will be possible after that time.

Make-up Exams: Permission to take a make-up exam will require a valid, written excuse (e.g., from student health services). You must contact me and sign up for the make-up and provide an acceptable reason before the scheduled time of the regular exam that you miss. Under no circumstances will a make-up exam be given in place of a regular exam taken earlier. Scheduling of exams or classes in other courses is not an acceptable reason for taking a make-up, since the exam periods are already reserved in your schedule. *There will be no make-up for the final exam.*

Course Grades: At a minimum, grades will be based on performance on the three regular exams (300 points) and the final exam (150 points). Total points possible = 450. **Unannounced in-class quizzes may be given and will be incorporated into the overall point total.** No scores will be dropped in calculating the final grade for the course, and everyone must take the final exam. *Exam grades and final grades will be curved.* The grading curve for each individual exam will be based strictly on this semester's class performance on that exam. College guidelines will be followed as closely as possible in establishing the final grade distribution, and +/- grading will be used for final grades.

Drop-Add Slips: Drop/add signatures can be obtained from Ms. Lin Pierce in the Chemistry Center (231 CB). Please note that the deadline this semester for undergraduate students to drop a course is Monday, November 5. The last day to drop without receiving a "W" is Monday, September 10.

Other Course Information: This course is being offered by the College of Liberal Arts and Sciences. Thus, class policies on matters such as requirements, grading, and sanctions for academic dishonesty are governed by the College. Students wishing to add or drop this course after the official deadline must receive the approval of the Dean of the College of Liberal Arts and Sciences. Details of the University policy of cross-college enrollments may be found at: <http://www.uiowa.edu/~provost/deos/crossenroll.doc>.

Student Rights and Responsibilities: For UI policies on academic misconduct, plagiarism and cheating, forgery, student complaints concerning faculty actions, and procedures for complaints, see the Student Academic Handbook: http://www.clas.uiowa.edu/students/academic_handbook.

Special Needs: I to hear from anyone who has a disability that may require some modification of seating, testing, or other class requirements so that appropriate arrangements may be made.

The Student Disability Services office is located in 3101 Burge Hall (335-1462). If any such special arrangements are needed for exams, please inform me as soon as possible.

Discussion Sections: There will be 2 discussion sections per week conducted by a chemistry TA. Times and places are listed on ISIS. Because 004:123 is only a three-credit course, attendance at these sessions is not required, however, they are intended for your benefit. These are essentially "help sessions" that provide opportunities to ask questions about lecture material, problems from the text, exam questions, etc. in a smaller group setting. You may attend more than one if you like. Discussion sessions will begin on Tuesday, September 4.

Tentative Course Outline

The following is the sequence of material to be covered this semester. Any changes will be announced in class.

Chapter	Pages	Chapter Title
1	1-34	Structure and Bonding
2	35-72	Polar Covalent Bonds; Acids and Bases
3	73-106	Organic Compounds: Alkanes and Their Stereochemistry
4	107-136	Organic Compounds: Cycloalkanes and Their Stereochemistry
5	137-171	An Overview of Organic Reactions
6	172-212	Alkenes: Structure and Reactivity
7	213-258	Alkenes: Reactions and Synthesis
8	259-288	Alkynes: An Introduction to Organic Synthesis
9	289-331	Stereochemistry
10	332-358	Organohalides
11	359-407	Reactions of Alkyl Halides: Nucleophilic Substitutions...
12	408-439	Structure Determination: Mass Spectrometry and Infrared...
13	440-481	Structure Determination: NMR

Some Study Suggestions for Organic Chemistry I

A major difference between organic and general chemistry is that there is little or no math involved in introductory organic chemistry courses—topics tend to be presented in a very qualitative way. Thus, you will be most successful in this course if you strive to *understand the concepts* presented, how they relate to one another, and how they can be applied to new situations you encounter.

We are required to cover a lot of new material in this course, so it is *critical* to keep up with the chapter reading and problems. Unfortunately, if you fall behind, it will be *very* difficult to catch up. *This is not the type of course in which you can cram the night before an exam and expect to do well--ask anyone you know who has taken organic chemistry.*

Many students use the *course notes* as a core resource for learning the material, with the textbook serving as a supplement/reference that offers additional detail and provides relevant problems to work. *Molecular models* can be very useful in helping to learn and understand structural organic chemistry concepts. However, building models can be time-consuming, and you cannot use them during tests.

To prepare for exams, it is important to become proficient in applying the principles covered, and in *understanding and drawing chemical structures*. Practice with questions in the textbook, and check your answers in the study guide. *Practice writing* the answers to problems, especially those that ask you to draw structures. Even if you understand the material, you may find yourself short on time in exams if you have not become proficient in drawing and visualizing chemical structures. Finally, be sure to *take the practice exams* that will be provided for you before each regular exam. Use a time limit. Check your answers with the key, and investigate the ones you get wrong.

Come to class. The availability of course notes leads to a natural temptation to skip class. The notes are intended to help you learn, and to enable you to listen in class and make a few extra notes of your own, rather than focus on frantically copying everything. However, they are incomplete without the explanations, emphasis, model demonstrations, and highlighting that will be provided during class. There are many concepts in this course that are truly new to most people, and it is unlikely that you can simply read the notes or the book and understand everything (or be sure what your instructor considers most important...). Most students find that *more* explanation of this material is needed—not less.

Take advantage of discussion sections. Attendance in discussion sections tends to rise considerably right before exams. However, for those who attend regularly, these sessions offer an opportunity for getting additional help and concept reinforcement in a smaller class setting. It may also be helpful to form study groups with other class members.

Take advantage of office hours offered by your instructor (me) and your TA. During office hours you have an opportunity to participate in individual and/or small group discussions and to ask questions. Remember, office hours are held throughout the semester, not just before exams.