SYLLABUS – CHEM 223 – Organic Chemistry A – 1st Semester – MWF Lecture
Fall 2017 - LOYOLA UNIVERSITY CHICAGO (LUC)

Lecture: #4410 **Section:** 005 **Mon+Wed+Fri** **10:25 am – 11:15 am** **Flanner – Auditorium**

Discussion:	#4411	**Section:** 006	Tues	10:00 - 10:50 am	Flanner 007
	#4412	**Section:** 007		11:30 am - 12:20 pm	Flanner 007

Senior Lecturer: Dr. C. Szpunar
Office: Flanner Hall **200B** Contact: best in person, 773-508-3128, cszpuna@luc.edu
Emergency Message via Chemistry Dept. Office, 773-508-3100, fax: 773-508-3086
Office Hours: **Wed** and **Fri:** 11:30 am – 1:15 pm, **Thur:** 10 am – 11:15 am, and as arranged **prior**
N.B.: Answer keys will be posted in the glass case outside Flanner 200B. No photographing pls!

Required:
1. Organic Chemistry, Klein, 3rd ed., Wiley, 2017 (ISBN: 978-1-119-31615-2) – **new text for this term!**
2. Student Study Guide and Solutions Manual, Klein, 3rd ed. Wiley, 2017 (ISBN: 978-1-119-37869-3)

Suggested / Recommended Materials:
1. Molecular modeling kit, Darling, Duluth, or equivalent
2. WileyPlus online homework/practice tool

Package Options: (**under review by lecturer, Wiley rep, and Loyola Bookstore**)
a. Loose-leaf **printed textbook**, **printed study guide/solutions manual**, and WileyPLUS online-practice problems (ISBN: 978-1-119-38071-9)
b. Integrated e-textbook and e-study guide/solutions manual, loose-leaf **printed textbook**, and WileyPlus online-practice problems (ISBN: 978-1-119-43349-1)
c. Integrated e-textbook and e-study guide/solutions manual and Wiley Plus online-practice problems (ISBN: 978-1-119-43016-2).

Optional Materials (found helpful by some students, but hold off initially – **do NOT purchase immediately**):
1. Organic Chemistry as a Second Language: First Semester Topics, 4E ed., Klein, 2017, Wiley (ISBN: 978-1-119-11066-8 (PBK))
2. Barron's Orgo Cards: Organic Chemistry Review, Wang, Razani, Lee, Wu, and Berkowitz (ISBN: 0-7641-7503-3) *or* Organic Chemistry Study Cards, R Van De Graaff, K Van De Graaff, and Prince, Morton Publishing, 2003 (ISBN 0-89582-577-5) *or* equivalent

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

EXAMS – 3 – dates scheduled, announced (subject to change, although unlikely) **NO MAKE UPS** **45%**
(subject to change, although unlikely, 50-minute exam)
- UNEXCUSED ABSENCES merit a zero score.
- 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, representing the university, or personal emergency constitutes an Excused Absence.

QUIZZES – TBD – **unannounced** (during lecture or discussion or as take-home, **NO MAKE UPS**) **15%**

HOMEWORK – as needed per topic / chapter, due at each next lecture as participation, see below **5%**

FINAL EXAM – date scheduled and announced (scheduled by CAS) **35%**

*** Please note that because this course, *Organic Chemistry, is cumulative, comprehensive, and improvement-based*, and because the final exam is deemed a culminating measure of a student's progress, any student meriting an F on the final exam may achieve a recorded course grade no higher than D, despite total points; a final-exam score of D may merit a course grade no higher than C, despite total points; and a final-exam score of C may merit a course grade no higher than B, despite student's standing otherwise (i.e., despite total points.)

*** Please note that once an overall course grade has been posted officially on LOCUS, any subsequent requests for an INCOMPLETE or any additional extra credit with NOT be considered.

Course Objective: To guide, encourage, and foster the learning and understanding of Organic Chemistry – nomenclature, structures, properties, mechanisms, and syntheses – 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 and mass spectrograph.

Lecture and Discussion – Attendance and Attention: ***Important and required.*** Feel free to bring your books and modeling kit to class. Better yet, use them. Prepare for lecture by prior scanning of new material. Come prepared for discussion; be ready to ask questions on assigned homework or yet-unassimilated lecture material. ***Please note that materials from this course cannot be shared outside the course without the instructor's written permission (as reminded by the CAS Dean's Office memo, Jan. 8. 2016).***

Cell Phones: NONE. Please be courteous and respectful of others. 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 – before class, during class, after class – AT ANY TIME! No texting – before class, during class, after class – AT ANY TIME! If you must talk or text, take it outside!!!

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

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.

Study Strategies and Suggestions: One may approach the study of Organic Chemistry in a manner *similar to tackling a new foreign language.* Its study will provide a basis to understanding future material – *building constantly, incessantly, and relentlessly* on the structural and mechanistic information presented previously and, hopefully, acquired by the student. Over two semesters, the course will cover: bonding, functional groups, families of aliphatic and aromatic compounds, nomenclature, structures, stereochemistry, reaction mechanisms, multi-step syntheses, and spectroscopic techniques. Because the course is cumulative and builds heavily on prior material, the best plan is to study Organic Chemistry regularly, every day, *similar to practicing the piano*. Collaboration with others on homework problems is encouraged, especially in a timely fashion. Experience dictates that positive outcomes (for exam and course grades) are directly proportional to working and understanding the assigned problems on a regular basis, i.e., applying the concepts learned to non-generic situations.

Typically, Organic Chemistry is not efficiently self-taught. Overnight cramming will probably not produce success!!! The student should quickly scan the chapter/segment to be covered BEFORE lecture to improve lecture comprehension. After lecture, careful detailed reading of the chapter/segment and focused working of the assigned problems are appropriate, necessary, essential, and expected**.** In addition to student's participation in lecture, discussion, reading, and homework, joining and contributing to a study group is strongly encouraged.

*If anticipating an acceptable/passing grade of **C**, the minimal time per week devoted to Organic Chemistry is estimated at 4 hr for lecture and discussion, 4-10 hr for reading, and 4-10 hr for homework.*

Homework: Students are required personally to hand in **AT LECTURE** – attendance required – at least 5 completed, assigned problems (or parts of problems) from the previous day's lecture to earn full participation credit. For each missed assignment, students will be assessed **0.1 %** from their homework/participation points. Each day's homework may NOT be turned in late, will NOT be accepted late, and may NOT be turned in by another. No exceptions!!!

Chemistry and Biochemistry Department Caution (*effective Aug. 4, 2016*):

A student who opts to withdraw from CHEM 223 lecture after midterm may be permitted to remain in CHEM 225 – the co-required laboratory, **ONLY** if his/her midterm grade, as posted in LOCUS, is a D or better. If a student plans to continue with the laboratory portion of the sequence, that student must continue to attend all of the lectures until the week of the official drop date, to gain as much background knowledge as possible in preparation for each laboratory assignment and in order to work safely in the laboratory amongst the other students. If a student is considering withdrawing from lecture, but remaining in the lab, the student may seek assistance from the Department of Chemistry and Biochemistry Office in the week prior to the deadline for withdrawing, beginning Monday at 9:00 am through Friday at 4:00 pm. **However, students with a midterm grade of F are required to drop the co-required laboratory along with the lecture without exception.**

Chemistry and Biochemistry Department Course Repeat Rule (*effective Aug. 24, 2017*):

Effective with the Fall 2017 semester, students are allowed only THREE attempts to pass Chemistry courses with a C- or better grade. The three attempts include withdrawals (W).

After the second attempt, the student must secure approval for a third attempt. Students must come to the Chemistry Department, fill out a permission to register form or print it from the Department of Chemistry & Biochemistry website: http://www.luc.edu/chemistry/forms/ and obtain a signature from the Undergraduate Program Director, Assistant Chairperson, or Chairperson in Chemistry. A copy of this form is then taken to your Academic Advisor in Sullivan to secure final permission for the attempt.

Lecture Outline for Klein ed.3 *(tentative, subject to change*) – **Fall 2017**

Week	*Date*	*Ch-Lect*	*Topic*	***EVENT***
1	Aug 28	1-1	Review – Gen Chem: Electrons, Bonds, Molecular Properties	
	Aug 30	1-2		
	Sept 1	1-3		
2	Sept 4	***	*** ***MONDAY*** ********** ***LABOR DAY – HOLIDAY***	
	Sept 6	2-1	Molecular Representations	
	Sept 8	2-2		
3	Sept 11	3-1	Acids and Bases	
	Sept 13	3-2		
	Sept 15	3-3		
4	Sept 18	4-1	Alkanes and Cycloalkanes	
	Sept 20	4-2		
	Sept 22 *		****** ***Friday*** ****** ***EXAM I (Chapters 1-4)***	
5	Sept 25	4-3		
	Sept 27	5-1	Stereoisomerism	
	Sept 29	5-2		
6	Oct 2	5-3		
	Oct 4	6-1	Chemical Reactivity and Mechanisms	
	Oct 6	6-2		
7	Oct 9/10	***	*** ***Monday/Tuesday*** ********** ***MIDTERM BREAK***	
	Oct 11	6-3		
	Oct 13	7-1	Alkyl Halides: Nucleophilic Substitution and Elimination Reactions	
8	Oct 16	7-2		
	Oct 18	7-3		
	Oct 20 *		****** ***Friday*** ****** ***EXAM II (Chapters 4-7)***	
9	Oct 23	8-1	Addition Reactions of Alkenes	
	Oct 25	8-2		
	Oct 27	8-3		
10	Oct 30	9-1	Alkynes	
	Nov 1	9-2		
	Nov 3	10-1	Radical Reactions ***** ***FRIDAY*** ***** *(last day to withdraw with a W)*	
11	Nov 6	10-2		
	Nov 8	10-3		
	Nov 10	11-1	Synthesis	
12	Nov 13	11-2		
	Nov 15	11-3		
	Nov 17 ***		****** ***Friday*** ***** ***EXAM III (Chapters 7-10)***	
13	Nov 20	11-4		
	Nov 22-24	***	*** **WED-FRIDAY** *** ***THANKSGIVING DAY – HOLIDAY*** ***	
14	Nov 27	12-1	Alcohols and Phenols	
	Nov 29	12-2		
	Dec 1	12-3		
15	Dec 4	13-1	Ethers, Epoxides; Thiols and Sulfides (student to finish on his/her own, if time does not permit)	
	Dec 6	14-1	Spectroscopy – IR and MS	
	Dec 8	14-2		
16	**Dec 11 Mon**		***Cumulative FINAL EXAM, 9:00 – 11:00 am, Flanner Auditorium***	