SYLLABUS - CHEM 223 – *ACCELERATED*

Organic Chemistry A – 1st semester

Summer 2019 - LOYOLA UNIVERSITY CHICAGO

Lecture/Discussion:	#1302	CHEM 223-003	*MWF: 8:30 – 11:10 am*	Flanner 105
	#1781	CHEM 223-004	*MWF: 12:00 – 2:40 pm*	Flanner 105

Sr. Lecturer: Dr. C. Szpunar
Office: Flanner Hall **200B** Contact: in person (preferred), 773-508-3128, cszpuna@luc.edu
Emergency Message via Chemistry Dept. Office: 773-508-3100, fax: 773-508-3086
Student Office Hours: - *directly after the MWF morning lecture*
- *directly after the MWF afternoon lecture*

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 interacts directly with bookstore.)

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

Package 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: 694796**

Package 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 – First Semester Topics, 4e, Klein (2017), Wiley (ISBN 978-1-119-11066-8)
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

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

!!! NO MAKE UPS !!!

- 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 appropriate documentation**, religious observance, official representation of the university, or personal emergency may constitute an Excused Absence.

♫ ♫ **QUIZZES** – 4 – dates announced (subject to change, although unlikely), ***NO MAKE UPS !!!*** **30%**

♫ ♫ ♫ **FINAL** – date announced (scheduled by CAS), **no alternative date/time,** ***NO MAKE UPS !!!*** **35%**

♫♫ ♫♫ ♫♫ ♫♫ ***Homework*** – unassigned per topic/chapter; feel free to work any/all problems to apply and master concepts, due at each next lecture, in person, see below. **5%**

*** 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 course credit with NOT 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 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 and mass spec (1st semester – Klein), NMR and UV (2nd semester – Klein).

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 homework or 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, 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 on any item in question (quiz or exam).
Please 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 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 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 typical problems on a regular basis, i.e., applying the concepts learned to specific, non-generic situations.

Typically, Organic Chemistry is not efficiently self-taught. Overnight cramming will probably not produce success! The student should quickly read the chapter/segment to be covered BEFORE lecture to improve lecture comprehension. After lecture, careful detailed re-reading of the chapter/segment and focused working of the 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.

In anticipation of an acceptable/passing grade of ***C****, the minimal time per week in the summer devoted to Organic Chemistry is estimated at 8 hr for classroom lecture/discussion, 6-12 hr for reading, and 6-12 hr for homework. For a higher course grade, more study time need be expended. Experience dictates that a full-time summer job may not allow for a dedicated, successful effort in this course.*

Homework/Participation: Students are required personally to hand in **at the beginning of LECTURE** – attendance required – at least **10** completed problems (or parts of problems) from the previous day's lecture to earn full participation credit, with his/her name on each page. ***No assignment is expected on EXAM DAY(S).*** For each missed assignment, students will be assessed **0.33%** from their homework/participation points. Each day's homework may NOT be turned in late, will NOT be accepted at a different time, and may NOT be turned in by another. No exceptions!!!

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

Effective beginning in 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 may come to the Chemistry and Biochemistry Department to fill out a permission-to-register form. Or they may print the form from the Department of Chemistry & Biochemistry website: http://www.luc.edu/chemistry/forms/ and then obtain a signature from the Undergraduate Program Director, Assistant Chairperson, or Chairperson in Chemistry. In addition, a copy of this signed form must be approved by the student's Academic Advisor to secure final permission for the attempt.

Accomodations (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, NOR 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*) – **Summer 2019**

Wk-Lec	*Date*	*Chs*	*Topic*	******EVENT******
1-1	M-May 20	1	Review – Gen Chem	
1-2	W-May 22	2	Molecular Representations	
1-3	F-May 24	3	Acids and Bases	***Quiz 1***
2-1	M-May 27	***	********** *Monday* ********** *Memorial Day Observed* *******	
2-2	W-May 29	4	Alkanes and Cycloalkanes	
2-3	F-May 31	5	Stereochemistry	***Quiz 2***
3-1	M-Jun 3	5/6	… / Chemical Reactivity and Mechanisms	
3-2	W-Jun 5	7	Alkyl Halides: Nucleophilic Substitution and Elimination Reactions	
3-3	F-Jun 7	7	…	***Mid-Term Exam**
4-1	M-Jun 10	8	Alkenes	
4-2	W-Jun 12	9	Alkynes	
4-3	F-Jun 14	10	Radical Reactions: Alkanes to Alkyl Halides	***Quiz 3***
5-1	M-Jun 17	11	Synthesis	
5-2	W-Jun 19	12	Alcohols and Phenols	
5-3	F-Jun 21	12	...	***Quiz 4***
6-1	M-Jun 24	14	Spectroscopy – IR and MS	
6-2	W-Jun 26	14	…	
6-3	F-Jun 28	14/13	… / Ethers, Epoxides, Thiols, and Sulfides (student to finish on his/her own, if time does not permit)	***FINAL EXAM**

Daily Schedule – Mornings (tentative, approximate, flexible, may adjust order):

Regular Day	**Quiz Day**	**Exam Day**
08:30 – 08:50 am - Q/A, admin	08:30 – 08:50 am - Q/A	08:30 – 08:50 am - Q/A
08:50 – 10:00 **lecture – 1**	08:50 – 10:00 **lecture – 1**	08:50 – 10:10 **lecture**
10:00 – 10:10 ***break***	10:00 – 10:10 ***break***	10:10 – 10:20 ***break***
10:10 – 11:10 **lecture – 2**	10:10 – 10:50 **lecture – 2**	10:20 – 11:10 *EXAM – 50 min*
	10:50 – 11:10 *QUIZ*	**********
		08:30 – 9:00 am Q/A
		09:00 – 09:10 ***break***
		09:10 – 11:10 *FINAL EXAM – 2 hr*

Daily Schedule – Afternoons (tentative, approximate, flexible, subject to adjustment):

Regular Day	**Quiz Day**	**Exam Day**
12:00 – 12:20 pm - Q/A, admin	12:00 – 12:20 pm - Q/A	12:00 – 12:20 pm – Q/A
12:20 – 01:30 **lecture – 1**	12:20 – 01:30 **lecture - 1**	12:20 – 01:40 **lecture**
01:30 – 01:40 ***break***	01:30 – 01:40 ***break***	01:40 – 01:50 ***break***
01:40 – 02:40 **lecture – 2**	01:40 – 02:20 **lecture – 2**	01:50 – 02:40 *EXAM – 50 min*
	02:20 – 02:40 *QUIZ*	**********
		12:00 – 12:30 pm – Q/A
		12:30 – 12:40 ***break***
		12:40 – 02:40 *FINAL EXAM – 2 hr*