

CHEM 337: ORGANIC CHEMISTRY II

Spring 2013

INSTRUCTOR

Dr. Marc J. Adler

Office Faraday Hall 343

Email mjadler@niu.edu

Office Hours M 2:00-3:00 pm, Th 9:30-10:30 am, and by appointment

LECTURE

MWF 1:00-1:50 pm

La Tourette Hall 201

REQUIRED TEXT

1. Hornback, J.M. *Organic Chemistry*, 2nd Ed.; Brooks/Cole Cengage Learning, 2006. ISBN 978-0-534-38951-2.

OTHER COURSE MATERIALS

2. Hornback, J.M. *Student Solutions Manual and Study Guide for Organic Chemistry*, 2nd Ed.; Brooks/Cole Cengage Learning, 2006. ISBN 978-0-534-39710-4.

3. Molecular Visions Organic Chemistry Molecular Modeling Kit.

IMPORTANT POINTS

1. The use of cell phones and/or computers in class is unnecessary and thus not allowed. If you have a legitimate reason to use either during lecture, please discuss this with me prior to using them. Otherwise I will be delivering my lectures old school (writing as I talk) and you will take notes that way...it's the best way to learn. If you plan on recording the lectures, please discuss this with me beforehand.

2. Check your email regularly. I will periodically post things to blackboard and alert you via email, or send class announcements. If you will not be able to check your email regularly, please let me know of an alternative way to be in touch with you.

3. Talk to me. Don't be afraid. I'm here to help you learn. You all start off knowing pretty much nothing, and I'm supposed to help you to know something.

GRADING

Four In-terms (4x150) = 600 points

Final Examination = 400 points

Total Points = 1000 points

I will determine two grades for each student based on the following:

1. Four in-term exams and the final examination.

2. Final exam only.

You will receive the higher of these two grades.

Approximate Grading Scale:

A 850-1000 points

B 700-849 points

C 550-699 points

D 400-549 points

IMPORTANT DATES

Sunday, January 19 Last day to drop course via self-service in MyNIU.

Friday, January 24 Last day to drop course with approval of major college.

Tuesday, January 28 Last day to change course from credit to audit or from audit to credit.

Friday, March 7 Last day to withdraw from course.

TENTATIVE LECTURE AND EXAM SCHEDULE

<u>Day</u>	<u>Date</u>	<u>Topic</u>	<u>Chapter (Hornback)</u>
M	01.13	<i>Introduction</i>	N/A
W	01.15	<i>Infrared Spectroscopy</i>	13
F	01.17	<i>NMR Spectroscopy</i>	14
M	01.20	<i>No Class (Martin Luther King Jr. Day)</i>	
W	01.22	<i>NMR Spectroscopy</i>	14
F	01.24	<i>NMR Spectroscopy</i>	14
M	01.27	<i>UV/Vis Spectroscopy, Mass Spectrometry</i>	15
W	01.29	<i>Aromatic Substitution</i>	17
F	01.31	<i>Aromatic Substitution</i>	17
M	02.03	<i>Aromatic Substitution</i>	17
W	02.05	<i>Aromatic Substitution</i>	17
F	02.07	In-Term Exam I	
M	02.10	<i>Carbonyl Chemistry</i>	18
W	02.12	<i>Carbonyl Chemistry</i>	18
F	02.14	<i>Carbonyl Chemistry</i>	18
M	02.17	<i>Carbonyl Chemistry</i>	18, 19
W	02.19	<i>Carbonyl Chemistry</i>	18, 19
F	02.21	<i>Carbonyl Chemistry</i>	19
M	02.24	<i>Carbonyl Chemistry</i>	19
W	02.26	<i>Carbonyl Chemistry</i>	19
F	02.28	In-Term Exam II	
M	03.03	<i>Carbon Nucleophiles</i>	20
W	03.05	<i>Carbon Nucleophiles</i>	20
F	03.07	<i>Carbon Nucleophiles</i>	20
M	03.10	<i>No Class (Spring Break)</i>	
W	03.12	<i>No Class (Spring Break)</i>	
F	03.14	<i>No Class (Spring Break)</i>	
M	03.17	<i>Carbon Nucleophiles</i>	20
W	03.19	<i>Carbon Nucleophiles</i>	20
F	03.21	<i>Protecting Groups, Retrosynthesis</i>	23
M	03.24	<i>Protecting Groups, Retrosynthesis</i>	23
W	03.26	<i>Protecting Groups, Retrosynthesis</i>	23
F	03.28	In-Term Exam III	
M	03.31	<i>Chemistry of Radicals</i>	21
W	04.02	<i>Chemistry of Radicals</i>	21
F	04.04	<i>Chemistry of Radicals</i>	21
M	04.07	<i>Chemistry of Radicals</i>	21
W	04.09	<i>Pericyclic Reactions</i>	22
F	04.11	<i>Pericyclic Reactions</i>	22

TENTATIVE LECTURE AND EXAM SCHEDULE (CONT.)

<u>Day</u>	<u>Date</u>	<u>Topic</u>	<u>Chapter(s) (Hornback)</u>
M	04.14	<i>Pericyclic Reactions</i>	22
W	04.16	<i>Pericyclic Reactions</i>	22
F	04.18	In-Term Exam IV	
M	04.21	<i>Synthetic Polymers</i>	24
W	04.23	<i>Synthetic Polymers</i>	24
F	04.25	<i>Synthetic Polymers</i>	24
M	04.28	<i>Naturally Occurring Organic Compounds</i>	25, 26, 27, 28
W	04.30	<i>Naturally Occurring Organic Compounds</i>	25, 26, 27, 28
W	05.07	Final Exam (12:00pm–1:50pm)	Cumulative

NOTE: This schedule is subject to change.

EXAMS

The focus of each exam will be on the chapters recently covered in the lecture. However, realize that we will continually be building on the fundamentals, so you will be responsible for all material covered prior to the exam. Under certain justified circumstances students may take tests early or late; please contact me ahead of time to make arrangements. **NO MAKEUP EXAMS** will be given. If the exam is excused the final class grade will be determined from an adjusted points possible. An unexcused absence from an exam will *result in a score of zero*.

RE-GRADES

It is to your advantage to make sure you understand your mistakes and also to check for grading errors. If you notice a grading or addition error the exam may be submitted for re-grading. In the case of student-perceived grading errors or point assignment, the entire exam will be re-graded, not just the problem in question. Re-grades will be accepted up to one week following exam distribution. Return exam with a formal written request for re-grade with explanation to me before/after lecture or in Faraday Hall 343. **DO NOT CHANGE YOUR EXAM IN ANY WAY. Prior to return of exams the exams may be photocopied.** Individuals who make submissions for re-grades will have the copy of the original exam and the exam submitted for re-grading compared. Discrepancies between the two will constitute academic dishonesty and the situation will be dealt with appropriately.

All students are expected to act honestly in the course. Any and all cases of suspected academic dishonesty such as cheating, plagiarizing, or misrepresenting one's work will be dealt with severely, in accordance with the Student Code: <http://www.niu.edu/communitystandards/pdf/SCC.PDF>. Academic misconduct may result in a failing grade for the course, probation, suspension or dismissal from a program, or suspension or dismissal from the University.

HINTS ON SUCCEEDING IN CHEM 337

(thanks to Dr. Holly Sebahar, University of Utah)

1. Examine how you did in General Chemistry and Chem 336. If you were happy with the amount of material you learned and your grade, keep it up! If you were not satisfied then *something has to change* if there is any hope of doing better in 337.
2. Take careful notes during lecture. Re-visit your notes shortly after lecture. Make sure that you understand the important concepts and ask questions if you do not. Many students have found that recopying or summarizing the notes is helpful.
3. Do not get behind. We will be covering a large amount of complicated material in a short amount of time and each concept will build upon the knowledge you have already accumulated. *For these reasons I encourage you to stay caught up* and spend time *daily* reading the text, solving problems, and/or practicing mechanisms and synthesis. Do NOT try to CRAM or MEMORIZE. *Regular, rigorous* training for the brain is necessary to compete in this organic chemistry marathon! Students that have had the most success have committed many hours (~10) a week to mastering the material. If you find you cannot make the necessary time commitment to get the grade you want, consider withdrawing and taking the course another semester when you can spend more time on it.
4. Prepare for lecture. Spend about 10-15 minutes before each lecture *skimming* the topics in the text to be covered that day. You will be able to comprehend more during lecture and it will seem more relevant and interesting if you have a basic familiarity with the assigned material before you walk into class. Lecture will focus on the most challenging and **important** concepts from the text, and application of these concepts. Use your lecture notes as a guide to the topics that are most important then go back and read more carefully these sections in the text.
5. Practice. It is highly recommended that you do all of the assigned problems from the chapters and the discussion worksheets – *early and until you have mastered the problem on your own.* It may also be helpful to do the problems embedded in the text to get a feel for how well you grasp each section. If you find you have difficulty go back and read that section more carefully. *The worst thing you can do for yourself* is to work on problems with the solutions guide open next to you. If the following sounds familiar, STOP! “While working through problem 999 I was stuck. I glanced quickly at the answer key and suddenly the problem seemed straightforward and easy so I moved on to the next problem.” During the exam you are ON YOUR OWN... it is to your advantage to work through the problems on your own as much as you can before consulting the solutions guide. *Struggling before the exam is better than during the exam.* If you must consult the answer for guidance this means that some time before the exam will have to come back to this problem again (and maybe again) until you can finish it on your own.
6. Learn from your mistakes. Exam keys will be posted after the last exam has been graded. Make sure you understand where you made your mistakes and how to correct them. Remember, everything in organic chemistry builds upon the basics – chances are, if something was important enough to show up on a in-term exam it will show up again in a slightly different form on a later exam.
7. Be realistic about your exam readiness. Sometime before the exam put yourself in a true test taking situation. You could do one of the old exams (without the answer key handy) or put together a practice test of your own by working through the homework in a *random order.* Either way, the key is to do the problems without any additional assistance (from the solutions manual or roommate) *under time constraints.* When you are finished grade the exam, then go back to review the concepts covered in the problems you missed. Repeat until you feel comfortable and confident.
8. Study with your peers! Not only will this make your experience more enjoyable, but you will learn the material better, too. You can compare class notes with a study partner and come up with an improved set of lecture notes, discuss homework problems and create additional problems for each other. Research shows that by teaching someone else you will learn the material better and you will get a more realistic feel for how well you know the material.
9. Ask for help! I hope that you feel comfortable coming to me with questions any time. Additionally, there are other resources available depending on your exact needs:
 - a. The Tutoring Center may offer one-on-one or group tutoring sessions for this course. More information can be found at <http://www.niu.edu/access>.
 - b. The Chem 339 TA will be available to answer questions during his/her office hours. The times and locations will be posted on the course website.
 - c. The Counseling & Student Development Center meets with students on a variety personal and academic issues <http://www.niu.edu/csdc/coaching/index.shtml>. Additional resources for students can also be found at <http://www.niu.edu/students.shtml>.
 - d. Private tutoring.