

SYLLABUS – CHEM 224 – off-semester – Organic Chemistry B – 2nd Semester

FALL 2019 - LOYOLA UNIVERSITY CHICAGO (LUC)

Lecture: #3959	Section: 001	TuThur	8:30 – 9:45 am	Flanner Auditorium
Disc: #3960	Section: 002	Wed	11:30 am – 12:20 pm	Flanner 105
#3961	Section: 003	Wed	12:35 pm – 1:25 pm	Flanner 105

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: Tues: 11 am – 1 pm

Thurs: 10 am – 11:15 am (1st Thursday of the month), 10:00 am – 12:00 pm (all other Thursdays)

Fri: 11:30 am – 1:00 pm

(before class, only IF lecturer is prepared for class AND student schedule conflicts w/ regular office hours)

N.B.: Answer keys will be posted in the glass case outside Flanner 200B. NO photographing pls!

Required: (See bookstore for most up-to-date offerings as publisher deals directly with bookstore.)

1. Organic Chemistry, Klein, 3rd ed., Wiley, 2017
2. Student Study Guide and Solutions Manual, Klein, 3rd ed. Wiley, 2017

Option 1: ISBN 978-1-119-38071-9

1. Soft, unbound, printed 3-hole punch text
2. Paperback solutions manual/study guide
3. Wiley Plus plus Orion – the online homework/practice tool – **Course ID: 701617**

Option 2: ISBN 978-1-119-43349-1

1. Soft, unbound, printed 3-hole punch text
2. Etext solutions manual/study guide
3. Wiley Plus plus Orion – the online homework/practice tool

Suggested / Recommended Materials:

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

Optional Materials (found helpful by some students, **do not purchase immediately**):

1. Organic Chemistry as a Second Language, 3E, II, Klein (2012), Wiley (ISBN 978-1-118-14434-3)
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, 90-88% a-, 88-86% b+, 86-71% B, 71-69% b-, 69-67% c+, 67-51% C, 51-49% c-, 49-45% D, <45% F

♪ EXAMS – 3 – dates announced (subject to change, although unlikely) – **NO MAKE UPS** 60%

- 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, discussion period, as take-home) 20%♪ FINAL – date announced (scheduled by CAS), **no alternative date/time, NO MAKE UPS** 20%

♪♪ Homework – per chapter/topic; feel free to work any/ all/ as many problems to apply/master concepts.

*** Please note. This course, *Organic Chemistry*, is **cumulative, comprehensive, and improvement-based**.

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

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 / families of organic compounds, their properties, their methods of preparation, and some typical reactions / transformations.
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 effective, efficient multi-step syntheses using known reagents / conditions to transform functional groups and to add or remove carbons.
6. prepare for typical purification / separation techniques of organic compounds required in the laboratory.
7. analyze and interpret data using various spectrophotometric techniques to identify organic-compound structures: IR, NMR, UV-vis, and mass spectrometry.

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 relevant homework or as-yet-unassimilated lecture material.

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, please 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.

Upon student notification, dishonesty dictates consequences which include: (1) notification of Chemistry and Biochemistry Department Chair, (2) notification of the CAS Assistant Dean for Student Academic Affairs, and (3) notation in the student's official university record upon documentation.

Immediate consequences will include a ZERO score on any item in question, i.e., the quiz or the exam.

Refer to the LUC CAS Academic Integrity Statement and the sanctions for academic misconduct:

<http://www.luc.edu/cas/advising/academicintegritystatement> .

Also refer to the procedures for academic grievances: www.luc.edu/academics/catalog/undergrad/reg_academicgrievance.shtml .

Study Strategies and Suggestions: One should 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 relevant 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/topic to be covered BEFORE lecture to improve lecture comprehension. After lecture, careful detailed reading of the chapter/topic and focused working of the relevant problems are appropriate, necessary, essential, and expected. In addition to the student's participation in lecture and discussion, reading, and homework, joining and contributing to a study group is strongly encouraged.

If anticipating a 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.

*** Please note. A student may forego his/her final exam **if** he/she has taken all 3 mid-term exams, **if** he/she has taken ALL unannounced quizzes, and **if** he/she has earned a status grade of C or better. **If** so requested by the student and **if** accepted by the lecturer, the status grade will be entered on LOCUS as the overall course grade for CHEM 224, thereby waiving the final exam.

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 must be approved by the student's Academic Advisor to secure final permission for the attempt.

Accommodations (SSWD/SAC):

Any student requesting accommodation(s) for extra exam time, different test venue, and/or other course considerations should present their required SSWD/SAC letter to the lecturer in the first or second week of the term, but NOT later than 10 days before a scheduled exam. **This request should be made in private, during office hours** - NOT before, NOT during, NOT after a regularly scheduled class.

Please note that when requesting extra exam time, the student MUST NOT have scheduled another class directly BEFORE and directly AFTER this course, which would preclude him/her from taking the scheduled exam AT THE TIME OF THE GIVEN EXAM, i.e., the SSWD/SAC exam time **must overlap** the official exam time to be fair to ALL students. The student should note the posted SSWD/SAC office schedule and must schedule each accommodated exam at least one week prior to any exam where such accommodation is requested.

Lecture Outline for *Klein Ed. 3* (tentative, subject to change) – Spring 2019

<u>Week</u>	<u>Date</u>	<u>Ch-Lecture</u>	<u>Topic</u>	<u>***EVENT***</u>
1	Aug 27 <u>Aug 29</u>	14-1 14-2	Review – IR Spectroscopy and MS ...	
2	Sept 2 Sept 3 <u>Sept 5</u>	*** 15-1 15-2	NMR Spectroscopy ...	***** Holiday – Labor Day *****
3	Sept 10 <u>Sept 12</u>	16-1 16-2	Conjugated Systems - Dienes ...	
4	Sept 17 <u>Sept 19</u>	17-1 17-2	Aromatic Compounds ...	
5	Sept 24 <u>Sept 26</u>	18-1 ***	Aromatic Reactions ***** Thursday *****	EXAM I (Chapters 14-17)
6	Oct 1 <u>Oct 3</u>	18-2 19-1	... Aldehydes and Ketones	
7	Oct 7-8 <u>Oct 10</u>	*** 19-2	...	***** Monday-Tuesday ***** MIDTERM BREAK *****
8	Oct 15 <u>Oct 17</u>	19-3 20-1	... Carboxylic Acid and Derivatives	
9	Oct 22 <u>Oct 24</u>	20-2 ***	... ***** Thursday *****	EXAM II (Chapters 18-20)
10	Oct 29 Oct 31 <u>Nov 1</u>	21-1 21-2 ***	Alpha Carbon Enols and Enolates	**** Friday **** (last day to withdraw with a W) ****
11	Nov 5 <u>Nov 7</u>	21-3 22-1	... Amines	
12	Nov 12 <u>Nov 14</u>	22-2 23	... Organometallics	
13	Nov 19 <u>Nov 21</u>	24-1 ***	Carbohydrates ***** Thursday *****	EXAM III (Chapters 21-23)
14	Nov 26 <u>Nov 27-29</u>	24-2 ***	...	***** Thanksgiving Break *****
15	Dec 3 <u>Dec 5</u>	25 26	Amino Acids, Peptides, and Proteins Lipids	
16	Dec 14 Sat		Cumulative FINAL EXAM, 9:00 – 11:00 am, Flanner Auditorium	