

ORGANIC CHEMISTRY II (Chemistry 252) Fall 2004

Gustavus Adolphus College

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Office hours: I will be glad to discuss topics related to the course with you at just about any time, *with the exceptions noted below*. The most convenient times are in the morning just after class (ca. 10:00-11:30) or on Thursday afternoon. (*The opposite is true for the time immediately preceding class.*) Other times are available, but should be scheduled ahead, as I will often have other items scheduled (labs, research, committee meetings, discussions with seminar speakers, etc.).

Textbook: Organic Chemistry, by William H. Brown and Christopher S. Foote; Saunders, 2002.

Homework: I will make assignments of an appropriate selection of homework problems from the textbook as we cover each topic. You should work the assigned homework problems on a regular schedule, rather than trying to do all of them a short time before you are tested over the material. You will find that your understanding of topics covered in class is greatly enhanced by work on the homework before the topic is covered in class. This effect applies even to those problems that you find to be intractable. Any questions that you have relative to the homework problems are welcome as topics for discussion during or outside of class. Occasional assignments of non-textbook homework problems will be made and graded. These will be used as extra credit for the final grade.

Web Site: My personal web page (<http://www.gac.edu/~bobrien>) contains a link for the Organic II course. The Organic page contains lecture and lab syllabi and links of interest for the course, and will also be used to post homework assignments and other course materials as necessary.

Grading System:

Four one-period tests, one grade dropped	60%
Comprehensive final examination	15%
Laboratory.....	25%

If your grade on the final examination is higher than your test average, the final grade will be calculated on a basis of 50% and 25%, respectively.

The test dates are: September 24 (Friday), October 15 (Friday), November 5 (Friday), and December 3 (Friday). The final examination will be given on Tuesday, December 21, 1:00-3:00 p.m.

Model Sets: If you do not have a set of molecular models, I strongly urge you to purchase one. You may use your model sets during tests.

Your Commitment: I consider your enrollment in this course to constitute a commitment on your part to principled participation in the various facets of the course (regular class attendance, laboratory participation, completion of homework, etc.) and to a genuine effort toward achievement of a thorough understanding of the course material. Occasionally a student in the course will exhibit behavior that is grossly negligent or irresponsible with regard to these expectations. I will withdraw such individuals from the course.

It is expected that students enrolled in this course will abide by the Honor Policy as described at the Gustavus web site: http://www.gustavus.edu/oncampus/academics/general_catalog/current/index.cfm?pr=acainfo. Assignments not carried out in accord with these principles will be assigned a grade of zero. The degree of allowable collaboration on out-of-class assignments will be described on a case-by-case basis. I will be present during exams, not only as a proctor, but so that I will be able to answer questions that might arise during the exam.

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Course Coverage:

The course will begin with a review of ^1H nuclear magnetic resonance (NMR) spectroscopy. New topics to be covered are briefly described below.

<u>TOPIC</u>	<u>Text Chapter(s)</u>
^{13}C NMR spectroscopy	13.13-13.15

Chemistry of ethers (R-O-R), epoxides (strained three-membered ring ethers), and sulfides.....	11

Chemistry of alkynes - compounds that contain carbon-carbon triple bonds	10

Organometallic Compounds (compounds with metal-carbon bonds).....	15

Chemistry of aldehydes [R-CH(=O)] and ketones ($\text{R}_2\text{C}=\text{O}$)	16

Preparation, reactivity, and biochemistry of carboxylic acids [R-C(=O)OH] and their derivatives	17, 18

Acid-base chemistry of aldehydes and ketones: enols, enolates, enamines, and condensation reactions	19

Chemistry of benzene and its derivatives: aromaticity. chemistry of phenols, aryl ethers, and benzylic compounds	20

Chemistry of benzene and its derivatives: ring-substitution reactions	21

Organic analogs of ammonia: chemistry of aliphatic and aromatic amines (RNH_2 , R_2NH , R_3N)	22

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