

CHE-251
Organic Chemistry II
Fall 2005
Gustavus Adolphus College

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Textbook: Organic Chemistry, Brown, Foote, and Iverson; 4th edition (2005)

Supplies : Molecular models. These are not a requirement, but I strongly urge you to purchase a set. You may use the model sets during the exams.

Classroom: Wallenburg auditorium, Nobel Hall

Office Hours: My scheduled office hours are the following, or by appointment;
Wednesday and Thursday 11:30 - 12:30

Attendance

Attendance at the class lectures is important to your understanding and enjoyment of chemistry. You will be responsible for anything that is announced or discussed in lecture.

Academic Honesty

I expect you to be honest. The policy of the college states in part:

...Gustavus Adolphus College expects all students to adhere to the highest standard of academic honesty, and to refrain from any action that impinges upon the academic freedom of other members of the college community. In all academic exercises, examinations, presentations, speeches, papers, and reports, students shall submit their own work.... In the case of cheating or plagiarism, the instructor will inform the student and the office of the Dean of the Faculty of the nature of the offense, the penalty within the course and the recommendations of the instructor as to whether further disciplinary action by the dean is warranted.

Anyone caught cheating on an exam or assignment will receive a grade of 0 for that exam or assignment. Repetition will result in an F for the course. If you have any questions about these policies, please come see me, or refer to the Gustavus Guide.

Homework:

I will give you a selection of homework problems out of the textbook to do as we cover each topic in class. You should try to work the assigned problems on a regular basis, rather than trying to do them all right before the exam. Any questions that you have with regard to the homework problems are welcome as topics for discussion during or outside of class. These homework problems will not be collected for a grade. As the exams will reflect the concepts and skills that the homework will develop, however, your grades will ultimately reflect your performance on these homework problems.

Because chemistry is a collaborative science, you will also be assigned four group homework assignments throughout the semester. These homework assignments will be collected for a grade. Your cumulative grade on the homework assignments may be used to 'replace' your worst test grade if it is to your advantage. I will assign the groups (4-5 people) and distribute the homework assignments one-week before they are due. One person in each group will be required to contact the other group members to arrange meeting times and one set of homework will be turned in, with all of your names, for credit. The group homework assignments will be due on September 16th, October 14th, November 11th, December 2nd.

Grading

This is important, so please read it twice: The exams will consist of a variety of short-answer type problems. They will test your understanding of the material covered up to the date of the exam. *In addition to being able to remember facts and principles from lectures and the text, you will be expected to extend the principles learned to new situations and to offer explanations of the behavior of compounds not yet examined, based on what you have learned.* On every exam, it will be assumed that you are familiar with all the material from the beginning of the course, although very little of earlier units will be tested directly.

Your lowest exam grade (not the final) can be replaced with your grade on the group homework assignments. One bad exam will not necessarily ruin your grade. The breakdown of your grade is the following:

Four one-period exams/group homework	60%
Comprehensive final exam.....	20%
Laboratory.....	20%

Extra Credit: On each of the group homework assignments, there will be one or two problems of a more complex nature. These will be optional, but will count as extra credit. Problems of a similar nature will also appear on the exams, also for extra credit.

The test dates are: Friday, September 23rd; Friday, October 21st; Friday, November 18th; and Friday, December 9th. The scheduled final exam is Friday, December 16th, 1:00-3:00 p.m. All of the exams will be held in Wallenburg auditorium.

Extra Credit: On each of the homework assignments, there will be one or two problems of a more complex nature. These will be optional, but will count as extra credit. Problems of a similar nature will also appear on the exams, also for extra credit.

The extra credit accrued throughout the semester will not be figured into the scores used to establish the curve. Once the curve is established, the extra credit points will be added to the raw score and a grade assigned based upon the raw-score curve.

Study Hints

Success in organic chemistry requires practice. Much of the information builds upon concepts previously presented; frequent review is essential. Here are a few tips to help keep the course material under control:

I. Keep Current

Actually, stay one step ahead. Read the textbook material corresponding to lecture material before coming to that lecture. You will be able to ask questions and make the class work for you. Read through the homework problems at the end of the chapter before you read the chapter text. Look for answers to these questions as you read. In other words, use the homework to guide your reading.

Regular attendance and active participation in class is helpful to you, to me, and to your fellow students. It helps you clarify any difficulties you encounter. At times, the course lecture and questions asked by your colleagues will identify and address a weakness of which you were not aware. Your questions in class help me to know where you are encountering difficulties. Finally, and very importantly, your attendance and questions will help your fellow students in much the same way they help you. Your insights may be precisely what they need to help them understand.

You will find it helpful to review your notes from each lecture before you attend the next one, and to reread text sections. This will help you detect difficulties early enough to prevent any snowballing. More importantly, it will help make the lectures more useful and understandable.

II. Do the homework problems

You understand a concept only to the extent that you can explain it to another, or apply it to yourself. It is not enough to have read or heard an answer, or 'followed' an example presented in class. You must be able to do it, explain it, or apply it to another problem. The assigned problems from the textbook will direct you toward the important features of each topic. Try to work all of these problems (and more)! As you work the problems, keep in mind that it is the process of reaching the solution, not the answer, that is most important. If you cannot do a problem, consult your textbook, your notes, or me. If you check the solutions manual before trying to work the problem first, the problem has lost its usefulness.

III. Ask Questions

The office hours listed (first page) are those in which I guarantee I will be available. However, I will also be in my office at other times and will be willing to see you if I am free. If the listed times are not convenient, see me and we will arrange a time to meet.

If you have specific physical, psychiatric or learning disabilities and require accommodations to help you fulfill these expectations, please let me know during the first week of class so that your learning needs may be appropriately met. You will need to provide documentation of your disability to Lori Beckett in the Advising Center (204 Johnson Student Union.) All discussions will remain confidential.

Course Coverage

In second semester organic chemistry, we will study the chemistry of the carbonyl and amine functional groups, aromatics, and conjugated systems. Not unlike first semester, we will primarily be focused on reaction mechanisms. However, since we will become familiar with a broad spectrum of reactions, we will also expand our attention to include organic synthesis. We will learn how to plan the synthesis of complex organic compounds from more simple compounds and to use spectroscopic and other data to determine structures.

The schedule below gives an outline of the topics we will study, including the textbook chapter and a tentative class schedule. Note that this is VERY tentative, if we need to spend more time on a subject, we will.

Topic	Reading	Lectures
Spectroscopy Review	Chapters 12 & 13	Sept 7, 8, 9
Ethers, Sulfides, and Epoxides	Chapter 11	Sept 12, 14, 15, 16
Alkynes	Chapter 6	Sept 19, 21, 22, 26
Organometalics	Chapter 15 (and 24)	Sept 29, 30 Oct 3, 5, 6
Aldehydes and Ketones	Chapter 16	Oct 7, 10, 12, 13, 14
Carboxylic Acids Carboxylic Acid Derivatives	Chapter 17 Chapter 18	Oct 17, 19 Oct 20, 26, 27, 28, 31 Nov 2
Mass Spectrometry	Chapter 14	Nov 3, 4
Enolates and Enamines	Chapter 19	Nov 7, 9, 10, 11, 14
Benzene and Aromaticity	Chapter 21	Nov 16, 17, 21
Benzene and derivatives	Chapter 22	Nov 23, 28, 30 Dec 1, 2
Amines	Chapter 23	Dec 5, 7, 8
Synthesis		Dec 12, 14