

SYLLABUS - CHEM 223 – ACCELERATED

Organic Chemistry A – 1st semester

Summer 2016

LOYOLA UNIVERSITY CHICAGO

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Required:

1. Organic Chemistry, Wade 8th ed. (**red**), Prentice Hall, 2013 (ISBN 978-0-321-76841-4) *or* Wade, 7th ed. (**navy blue**), Prentice Hall, 2010 (ISBN 978-0-321-59231-6) *or* 6th ed. (**black**), Prentice Hall, 2003 (ISBN 0-13-147871-0) *or* 5th ed. (white)
Solution Manuals are also available.

Optional Materials (found helpful by some students):

1. Organic Chemistry as a Second Language, II, Klein (2006), Wiley (ISBN 978-0-471-73808-4)
2. Barron's Orgo Cards: Organic Chemistry Review, Wang, Razani, Lee, Wu, and Berkowitz (ISBN 0-76417503-3)

Grading (*weighting below*) with approximate curved grade guidelines: > 90% A; 75-90% B; 55-75% C

MID-TERM EXAM – date scheduled and announced (subject to change, although unlikely) **30%**

- UNEXCUSED ABSENCES merit a zero score. **NO MAKE UPS !!!**
- EXCUSED ABSENCES are handled on a case-by-case basis; grade weighting may be adjusted, depending on the circumstance(s); however, an excused absence **MUST BE CORROBORATED and DOCUMENTED**, e.g., accompanied by a note from the doctor, dentist, hospital rep, or funeral director; by a court summons, plane ticket stub, hospital release form, obituary, or other. With proper documentation, religious observance, official representation of the university, or personal emergency may constitute an Excused Absence.

QUIZZES – dates announced (subject to change, although unlikely), **NO MAKE UPS !!!**

FINAL – date announced (scheduled by CAS), **no alternative date/time, NO MAKE UPS !!!**

40%

30%

Homework - assigned per chapter; (All exams will be cumulative)

Course Objective: To guide, encourage, and foster the learning and understanding of Organic Chemistry – nomenclature, structures, properties, mechanisms, syntheses, and spectroscopy – by the individual student, helping him/her to connect, extrapolate, integrate, and apply the many different aspects learned.

Student Outcomes: If successful, the student will learn how to ...

1. identify the various classes of organic compounds, their methods of preparation, and typical reactions.

2. name and draw specific organic compounds.
3. postulate a logical reaction mechanism for simple organic reactions.
4. discriminate amongst relative stabilities of reaction intermediates.
5. plan and write out multi-step syntheses using known reagents / conditions to transform functional groups.
6. prepare for basic purification/separation techniques of organic compounds required in the laboratory.
7. analyze and interpret data from various instruments used in separating and identifying organic compounds: IR, NMR, and UV-vis spectrophotometers

Lecture and Discussion – Attendance and Attention: Important and required. Feel free to bring your books and modeling kit to class and ask questions.

Cell Phones: NONE. Silent mode during lecture and discussion. ***Not allowed in sight or within hearing during exams, subject to confiscation.*** NO phone conversations in lecture hall or in discussion class – AT ANY TIME! NO texting –during class, – AT ANY TIME! If you must talk or text, take it outside!!!

Photography: NONE. No photography of posted quiz/exam keys. No photography of discussion/lecture blackboard / whiteboard.

Recording: NONE. No recording of lectures.

Academic Honesty: Essential, expected, and enforced. Dishonesty dictates consequences which may include:

(1) notification of Chemistry Department Chair, student's Department Chair, and CAS Dean, (2) documentation in the student's official university record, and (3) dismissal from the university. Immediate consequences will include a **ZERO** on any item in question (quiz or exam). Please refer to the LUC Undergraduate Handbook on policies or the CAS website:

http://www.luc.edu/academics/catalog/undergrad/reg_academicintegrity.shtml.

Suggested Homework Assignment (for Wade's 8th edition):

- Chap 1:
- Chap 2
- Chap 3:
- Chap 4:
- Chap 5:
- Chap 6:
- Chap 7:
- Chap 8
- Chap 9:
- Chap 10:
- Chap 11:
- Chap 12:
- Chap 13
- Chap 14:

Lecture Outline (tentative, subject to change, but unlikely due to time constraints)

<u>Lecture</u>	<u>Date</u>	<u>Chapter(s)</u>	<u>Topic</u>	<u>*** EVENT ***</u>
1	M-May 23	1	Intro: Lewis structures, bonding, resonance, acid-base, nomenclature ...	
2	W-May 25	2	Structure and properties	
3	F-May 27	3	Alkanes, cycloalkanes, bicyclics	
*****				QUIZ 1 (Chapters 1-2)
--	May 30	*****	Memorial Day Holiday – NO CLASS	*****
4	W-June 01	4	Chemical rxns - free radical halogenation, kinetics, intermediates	
			
5	F-June 3	5	Stereochemistry – chirality, isomers ...	
*****				EXAM I (Chapters 1-4)
6	M-June 6	6	Alkyl halides, nucleophilic substitution and elimination ...	
7	W-June 8	6 / 7	Alkyl halides (continued) / Alkenes	
8	F-June 10	7	Alkenes (continued)	
*****				QUIZ 2 (Chapters 5-6)
9	M-June 13	8	Alkenes – rxns	
10	W-June 15	9	Alkynes	
11	F-June 17	10	Alcohols	
*****				EXAM II (Chapters 5-9)
12	M-June 20	10/11	Alcohols (continued) / Alcohols - rxns	
13	W-June 22	11	Alcohols – rxns (continued)	
14	F- June 24	12	- Ethers, epoxides, sulfides	
*****				QUIZ 3 (Chapters 10-11)
*****				<i>last day to withdraw with W (Let me check the date)</i> June 22
15	M-June 27		Spectroscopy – IR and MS	
16	W-June 29	13	Spectroscopy – NMR continued UV	
	F-July 1			
*****				Cumulative FINAL EXAM (focus: Chapters 10-14)

Daily Schedule - Mornings (tentative, approximate, flexible, subject to adjustment):

Regular Day

08:30 – 09:00 am Q/A, admin
09:00 – 10:00 **lecture – 1**

Quiz Day

08:30 – 09:00 am Q/A
09:00 – 10:00 **lecture - 1**

Exam Day

08:30 – 09:00 am Q/A
09:00 – 10:10 **lecture**

10:00 – 10:10 ***break***
10:10 – 10:30 discussion
as time/topic permit
10:30 – 11:10 **lecture - 2**

10:00 – 10:10 ***break***
10:10 – 10:50 **lecture – 2**
10:50 – 11:10 *quiz*

10:10 – 10:20 ***break***
10:20 – 11:10 *EXAM*

08:30 – 09:00 Q/A
09:00 – 09:10 ***break***
09:10 – 11:10 *FINAL*