

## Chemistry 2300

### Principles of Organic Chemistry, Fall 2006

**Instructor:** Dr. Tom Chang  
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**Meeting Time/Place:** MWF 1:30 - 2:20 pm, Old Main 121

**Office Hour:** M-F 8:30 am to 9:30 am, or drop by with or without appointment

**Texts:** "Introduction to Organic Chemistry" 2<sup>nd</sup> Ed, William Brown, Saunders College Publishing (2000)

**Model Kit:** Available in Chem Stores (1<sup>st</sup> Floor of Widtsoe). (recommended, ask me for suggestion first)

#### Course Outline and Exam Schedule:

Week	Dates	Chapter(s)
1	8/28 – 9/1	Introduction, Chapter 1
2	9/6 – 9/8 (9/4 Labor Day)	Chapter 2
3	9/11 – 9/15	Chapter 3
4	9/18 – 9/22	Chapter 4, <b>Exam 1 (9/24)</b>
5	9/25 – 9/29	Chapter 5
6	10/2 – 10/6	Chapter 6
7	10/9 – 10/13	Chapter 7
8	10/16 – 10/20	Chapter 8, <b>Exam 2 (10/22)</b>
9	10/23 – 10/27	Chapter 9
10	10/30 – 11/3	Chapter 10
11	11/6 – 11/10	Chapter 11
12	11/13 - 11/17	Chapter 12 <b>Exam 3 (11/19)</b>
13	11/20 (11/22 - 11/24 Thanksgiving)	Chapter 13
14	11/27 – 12/1	Chapter 14
15	12/4 - 12/8	Chapter 14 ( <b>12/4 Assessment Question</b> )
16	12/11	Final Exam ( <b>12/11, 11:30 am – 1:20 pm</b> )

#### Online links to chemistry materials:

Organic chemistry: [www.jbpub.com/organic-online/webhome.htm](http://www.jbpub.com/organic-online/webhome.htm)

Periodic Table: [pearl1.lanl.gov/periodic](http://pearl1.lanl.gov/periodic)

Organic reactions: [www.towson.edu/~sweeting/orgrxs/reactsum.htm](http://www.towson.edu/~sweeting/orgrxs/reactsum.htm)

Also check the links from the on-line course material of Chem2300:

[http://www.chem.usu.edu/faculty/Chang/chem2320/previous\\_exams\\_2320.htm](http://www.chem.usu.edu/faculty/Chang/chem2320/previous_exams_2320.htm)

## General Learning Objectives:

1. Apply electronegativity and VESPR to draw the Lewis structure and predict chemical properties for various functional groups.
2. Use electronegativity, octet rule, and electron(s)-moving to write the resonance structures and judge the order of stability for these structures.
3. Apply the concepts of acid/base and nucleophile/electrophile to predict a chemical reaction.
4. Recognize constitution (structural) isomers, configuration isomers, conformation isomers, and stereoisomers, and explain the difference in chemical and physical properties among these compounds.
5. Write correct electron-pushing mechanisms for the topic reactions in each chapter.
6. Apply the concepts of resonance and inductive effects to predict the chemical and physical properties for different functional groups and the molecule to which these functional groups are attached.
7. Explain the reaction mechanisms by using the concepts of steric hindrance, stability of carbocation, and leaving group capability.
8. Use the  $pK_a$  values to explain or define the roles of a molecule with lone-pair electron ( $:Z$ ) as base, nucleophile, or leaving group in a chemical reaction.
9. Explain aromaticity and recognize aromatic compounds.
10. Perform all of the detailed learning objectives for every chapter posted online or distributed as hard copy.

## Assessment:

There will be twenty multiple choice questions for the assessment with a total of twenty points. These points will be bonus points and will be added to your total point for determining your final grade. The date for assessment is December 4. **There will be no change on the time and no make-up for the assessment.**

## Grading Scheme:

Point Distribution:   (1) Three one-hour exams (100 pts each).  
                              (2) Final (200 pts)  
                              (3) Bonus Points from Assessment Question (20 pts)

**Total Points: 500 pts**

### Grade Correction:

Any grading mistake or dispute need to be discussed with me within **one week** after the return of the exam.

### Grade Breakdown:

The grade received in the course is based on your performance on the exams and homework problems. Grades are guaranteed as given below for overall percentage score on all exams. However, it is **subjected to be changed** when abnormal distribution occurs, for example >50% of the class score A or >50% of the class score D. Your actual grade when located below the borderline may be upgraded, if you have shown a steady improvement on your scores. The final grade will be normalized if more than 20% of the students receive F or have total points lower than 250. Except for the final exam, any grading error needs to be corrected **within** a week after the exams, quizzes, or homework problems are returned. The final exam can be picked up in my office on December 13. Any grading error of final exam needs to be corrected by 12:00 pm of Thursday, December 14. Your final grade will be posted by the end of Friday, December 15.

Grade	A	A-	B+	B	B-	C+	C	C-	D+	D	F
% Scores	≥90%	≥85%	≥80%	≥76%	≥72%	≥68%	≥64%	≥60%	≥56%	≥50%	<50%
Total	≥450	≥425	≥400	≥380	≥360	≥340	≥320	≥300	≥280	≥250	<250

### Procedures:

1. There will be no regular make-up exams. Persons who miss an examination date due to sudden illness or family situation must contact me within **one week** in order to discuss appropriate arrangements. After one week, no credit will be given for a missed exam. It is possible to take an exam in advance, but only with a valid excuse and prearrangement with me.
2. It is an official University policy that unless you have three exams on the same day, you must take the final exam in the course at the officially scheduled time. Permission to take a final at any other time for any other reason can only be obtained from Dean of Science.
3. The last day to drop courses is 11/16.
4. The main function of office hours is to discuss and solve problems that you may be having with the course materials, problems in the textbook, and concepts presented during lecture. Try to formulate questions in advance. **Do not expect a mini review session.** On the other hand, **do not hesitate to ask me question.**