CHEM 223 Organic Chemistry A
Fall 2014
Course Syllabus

Instructor: Mark Aparece
Email: maparece@luc.edu
Office: Flanner Hall 200A
Office Hours: MW 10:30-11:30am, 4:00-5:00pm
TuTh 12:00-1:00pm
Also by prior appointment

Lecture: Section 014 MW 6:00-8:05pm Flanner Hall Auditorium 133

Discussion: Integrated into lecture time

Textbook and Materials
Required:
Organic Chemistry (8^{th} edition or older) by L. G. Wade, Jr.
Recommended:
Study Guide and Solutions Manual (8^{th} edition or older) by Wade and Simek
Molecular modeling kit
Colored pens/pencils (I use lots of colors in lecture)
Optional:
Organic Chemistry as a Second Language: First Semester Topics (3^{rd} edition) by David Klein

Course Overview
This course is the first in a yearlong two semester sequence of organic chemistry covering the structure, properties, and reactivity of aliphatic and alkenic molecules. Specific topics include bonding, nomenclature, conformational analysis, reaction mechanisms, multi-step synthesis, and spectroscopy (MS, IR, and ^{1}H and ^{13}C NMR).

For success in this course, it is important to review your notes, read the textbook, and work on homework problems **every day**. ***DO NOT FALL BEHIND.*** Learning organic chemistry is very much like learning a language, a sport, or a musical instrument: daily practice and immersion are required to master the concepts taught in this course. Memorization **does not work**, nor does cramming the night before an exam. Deeper understanding by recognizing underlying patterns is better than rote memorization, and this is especially true in a class like organic chemistry. ***DO NOT FALL BEHIND.***

Grading

Exam I	Wednesday, September 24, 2014	20%
Exam II	Monday, October 20, 2014	20%
Exam III	Monday, November 17, 2014	20%
Final Exam	Monday, December 15, 2014	30%
Quizzes (Best 5 out of 7)	See tentative schedule	10%
		100%

Numerical scores will be converted to letter grades by the following:

93-100%	A	70-75%	C+
90-93%	A-	65-70%	C
85-90%	B+	60-65%	C-
80-85%	B	55-60%	D+
75-80%	B-	50-55%	D
		<50%	F

Exams
There will be three in-term exams each worth 20% of your overall grade as well as a cumulative final exam worth 30%. There are **no make-up exams.** Under no circumstances may an exam be taken at a time and date other than that assigned. **Unexcused absences** (alarm didn't go off, overslept, missed the bus, etc.) will warrant a "zero" on that exam. **Excused absences** (a death in the family, sickness, university-sponsored athletic events, etc.) require appropriate documentation and will be dealt with on a case-by-case basis.

Quizzes
Seven (7) quizzes will be administered on the days indicated on the tentative schedule below, but only the best five (5) quizzes will count toward 10% of your overall grade. Because your two lowest quiz scores will be dropped, there are **no make-up quizzes.**

Homework
As incentive for you to do the practice problems at the end of each chapter, you have the opportunity to earn **five extra credit points** on each exam if you do the following:

- Exam I (Chapters 1-5): At least **15 problems** per chapter (**75 problems total**)
- Exam II (Chapters 6-8): Do at least **20 problems** per chapter (**60 problems total**)
- Exam III (Chapters 9-12): Do at least **20 problems** per chapter (**60 problems total**)
- Final Exam (Chapters 13-14): Do at least **25 problems** from Chapter 13 and **15 problems** from Chapter 14 (**40 problems total**)

On the day of the exam, turn in your homework in an **organized stapled packet** or in a **bound notebook with the relevant pages clearly flagged**. Do not make me hunt for your homework problems. Do your homework every day. Do not wait until the last minute. These extra credit points are only based on completion, not accuracy; thus you are encouraged to work together in study groups.

You are also encouraged to do **more** than the minimum required homework problems—in fact, you are encouraged to do **all** of them—though this will not earn you more extra credit points. However, students who do more homework problems tend to do better on exams and in the class in general than students who do the bare minimum.

Tentative Schedule

Week	Day	Date	Chapters	Topics
1	M	8/25	1	Introduction and review: Lewis structures, bonding, resonance, acid-base conjugates, nomenclature (preview).
	W	8/27	2	Structure and properties: molecular orbital (MO) theory, hybridization, isomerism, functional groups.
2	M	9/1	**Labor Day.** No class.	
	W	**9/3***	2	Structure and Properties, cont.
3	M	9/8	3	Alkanes and cycloalkanes: nomenclature, conformational analysis, Newman projections, stereochemistry, chair conformations.
	W	9/10		
4	M	9/15	4	Reaction energetics: free radical halogenation, thermodynamics, kinetics.
	W	9/17	5	Chirality: *R* & *S*, enantiomers, diastereomers, racemic mixtures, enantiomeric excess (ee), meso compounds.
5	M	**9/22***		
	W	9/24	**Exam I (Chapters 1-5)**	
6	M	9/29	6	Alkyl halides: nomenclature, structure, properties, synthesis, nucleophilic substitution, and β-elimination.
	W	**10/1***	7	Alkenes: nomenclature, structure, *cis-trans* isomerism, properties, and synthesis.
7	M	10/6	**Midterm Break.** No class.	
	W	10/8	7	Alkenes, cont.
8	M	10/13	8	Alkenes: reactions.
	W	**10/15***		
9	M	10/20	**Exam II (Chapters 6-8)**	
	W	10/22	9	Alkynes: nomenclature, structure, properties, synthesis, and reactions. Introduction to multi-step synthesis.
10†	M	10/27	10	Alcohols: nomenclature, structure, properties, and synthesis.
	W	**10/29***		
11	M	11/3	11	Alcohols: reactions.
	W	11/5		
12	M	11/10	12	Mass spectrometry (MS) and infrared (IR) spectroscopy
	W	**11/12***		
13	M	11/17	**Exam III (Chapters 9-12)**	
	W	11/19	13	Proton and carbon nuclear magnetic resonance (^{1}H and ^{13}C NMR) spectroscopy
14	M	11/24		
	W	11/26	**Thanksgiving Break.** No class.	
15	M	12/1	14	Ethers and epoxides: nomenclature, structures, properties, synthesis, and reactions.
	W	**12/3***		
	M	12/15	**Cumulative Final Exam (4:15-6:15pm)**	

*Quizzes administered during lecture †October 31 is the last day to withdraw with a grade of "W"

Services for Students with Disabilities (SSWD)
If you require special accommodations through the university's Services for Students with Disabilities (SSWD) program, please inform me as soon as possible, preferably during the first week of the course.

Academic Integrity
All submitted work must represent your own work and your own work only. Any student caught cheating in any way will receive a "zero" for that assignment and be reported to the chairperson of the Chemistry Department, the chairperson of the student's department, and the Dean of the College of Arts and Sciences. Furthermore, the incident may be documented in the student's university record and may result in dismissal from the university. For further information regarding the Academic Integrity policy and disciplinary procedures, refer to the LUC Undergraduate Handbook on policies or the CAS website: http://ww.luc.edu/cas/pdfs/CAS_Academic_Integrity_Statement_December_07.pdf

Student Conduct
Students are expected to behave in a civil and professional manner. Turn off or silence cell phones during class. If you must talk on your phone, step outside. Anyone who is repeatedly disruptive during class will be asked to leave as a courtesy to other students.

Instructor Privileges
I reserve the right to make changes and adjustments to this syllabus as necessary, including, but not limited to, the grading policy and course schedule.