CHEMISTRY 345 – Section 2 – Spring 2016
MWF 9:55 – 10:45 AM, Room 1351 Chemistry

Instructor: Prof. Eric R. Strieter
5112a Chemistry
strieter@chem.wisc.edu

Office Hours: Mondays 5-6 pm, Room 5108 Chemistry

Website: Learn@UW

I. INTRODUCTION

Chemistry 345 is the second semester of a two-semester organic chemistry sequence. The first course in the sequence is Chem 343, and successful completion of 343 or its equivalent with a grade of C or higher is a prerequisite for enrollment in 345. The lab course associated with the sequence is Chem 344, which may be taken concurrently with 345 or in a subsequent semester.

II. COURSE MATERIALS

Textbooks:

Required:
Organic Chemistry (6th edition), M. Loudon & J. Parise

**All texts will be available on reserve in the Chemistry library. Loudon and its solution guide will also be available at College and Steenbock libraries.*

Recommended:
Solution Manual for Loudon & Parise, *Organic Chemistry*

On reserve:
Organic Chemistry, M. Jones, Jr.
Organic Chemistry, Solomons & Fryhle

Other materials:

Recommended:
Molecular model kit

**AXE sells model kits in the lobby during the first few weeks of class.*

Course websites: This course makes extensive use of Learn@UW. Lecture notes, handouts, problem sets, reading assignments, and announcements will be posted to the course website regularly. You will also use Learn@UW to view your grades.

III. LECTURE AND DISCUSSION

Preparation: Chem 345 will cover Ch 12-13 and 16-28 of Loudon. Ch 1-11 and 14-15 were covered in Chem 343. Because of the cumulative nature of the organic chemistry sequence, you must be comfortable with all of the material covered in Chem 343.

Lecture: Attendance is crucial for success in this course. Lectures will highlight important concepts, provide supplemental examples, and help you understand broad themes of chemical reactivity. The lecture notes posted to Learn@UW are meant to alleviate occasional absences due to illness or other unavoidable conflicts; they cannot replace the lecture itself.

Reading: Reading assignments will be posted to the front page of the Learn@UW course site. The textbook provides more detailed information than the lecture can cover; all information covered in the assigned reading is fair game for exams.

Discussion sections: The main purpose of the discussion section is to get guided help on problem solving. Your TA will go over some of the assigned problems, but to get the most out of section, come prepared with specific questions on concepts, problems, and reading material that you find most challenging.

IV. ASSIGNMENTS AND GRADING

Examinations: There will be three midterm exams (100 points each, which will be given during the normal lecture period. Please note that makeup exams will not be given. The final exam is currently scheduled for Wednesday, May 11, 12:25 pm – 2:25 pm. The final will be cumulative and be worth 200 points.

If you work with the McBurney Resource Center and need alternate accommodations for the exams, please speak with me as soon as possible to make the necessary arrangements.

Quizzes: There will be 14 total weekly quizzes given at the beginning of each discussion section. Each quiz will be worth 10 points towards a possible maximum of 120 points for the semester. You will be allowed to drop your two lowest quiz scores.

Homework: Suggested problems from Louden are posted to Learn@UW. I will also post my own practice problems on Learn@UW. These will not be collected or graded, but they are an integral part of learning the large amount of material we will cover in class.

Study groups: Learning is more enjoyable and more effective when problems are worked collaboratively. Studying and working problems in groups is strongly recommended. Collaboration on graded problem sets is allowed, but all work you turn in must be your own. Please put the name of your collaborators on the top of your homework when you turn it in.

Re-grade requests: Re-grade request forms can be downloaded from Learn@UW and attached to your exam booklet. These are due the day of the lecture after the exam is handed back. Do not write on your exams. Exams that have been modified in any way are not eligible for re-grading.

Final exam: The final exam is currently scheduled for Wednesday, May 11, 12:25pm – 2:25 pm. The final will be cumulative and worth 200 points.

Grades: A maximum of 620 points can be earned during the semester. Your final score will be computed using the following rubric:

Exam 1	100
Exam 2	100
Exam 3	100
Quizzes	120
Final	200
TOTAL	**620**

Letter grades are not assigned until the end of the course. The distribution will curve around a low B average (~2.75). There is no fair way to offer additional "extra credit" assignments at the end of the semester without unfairly disadvantaging everyone else in the course, so my policy is not to offer them at all. The number of points you have accumulated through your work during the semester will be the only factor in determining your final grade.

V. ACADEMIC MISCONDUCT

All scientific fields, including the engineering and health professions, demand strict standards of professional integrity. I have the same expectations for students in my courses and take all instances of academic misconduct very seriously. If the teaching staff and I determine that you have cheated in Chem 345, you will receive an F for the semester, and your case will be recommended to the Dean of Students for further sanction.

VI. CLASS CONDUCT, COMMUNICATION, AND ETTIQUETTE

Chem 345 is, unfortunately, one of the largest lecture courses that Wisconsin offers. In order to keep the semester from becoming chaotic, I'd like to ask you to work with me to keep the class running smoothly:

1. I get a lot of emails, and messages slip through the cracks more often than I'd like. To minimize the possibility that I'll miss your email, please put "Chem 345" in the subject of any message you send me to receive a response. Feel free to email me if you have questions about the logistics of the class, if you have concerns about your grades, or if you'd like to set up a meeting.

2. Please minimize chatter in the classroom. You should feel free to ask me questions during lecture, but please don't distract the people around you.

3. Laptops and cell phones may not be used during lecture or discussion. You can't take organic chemistry notes on a computer, and texting or emailing during class is distracting to you, to me, and to people seated around you. Also, realize that if you are using your phone or laptop during lecture and discussion time instead of paying attention to the instructor, you are simply wasting your own tuition money.

4. If you feel like you're falling behind, don't feel shy about asking for help. There are a lot of resources available to help you succeed in Chem 345. But in a class of this size, it's hard for the teaching staff to identify you if you're struggling with the material. Get help early if you need it.

5. Letters of recommendation that come from a large lecture class, by necessity, lack detail. I can write about the content of the class, your grade and rank compared to your classmates, and the efforts UW–Madison makes to combat "grade inflation." But I will never be able to write a letter as informative as one from an instructor from a smaller course. I will normally provide recommendation letters only for students who have received an A or AB in the class.

VII. STRATEGIES FOR SUCCESS IN CHEM 345

1. **Don't fall behind!** This class asks you to absorb a lot of information at a rapid pace, and each successive chapter builds upon principles in the previous chapters. Cramming just doesn't work in this class. Instead, you should set aside a little time every day (30 minutes or so) to study and keep up with the pace of the class.

2. **Practice, practice, practice.** This is the most important strategy for success in this class.

   In this course, the exams that make up the majority of the points you earn ask you to solve problems. Consequently, you should prepare for exams by working problems, and the more problems you do the better off you are. This is why you are asked to do so many problems, between the problem sets and the suggested problems in the book.

3. **Read the book.** Each unit has more information than I can reasonably cover in a one-hour lecture. The textbook is your primary source of information, and any information in the assigned reading is fair game for exams. I strongly encourage you to read the chapter twice — once before the corresponding lectures, so that you can follow the key points in the lecture, and then once again afterwards, so that all of the details have a chance to sink in. Work the in-text problems as you go.

4. **Come to lecture.** The purpose of lecture is to highlight the most important material in each unit, to help you organize the information in a way that's logical and easy to remember, and to show how certain themes run throughout the entire course. Another way to think about the importance of coming to lecture is that it helps you identify what I think is the most important information to know, which is likely to be what I focus on when writing exams. It's also your best opportunity to ask me questions about the material.

5. **Take good notes and copy them over.** The key to managing all of the information we cover in class is to organize it well in your head. The book presents the material in a way that makes sense to the author; I'll present it in a way that makes sense to me. But your brain is likely to work in a different way. It's a good idea to take notes on your reading, take notes in lecture, and re-organize them into a master set of notes that works for you.

6. **Study in groups.** Studying with your friends makes studying seem less like a chore and more like a social occasion, and it will help you keep up with the class. It is also a great way to identify the material that is the most difficult to grasp, so that you can ask better questions during lectures and office hours.

Tentative agenda (likely to change)

Week	Date	Chapter	Lecture Material	Quizzes
1	Jan 20	Intro/Ch 12	IR Spectroscopy	
	Jan 22	Ch 12	IR Spectroscopy	Quiz #1
2	Jan 25	Ch 13	NMR Spectroscopy	
	Jan 27	Ch 13	NMR Spectroscopy	
	Jan 28	Ch 13	NMR Spectroscopy	Quiz #2
3	Feb 1	Ch 16	Electrophilic Aromatic Substitution	
	Feb 3	Ch 16	Electrophilic Aromatic Substitution	
	Feb 5	Ch 16	Electrophilic Aromatic Substitution	Quiz #3
4	Feb 8	Ch 17	Allylic and Benzylic Reactivity	
	Feb 10	Ch 17	Allylic and Benzylic Reactivity	
	Feb 12	**MIDTERM EXAM 1**	**IN LECTURE (Ch 12, 13, 16, 17)**	
5	Feb 15	Ch 18	Aryl and Vinyl Halides	
	Feb 17	Ch 18	Aryl and Vinyl Halides	
	Feb 19	Ch 18	Aryl and Vinyl Halides	Quiz #4
6	Feb 22	Ch 26	Aromatic Heterocycles	
	Feb 24	Ch 26	Aromatic Heterocycles	
	Feb 26	Ch 28	Pericyclic Reactions	Quiz #5
7	Feb 29	Ch 28	Pericyclic Reactions	
	Mar 2	Ch 28	Pericyclic Reactions	
	Mar 4	Ch 19	Aldehydes and Ketones	Quiz #6
8	Mar 7	Ch 19	Aldehydes and Ketones	
	Mar 9	Ch 19	Aldehydes and Ketones	
	Mar 11	Ch 20	Carboxylic Acids	Quiz #7
9	**Mar 14**	**MIDTERM EXAM 2**	**IN LECTURE (Ch 18, 26, 28, 19, 20)**	
	Mar 16	Ch 20	Carboxylic Acids-*Guest Lecturer*	
	Mar 18	Ch 21	Carboxylic Acid Derivatives	Quiz #8
10	Mar 21			
	Mar 23	**SPRING BREAK**	**NO LECTURE**	
	Mar 25			
11	Mar 28	Ch 21	Carboxylic Acid Derivatives	
	Mar 30	Ch 22	Enols & Enolates	
	Apr 1	Ch 22	Enols & Enolates	Quiz #9
12	Apr 4	Ch 22	Enols & Enolates	
	Apr 6	Ch 22	Enols & Enolates	
	Apr 8	Ch 23	Amines	Quiz #10
13	Apr 11	Ch 23	Amines	
	Apr 13	Ch 23	Amines	
	Apr 15	Ch 27	Amino Acids, Peptides, and Proteins	Quiz #11
14	**Apr 18**	**MIDTERM EXAM 3**	**IN LECTURE (Ch 20, 21, 22, 23, 27)**	
	Apr 20	Ch 27	Amino Acids, Peptides, and Proteins	
	Apr 22	Ch 24	Carbohydrates	Quiz #12
15	Apr 25	Ch 24	Carbohydrates	
	Apr 27	Ch 25	Thioesters and Phosphates	
	Apr 29	Ch 25	Thioesters and Phosphates	Quiz #13
16	May 2	Ch 25	Thioesters and Phosphates	
	May 4	Ch 26	Nucleic Acids	
	May 6	Ch 26	Nucleic Acids	Quiz #14
FINAL EXAM: Wednesday, May 11, 12:25 pm – 2:25 pm				