Chemistry 2210
Organic Chemistry
Fall 2016

Professor:  Ned B. Bowden and Len R. MacGillivray

Class Times: Lectures: 8:30-9:20 AM (W128 CB) and 9:30-10:20 AM (W290 CB)
Exams are Wednesday, 6:30-8:00 PM (Rooms: TBA)
The time and date of the final exam will be announced during the semester.

Note: We do not have a make-up final. If you miss the final, you have to either accept a final grade of 'F' or take the final exam at the end of Spring 2017.

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Course Website: ICON, http://icon.uiowa.edu

IMPORTANT: To reach either one of us or set an appointment please send an email and we will try to respond quickly.

Office Hours
Ned’s office hours are on Mondays and Wednesdays 10:30 am - 12:00 noon in his office. Ned reserved these times for you and he is happy to meet and discuss problems you are having. If these times do not work, he will set an appointment by email to meet another time.

Len’s office hours are on Mondays 10:30 - 12:00 noon and Fridays 10:30 - 12:00 noon in his office. Len has reserved these times for you and he is happy to meet and discuss problems you are having. If these times do not work, he will set an appointment by email to meet another time.

Syllabus
Discussion Sections
The time is reserved for problem solving, discussion of lecture material, weekly quizzes, and explanations of exam answers. We strongly encourage that you attend the sections as the TA can help you learn the material. Contact information will be posted on the class website.

Why Are You in This Class?
Organic chemistry is a beautiful subject! The class is required for entrance into a number of professional schools (e.g. premed, prenursing) and/or is needed to prepare for nationwide tests. These are fine reasons for taking the class. Our goal is to teach you some of the most beautiful parts of organic chemistry.

In this class you are going to learn how to think critically. Organic chemistry is more than the memorization of facts. Organic chemistry is 90% science and 10% art. We can teach you the correct rules and how to think about problems in organic chemistry, but you must learn how to apply the rules. You will not have a series of equations from which you may derive answers. You will have facts and you must learn how to think critically to solve problems. Therefore, you must learn to think like a detective and piece answers together with everything that you know. We will help you as much as we can to learn these skills.

How to Study for This Class
This class is not one where you can look over the material right before the exam and expect to do well. The class requires constant and diligent effort to do well. We have compiled a list of suggestions to help you succeed.

Extra tutoring is available through the University Housing Tutoring Program at https://housing.uiowa.edu/tutoring. We are not affiliated with the program; we are passing the information to you nonetheless.

1. Study for the class at least two hours a day. Organic chemistry is difficult to learn but with consistent effort you can do it.

2. Do all of the homework and suggested problems. You will learn from doing the homework, you will learn by struggling with the homework! Learning occurs when you are forming questions in your mind and seeking answers; learning does not happen when copying someone else’s work. Your grade in this class depends on test taking skills so use the homework materials.

3. Form study groups.

4. Skim the text before coming to class.

5. Go to the discussion sections and ask questions.

6. Rewrite your lecture notes. You will be surprised as to how much this will help you learn.

7. Study with a pencil and paper! You will learn the material best by writing it down in your notebook as you are studying. Most people don’t learn well by sight alone, you must use your hands when you study.

8. Read the book. Reread the book. Re-reread the book. The class is based on the material in the book so if you are happy with the material in the book you will do well in the class.

9. Study regularly!
What You Should Take Away From This Class
1. The ability to draw mechanisms for simple organic reactions.
2. Knowledge of common reactions.
3. Understand functional groups and how to convert from one to another.
4. Understand how to apply organic chemistry to a variety of fields (e.g. biology).
5. The ability to name molecules and recognize key stereochemical features.
6. Understand some of the how and why of organic chemistry.

Exams
There will be three exams on the following days from 6:30-8:00 PM.

Wednesday, September 21st
Wednesday, October 12th
Wednesday, November 9th

Leave all textbooks, models, notes, etc. at home or you will be required to leave them in the front of the classroom during the exam. The exams will be closed book and the answers should be written in blue or black ink. Exams written in pencil will not eligible for a regrade. Exams will be returned following the exam and will be available at the chemistry center on the second floor of the chemistry building (E225 CB) immediately after that class. Your grades will be posted on ICON as soon as possible.

Each exam is comprehensive but will emphasize material since the previous exam.
Organic chemistry builds on what was learned before, it is important to continually add to your fountain of knowledge. Exams must touch on material that was learned earlier in the semester, but in most instances we will use concepts that we covered since the previous exam. It is wise to review all of the material since the first day of class for each exam.

Anything covered through the end of class on the day before the exam is fair game for the exam. We more or less follow the book, so you will be able to determine where we stopped before the exam. If you have any doubt, study for the whole chapter that we are working on.

The final exam will be comprehensive.

Homework
Homework is critical to help you learn the material. A poor, but common way, to do the homework is to look at the problem and answer key. Many students will look at a problem in the book, write nothing down, and then look at the answer key. The best way to do the suggested problems is to look at the problem, write down your best answer, and then look at the answer key. It is O.K. to struggle with the material, which is how you learn! You are expected to not know all of the answers immediately, you will learn quite a bit by determining the correct answer without the answer key.

Suggested problems for each chapter will be listed on the class website. When we prepare exams, we expect that you understand these questions and answers.

The online homework on Sapling will force you to draw structures, learn concepts, and prepare you to excel. Thesproblems are critical to learning organic chemistry.

We will post one homework assignment for each chapter, the due date and time will be clearly listed in Sapling. Assume we will have regular homework assignments as listed on Sapling.
Homework questions will be assigned at random from a pool of questions so folks working on adjacent computers will get different questions. Because of this, we are assigning the homework as “full collaboration”. The phrase means that you may work with your classmates, friends, tutors, or anyone else to complete the homework. You may work alone if you wish, but no penalty will be given to those who work together. The policy does not mean that you should copy the homework of someone else; that is not allowed and will be viewed as cheating. You must make an honest effort to complete the homework and understand the answers. A good method to know if you understand the answers is to ask yourself if you can reproduce your homework if you are alone in front of the computer. If you can reproduce your homework, you have a level of understanding. Homework is an excellent vehicle for learning class material, take advantage of the opportunity and you can expect to do well on the exams.

Instructions for each assignment will be clearly listed on each assignment.

**Late Policy for Homework**
No late homework or extensions will be given. Instead, you will be allowed to drop your lowest homework score. If you miss a homework, that can count as your dropped scores.

**Grading**
The College of Liberal Arts and Sciences (CLAS) suggests the following grade distribution.

- 18% A
- 36% B
- 39% C
- 5% D
- 2% F

The grade distribution will be close to these values, but could vary based on class performance. Plus and minus grades will be given.

Your grade is primarily based on three exams and a final exam. Your final grade will be calculated as follows.

<table>
<thead>
<tr>
<th>Component</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Three exams</td>
<td>60%</td>
</tr>
<tr>
<td>On-line homework</td>
<td>12%</td>
</tr>
<tr>
<td>Quizzes at discussion sections</td>
<td>3%</td>
</tr>
<tr>
<td>Final exam</td>
<td>25%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>

Your test scores will be posted on ICON. We will post the grade distributions for each exam online so that you know how you did on each exam.

**Regrades**
If you feel that your test has been graded unfairly you can ask for a regrade. Write the reason for your regrade on the front of the test and submit it to the chemistry center after class within one week after the exam was available to be returned. The whole exam may be regraded. Regrades are not possible on tests written in pencil or erasable ink.
Supplemental Instruction
Jared Blad will lead the Supplemental Instruction for this course. His supplemental instruction will be in the ARC (Academic Resource Center) located on the Ground Floor of the IMU. It is to the right of Hills Bank and across from the Java House. Times for instruction are as follows.

Mondays: 1:30-2:20 PM  
Wednesdays: 5:30-6:20 PM  
Fridays: 11:30 AM -12:20 PM

The SI will start the second week of class.

Cheating
All students are expected to remain honest in words and actions. When trust is broken the results are often severe and career threatening. With the important responsibility of trust comes the privilege of being a member of a community that values openness and truth. As scientists in training, we expect everyone to act accordingly and with an upright manner. Anyone caught cheating will be reported to the Department and CLAS.

See: https://clas.uiowa.edu/students/handbook/academic-fraud-honor-code

Discussion Sections
Short quizzes at discussion sections will count for 3% of your overall grade. The TA will track your scores and we will post it on ICON. These quizzes will cover material that will be discussed that week and will be designed to be completed within 5 minutes.

If you cannot attend your discussion section, feel free to attend a different one. No extensions or make-up quizzes will be given. We will drop your lowest quiz score.

Make-up Exams
Make-up exams will only be provided under exceptional circumstances. A valid, written excuse must be provided prior to a missed exam to the Chemistry Center. If you anticipate having a conflict with an exam, please see the Chemistry Center ahead of time.

Attendance at Lecture
Attendance is not mandatory but encouraged. We may introduce material outside of the book, you are responsible for learning that material as it may appear on an exam.

Course Objective
Our goal is to try to cover as much of the book as possible without going too fast. We will cover up to and including chapter 13 and then selected parts of the remaining chapters.

Required Textbook

Suggested Textbook

Suggested Model Kit
The bookstore offers model kits, which we strongly suggest. It will greatly help you to “see” organic molecules in three dimensions.
Disabilities
We would like to hear from anyone who has a disability which may require some modification of seating, testing, or other class requirements so that appropriate arrangements may be made. Please contact us during office hours.
**Administrative Home**

The College of Liberal Arts and Sciences is the administrative home of this course and governs matters such as the add/drop deadlines, the second-grade-only option, and other related issues. Different colleges may have different policies. Questions may be addressed to 120 Schaeffer Hall, or see the CLAS Academic Policies Handbook at [http://clas.uiowa.edu/students/handbook](http://clas.uiowa.edu/students/handbook).

**Electronic Communication**

University policy specifies that students are responsible for all official correspondences sent to their University of Iowa e-mail address (@uiowa.edu). Faculty and students should use this account for correspondences ([Operations Manual, III.15.2, k.11](#)).

**Accommodations for Disabilities**

A student seeking academic accommodations should first register with Student Disability Services and then meet privately with the course instructor to make particular arrangements. See [www.uiowa.edu/~sds/](http://www.uiowa.edu/~sds/) for more information.

**Academic Honesty**

All CLAS students have, in essence, agreed to the College's [Code of Academic Honesty](#): "I pledge to do my own academic work and to excel to the best of my abilities, upholding the [IOWA Challenge](#). I promise not to lie about my academic work, to cheat, or to steal the words or ideas of others; nor will I help fellow students to violate the Code of Academic Honesty." Any student committing academic misconduct is reported to the College and placed on disciplinary probation or may be suspended or expelled ([CLAS Academic Policies Handbook](#)).

**Making a Suggestion or a Complaint**

Students with a suggestion or complaint should first visit with the instructor (and the course supervisor), and then with the departmental DEO. Complaints must be made within six months of the incident ([CLAS Academic Policies Handbook](#)).

**Understanding Sexual Harassment**

Sexual harassment subverts the mission of the University and threatens the well-being of students, faculty, and staff. All members of the UI community have a responsibility to uphold this mission and to contribute to a safe environment that enhances learning. Incidents of sexual harassment should be reported immediately. See the UI [Comprehensive Guide on Sexual Harassment](#) for assistance, definitions, and the full University policy.

**Reacting Safely to Severe Weather**

In severe weather, class members should seek appropriate shelter immediately, leaving the classroom if necessary. The class will continue if possible when the event is over. For more information on Hawk Alert and the siren warning system, visit the [Department of Public Safety website](#).
Dear All,

We know that organic chemistry is not an easy class and it will get harder as the semester progresses. Learning how to study is very important as this course may be very different from what you have taken before.

Two years ago, top students in an organic chemistry course were asked what they did to prepare for the exams. We hope their responses help provide motivation/insight/suggestions that you need for success, too. Unedited comments are below.

You can learn this material. It may not be easy, but you can do it. It requires time, effort, practice, and an engaged brain.

Best, Ned and Len

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**Student 1**

To study for the exams, I make sure I am prepared by watching every lecture AND taking notes on the print outs as I watch. Doing the homeworks is good preparation as well. I do most of it/all that I can individually, but then I meet and study with a group in order to get help and help others. Working in a group is really helpful. I also take the practice exams before each actual exam along with looking over my notes several times.

**Student 2**

The homework is the most helpful thing for me - it forces me to sit down and review the concepts each chapter covers. I try to start the homework about a week before it is due so I am not rushed through it. I also have a group that gets together to work through the problem sets about twice each week. Within the whole group, at least one of us usually has a good idea of the correct answer for challenging problems. We disagree frequently on how to approach a problem, but that's good because it forces us to analyze the material more closely. Working on homework in a group has been a major part of being able to learn these concepts.

I also make sure to watch each lecture online and take notes on the provided slides as well. Watching the lectures online before lecture makes working problems during lecture time more beneficial because I actually have an idea of what is going on.

Before the second exam I read chapter 7 of Jones/Fleming. I also skimmed through each practice problem in the book to get an idea of what I should be able to do for the test. I did not work out every single one, but I worked out the ones that dealt with concepts I found more difficult. Taking the practice exam was helpful as well - it gave me an idea of what I needed to spend more time on and helped to guide my studying.

The day before the exam I went through all of the notes from online lectures and from lectures in Van Allen and noted anything I was confused by. I then went over that material plus the material from exam 1 (briefly) to complete my preparation for exam 2.
Student 3

I always try to watch the online lectures before class so I know what's going on with the practice problems in class. For the Sn2, E2, etc chapter in particular, I made sure to start the homework early and do little chunks each night. The biggest thing I did that was helpful was to make charts or study guides summarizing the general trends, and make notes about things I tended to mess up so I don't do it again. I also study in a group a lot.

Student 4

What works for organic chemistry is exactly what you recommended at the beginning of the semester: listen to the lectures before class, make sure to understand the problems from class, do the homework before the night before it is due to really understand it, go over the practice exam, go through the problems in the back of the book, and come into office hours with any questions. I try to make sure that I understand the concepts behind the problems, and not just look at the answer to the question. The "Organic Chemistry as a Second Language" book also really helped me understand the different kinds of reactions for this exam. Another thing that really helps me is going over my homework after it is graded so that I understand the types of mistakes that I make so I know what to watch out for on the exam.

Student 5

I usually read the chapters in the book before we discuss them in class, so I have a solid background with which to approach class problems. I pay special attention to the "worked problems" in the book and try to understand how the writers are approaching these problems and coming to the answers. When we have problems in class that I can't solve, I try to go back after class to figure out what I was doing wrong and how I should have approached the problem.

Practice problems. Lots and lots of practice problems. I also went back and listened to the online lectures for Chapter 7, since that was the most difficult chapter on this test for me.