Organic Chemistry A
Chem 223 / Fall 2023

The purpose of this syllabus is to describe the course, resources, and policies. It is meant to help all students understand the expectations and requirements for the course, and it should be used as a reference for questions about policies. When updates to the syllabus are made during the term, a new version will be posted electronically, and all students will be notified.

COURSE INFORMATION

Course: Chemistry 223 – Organic Chemistry A (3 credits: Lecture & Discussion)

Prerequisites: Completion of Chemistry 102/106 & Math 118 with a grade of C- or better. A student missing a prerequisite may be withdrawn at any time.

Time Zone: This syllabus lists dates/times using Chicago local time (U.S. Central Time Zone)

In-Person: All graded assignments scheduled during class time are available in class only.

Lectures: MWF 1:40-2:30 PM / FH-Auditorium

Discussions: You must attend the section for which you registered:

- M 10:25-11:15 AM / MC-406
- M 11:30-12:20 PM / MC-406
- M 12:35-1:25 PM / FH-007

Coordinator: Prof. James Devery (Ph.D.) jdevery@luc.edu; Chemistry 223 is a multi-section lecture & discussion course with common content and common outcomes across all sections. This course includes a Final Exam during the Common Final Exam Period as scheduled by the University. The Course Coordinator is responsible for consultation and coordination with instructors regarding policies, exam writing, and grading. Your Section Instructor is responsible for communicating with you regarding all course content and policies and is the first and primary person you should contact with questions about all aspects of the course. As needed, all Section Instructors will consult with the Course Coordinator throughout the semester.

Instructor: Prof. Kelvin Billingsley

INSTRUCTOR CONTACT INFORMATION

Office: FH-209

Email: kbillingsley@luc.edu

Office Hours: W 11 AM – 1 PM or by appointment

SI: There are Supplemental Instruction (SI) study sessions available for this course. SI sessions are led by an SI leader (Cole Gebert), who is a student that has recently excelled in the course. Session attendance is open to all, and while it is voluntary, it is extremely beneficial for those who attend weekly. Times and locations for the SI session can be found here: www.luc.edu/tutoring. Students who attend these interactive sessions find themselves working with peers as they compare notes, demonstrate, and discuss pertinent problems and concepts, and share study and test-taking strategies. Research shows students whom regularly attend sessions have higher grades at the end-of-the-semester and more deeply understand course concepts than those who do not. Students are asked to arrive with their Loyola ID number, lecture notes, and textbook.

COURSE POLICIES

Required Course Materials:

- Textbook: eText via WileyPlus and/or hard copy: Organic Chemistry, Klein, David, 4th edition.
- Loyola Sakai course management site: sakai.luc.edu/portal/ and tools integrated into the site.
- Loyola email: messages are sent to the entire class via Sakai, linked to your Loyola email account.
- Additional web-based systems will be used for uploading your work and facilitating feedback and evaluation. Registration will be free but required. These may include Gradescope and other sites.
- Additional software will be used. Downloads will be free but required. These may include applications that convert photos to pdfs (examples: CamScanner, Scannable, GeniusScan), and collaboration materials for group work (example: OneNote).

Recommended Course Materials:

- An organic molecular model kit (e.g., Molecular Visions)

Copyright/Intellectual Property reminder: Course materials provided by your instructors at Loyola, including the materials, may not be shared outside any course without the instructor's written permission. Content posted without permission will be in violation of Copyright/Intellectual Property laws.

Course Content & Learning Outcomes: Topics will include: nomenclature, structures, properties, reactions, mechanisms and synthesis of alkanes, alkyl halides, alkenes, alkynes, alcohols, and ethers; study of molecular structure, geometry, and properties; functional groups; reactive organic species; stereochemistry; spectroscopy; spectrometry. If successful, the student will be able to:

1. identify the various classes of organic compounds, their methods of preparation, and typical reactions.
2. name and draw specific organic compounds.
3. visualize and interpret multiple representations of organic molecules depicting connectivity, configuration, and conformations.
4. postulate logical reaction mechanisms for organic reactions.
5. discriminate among relative stabilities of reactive intermediates.
6. plan and write out single and multi-step syntheses using known reagents and conditions.
7. identify and compare general physical properties of organic compounds.
8. analyze, interpret, and predict spectral data (MS and IR) used in identifying organic compounds.
9. describe and analyze how organic chemistry affects the way we live.

Student Accommodations: Loyola University provides reasonable accommodations for students with disabilities. Any student requesting accommodations related to a disability or other condition is required to register with Student Accessibility Center (SAC), located in Sullivan Center, Suite 117. Professors receive the accommodation notification from SAC via Accommodate. Students are encouraged to meet with their professor individually in order to discuss their accommodations. All information will remain confidential. Please note that in this class, software may be used to record class lectures in order to provide equal access to students with disabilities. Students approved for this accommodation use recordings for their personal study only and recordings may not be shared with other people or used in any way against the faculty member, other lecturers, or students whose classroom comments are recorded as part of the class activity. Recordings are deleted at the end of the semester. For more information about registering with SAC or questions about accommodations, please contact SAC at 773-508-3700 or SAC@luc.edu.

Course Repeat Rule: 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). The Department advises that it is preferable to complete a course with a grade of C or C-, and to demonstrate growth in future coursework, rather than to withdraw from a course.

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: https://www.luc.edu/chemistry/forms/ and personally meet and obtain a signature from either 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.

Academic Integrity: All students in this course are expected to have read and to abide by the demanding standard of personal honesty, drafted by the College of Arts & Sciences, which can be viewed at: https://www.luc.edu/cas/advising/academicintegritystatement/

A basic mission of a university is to search for and to communicate the truth as it is honestly perceived. A genuine learning community cannot exist unless this demanding standard is a fundamental tenet of the intellectual life of the community. Students of Loyola University Chicago are expected to know, to respect, and to practice this standard of personal honesty. Academic dishonesty can take several forms, including, but not limited to cheating, plagiarism, copying another student's work, and submitting false documents.

Any instance of dishonesty (including those detailed on the website provided above or in this syllabus) will be reported to The Chair of The Department of Chemistry & Biochemistry who will decide what the next steps may be. *Evidence of cheating on an examination in this course will result in a score of zero (which cannot be dropped from grade calculations) and penalty up to failure of the course. Evidence of cheating or collaboration on online WileyPlus assignments will result in a score of zero for the semester for WileyPlus Assignments portion of the overall point total.*

College policies include that instructors will report incidents of academic misconduct to their chairperson as well as to the Assistant Dean for Student Academic Affairs in the CAS Dean's Office. I will report incidents to the Chemistry & Biochemistry Department for further action(s).

Loyola University Absence Policy for Students in Co-Curricular Activities (including ROTC): Students missing classes while representing Loyola University Chicago in an official capacity (e.g., intercollegiate athletics, debate team, model government organization) shall be allowed by the faculty member of record to make up any assignments and to receive notes or other written information distributed in the missed classes.

Students should discuss with faculty the potential consequences of missing lectures and the ways in which they can be remedied. Students must provide their instructors with proper documentation i.e., "Athletic Competition & Travel Letter" describing the reason for and date of the absence.

This documentation must be signed by an appropriate faculty or staff member, and it must be provided to the professor in the first week of a semester. It is the responsibility of the student to make up any assignments. If the student misses an examination, the instructor is required to allow the student to take the examination at another time. (https://www.luc.edu/athleteadvising/attendance.shtml)

Students who will miss class for an academic competition or conference must provide proper documentation to their instructor as early in the semester as possible.

Accommodations for Religious Reasons: If you have observances of religious holidays that will cause you to miss class or otherwise effect your performance in the class you must alert the instructor ***within 10 calendar days of the first class meeting of the semester*** to request special accommodations, which will be handled on a case-by-case basis.

Other Items:

- A link to the official Loyola calendar can be found here: https://www.luc.edu/academics/schedules/
- The Withdraw deadline for the semester is on Friday, November 3rd.
- Loyola is using SmartEvals to provide instructor & course feedback. OIE will send emails near the end of the term.

CLASS RECORDING & CONTENT INFORMATION

In general lecture, meetings may be recorded. The following is a mandatory statement for all courses in the College of Arts & Sciences (CAS). We will discuss class norms and standards during the first week and continue the discussion as needed throughout the semester.

Privacy Statement: Assuring privacy among faculty and students engaged in online and face-to-face instructional activities helps promote open and robust conversations and mitigates concerns that comments made within the context of the class will be shared beyond the classroom. As such, recordings of instructional activities occurring in online or face-to-face classes may be used solely for internal class purposes by the faculty member and students registered for the course, and only during the period in which the course is offered. Students will be informed of such recordings by a statement in the syllabus for the course in which they will be recorded. Instructors who wish to make subsequent use of recordings that include student activity may do so only with informed written consent of the students involved or if all student activity is removed from the recording. Recordings including student activity that have been initiated by the instructor may be retained by the instructor only for individual use.

Additional Content, Copyright & Intellectual Property Statement: By default, students may not share any course content outside the class without the informed written consent of the owner of that content. This includes any additional recordings posted by students, materials provided by the instructor, and publisher-provided materials. For example, lectures, quiz/exam questions, book figures/slides, and videos may not be shared online outside the class. In some cases, copyright/IP violations may overlap with breaches of academic integrity. Remember that obtaining consent to share materials is an active process.

Pass/Fail Conversion Deadlines and Audit Policy: A student may request to convert a course into or out of the "Pass/No-Pass" or "Audit" status only within the first two weeks of the semester. For the Fall 2023 semester, students are able to convert a class to "Pass/No-Pass" or "Audit" through Monday, September 11th. Students must submit a request for Pass/No-Pass or Audit to their Academic Advisor.

Health, Safety, and Well-Being On-Campus: Please be familiar with and adhere to all policies and protocols posted on the *Campus Info & Resources* site: https://www.luc.edu/healthsafetyandwellbeing/campusinforesources/

Final Exam: The University sets the schedule for all final exams. The final will be held on: **Thursday December 14th, 7:00pm**. Location will be updated on LOCUS when available.

You will have exactly 2 hours to complete the exam. Additional time will not be granted, even if you start late. There will be no make-up final exams given under any circumstance, and the exam will not be given early, either.
Instructors may not reschedule final exams for a class for another day and/or time during the final exam period. There can be no divergence from the posted schedule of dates for final exams. Individual students who have four (4) final examinations scheduled for the same date may request to have one of those exams rescheduled. If a student reports having four final examinations scheduled for the same date, students should be directed to e-mail a petition to Adam Patricoski, Assistant Dean for Student Academic Affairs, CAS Dean's Office (apatricoski@luc.edu).

Universal Absence Accommodation Policy: The purpose of a universal absence accommodation policy is to account for emergency circumstances (e.g., serious illness, caring for a family member, car accident) that require you to be absent from class, while maintaining fairness in grading for students who attend and complete all in-class graded assignments. We

believe that class attendance and participation are essential for your success in this class, and that your health is important to us and our shared community. Please use good judgement and stay home if necessary/prudent for your circumstances. This is the universal accommodation policy for in-class graded assignments:

One missed in-class exam due to absence for any reason is already accommodated in the course grading system. Given that only the best three in-class exams are included in this calculation, a missed exam would be the one not included in this calculation, as it would be the lowest score (0%) of the four exams. You may provide documentation for an absence, but it is not required. These accommodations are automatically available to all students.

There are no makeup assignments for absences for non-exam assignments (e.g., WileyPlus assignments).

Course Grading System

The standards for each letter grade are listed here according to all required course components. Each student will receive a midterm grade via LOCUS at least one week prior to the Withdraw deadline for the semester. Grades are only based on the criteria listed in the syllabus: no substitutions and no additions.

Grading Scheme:

WileyPlus Assignments	10%	100 points	
Quarterly Exams (Top 3)	60%	600 points	
Final Exam	30%*	300 points	(*the final exam is mandatory to earn a passing grade)
Total score	100%	1000 points	

Letter Grade Cutoffs*:

A	90.0%	C+	65.0%
A-	85.0%	C	60.0%
B+	80.0%	C-	55.0%
B	75.0%	D	40.0%
B-	70.0%	F	< 40%

WileyPlus Assignments (100 point maximum): WileyPlus Assignments are designed as a graded review of the previous week's material. There will be 14 online WileyPlus assignments (Weeks 2-15) throughout the semester. Each weekly assignment will be scored based on the accuracy of your responses on a 0-8 points scale. There will be a total of 112 points available during the semester, but the maximum total for WileyPlus Assignments is still 100 points. Each assignment will be available by 5 PM Friday and will be due the first, non-holiday class day (typically Monday) at 9 AM of the following week. *The assignments must be completed individually without classmates.* Once you begin, you'll have 60 minutes to complete the assignment and you may only submit one answer per question. Late assignments will not be accepted.

During Discussion sections, we will review material from the previous week, address any questions, and examine any difficult problems from the weekly WileyPlus assignment. We will then practice on exam-like problems in a group setting. Because attendance at these sections will be greatly beneficial for mastery of the material and preparation for exams, participation in these Discussion sessions during Weeks 3-15 of the semester will earn 1 point/session added to your WileyPlus Assignments point total. Only 0.5 points will be awarded if an individual that if 5 minutes late to the Discussion or leaves the class early.

*The points for (1) scored online WileyPlus assignments and (2) participation during in-class Discussions will be summed and then multiplied by a **scaling factor of 1.0** to provide the total points for the WileyPlus Assignments*. [Example: if a student earned 79 points from online WileyPlus assignments and 11 points from in-class Discussions, they would receive 90 points of the 100 maximum points for their overall WileyPlus Assignments point total.]

Quarterly Exams (600 point maximum): There will be four Quarterly Exams (W 9/20, W 10/18, W 11/8, and W 12/6), and each will be assessed on a 0-100% grading scale. The lowest exam score will be dropped, and any regrade petition on Quarterly Exams must be submitted within 48 h of the time the exam is returned. *The scores on the top three Quarterly Exams will be summed and then multiplied by a **scaling factor of 2.0** to provide the total points for the Quarterly Exams.* [Example: if a student earned scores of 50%, 80%, 85%, and 90% on the four Quarterly Exams, then the 50% would be dropped. The sum of the top three Quarterly Exams would be 255 (80 + 95 + 90), so they would receive 510 points of the 600 maximum points for their overall Quarterly Exams point total.]

Final Exam (300 point maximum): The Final Exam will be assessed on a 0-100% grading scale. *The score on the Final Exam will be multiplied by a **scaling factor of 3.0** to provide the total points for the Final Exam.* [Example: if a student earned an 87% on the Final Exam, they would receive 261 points of the 300 maximum points for their overall Final Exam point total.]

Changes to Syllabus: There may be changes to the syllabus during the semester. *You are responsible for all syllabus changes made in class whether or not you attend.*

Course Topics (Chapters 1-14):

Part 1: The Structure of Organic Molecules
- Chapter 1: Review
- Chapter 2: Drawing Molecules
- Chapter 14: IR and MS
- Chapter 4: Alkanes and Cycloalkanes

Part 2: The Principles of Stereochemistry and Chemical Reactivity*
- Chapter 5: Stereochemistry
- Chapter 3: Acids & Bases
- Chapter 6: Chemical Reactivity & Mechanisms
- Chapter 7: Alkyl Halides

Part 3: The Synthesis and Reactivity of Alkenes and Alkynes*
- Chapter 8: Alkenes
- Chapter 9: Alkynes

Part 4: The Chemistry of Radicals, Alcohols, and Ethers*
- Chapter 10: Radicals
- Chapter 12: Alcohols
- Chapter 13: Ethers

*Note: Total Synthesis (Chapter 11) will be continually discussed during Parts 2-4.