Loyola University Chicago

Organic Chemistry II CHEM 224 Sec. 005 ,006 Summer Session B: July 06 – August 13, 2020 **Link to academic calendar** **ONLINE:** REQUIRED availability for synchronous sessions**:**
SECTION 005: MWF: 08:00 AM – 10:40 AM SECTION 006: MWF: 01:20 PM – 04:00 PM
SEE SCHEDULE; TIME ZONE: All times listed in this syllabus correspond to the local time in Chicago, Illinois (Central Time Zone) Instructor: Donald May Contact: dmay4@luc.edu; E-mails will usually be answered Monday-Friday within 36 hours of receipt. E-mails sent after 05:00 PM on Fridays will not be observed until the next Monday. **Office Hours: Date and time announced. Prerequisites**: CHEM 223, 221 or the equivalent.
TEXTBOOK: Klein, Organic Chemistry, 4th edition; complete access via **WileyPlus:**
ACCESS NUMBER, A25881 AND INSTRUCTIONS, PROVIDED IN THE COURSE WILEY FLYER (SEE SAKAI RESOURCES)
ELECTRONIC MATERIALS (REQUIRED):
1. Expect to use both a laptop computer and a mobile device (phone, tablet) for connectivity to online resources, including use of a camera or connected webcam during scheduled discussions for Questions & Answers (Q&A), graded discussions and exams.

Last summer, Loyola was offering a limited supply of equipment loans for students enrolled in summer courses:
https://www.luc.edu/its/dms/equipmentloan/browseourequipment/extendedloan

2. Preliminary list of electronic resources:

Loyola email: messages to be sent to the class from SAKAI, linked to your Loyola UVID
Loyola SAKAI login with your Loyola UVID; e-mails may also come from LOCUS
ZOOM conferencing: luc.zoom.us meeting ID & password will be provided, login with Loyola UVID
WileyPlus:
GRADESCOPE: students will need to register, both first and last names, prior to the first class: course access code: 005: N8E3WV 006: N8E3WV
CamScanner: free application converts photos to pdf's of your submitted assignments (alternative: Genius Scan)
Loyola Information Technology Services Support: https://www.luc.edu/its/support/

3. Exams & Proctoring will be conducted electronically, additional (free) software downloads may be required.

COLLABORATION MATERIALS
Students may be working in small groups of about 4 students each (groups will be divided up into breakout rooms; students may be reassigned) with your classmates via ZOOM in graded discussions. A single group pdf will subsequently be uploaded into GRADESCOPE, for participating members. The low-cost method to collaborate quickly is to use a dry-erase whiteboard, which some of you may have used in other courses, to write out your work so that it is easily viewable via your webcam. For this you would only need a lap-size whiteboard and dry-erase markers, for example:
Amazon.com search results, sorted low to high price: "lap whiteboards for students"
Target.com search results: "dry erase lap-size whiteboards"
The expensive alternative is an electronic tablet and stylus.
You can also expect to use these materials for discussions and office hours.

INDIVIDUAL MATERIALS
Molecular Model Kit, for example:

Duluth Labs: https://duluthlabs.com/pages/product-comparison
Pearson Prentice-Hall: ISBN-13: 978-0205081363
Darling Molecular Visions: ISBN-13: 978-0964883710

OPTIONAL STUDY AIDS
1) Study Guide and Solutions Manual for the textbook
2) Molecular model kit (see above)
3) paperback by D.P. Weeks titled, "Pushing Electrons: A Guide for Students of Organic Chemistry," Third Edition (Thomson Brooks/Cole); ISBN 0-03-020693-6. The first 3 chapters (pp. 1-161) of this workbook are intended to help students understand "structure and bonding in organic molecules," as well as techniques of "electron pushing" to comprehend reaction mechanisms.
4) paperback also by D.R. Klein entitled "Organic Chemistry as a Second Language: Translating the Basic Concepts" (I&II); 2004 by John Wiley & Sons, Inc.; ISBN 0-471-27235-3; www.wiley.com/college/klein. These are

to help the student develop the skills required to solve a variety of problems in organic chemistry and to point out the fundamental principles in organic chemistry.
5) Supplementary Textbooks: Organic Chemistry, Eighth Edition by Wade (Pearson; 2016)
Organic Chemistry, Tenth Edition, by T.W.G. Solomons and C. Fryhle (John Wiley & Sons, Inc., 2011).
Organic Chemistry, Eighth Edition, by J. McMurry (Brooks/Cole Publishing Co., 2012).
Organic Chemistry, by F.A.Carey and R.M. Giuliano, Eighth Edition (McGraw-Hill, Inc., 2011).
Organic Chemistry: Structure and Function, by K.P.C. Vollhardt and N.E. Schore, Sixth Edition (W.H. Freeman and Co., 2011).
Method of instruction: Lectures via SAKAI stored in PANOTPTO videos, to be posted and available within the course site in student's course section.. Discussions via ZOOM-PRO, with meeting ID and password to be posted within our course site on SAKAI. Lectures may be supplemented with the discussions, use of molecular models, use of multimedia, and/or use of additional electronic materials as well as individual and/or group problem solving. Suggested textbook homework problems will be given but the student will not be required to turn them in.
Online Classes Recording Statement: In this class software may be used to record live class discussions. As a student in this class, your participation in live class discussions will possibly be recorded. These recordings will be made available only to students enrolled in the class, to assist those who cannot attend the live session or to serve as a resource for those who would like to review content that was presented. All recordings will become unavailable to students in the class when the SAKAI course is unpublished (i.e. shortly after the course ends, per the Sakai administrative schedule). Students who prefer to participate via audio only will be allowed to disable their video camera so only audio will be captured. Please discuss this option with your instructor. The use of all video recordings will be in keeping with the University Privacy Statement shown below:
Privacy Statement: Assuring privacy among faculty and students engaged in online and face-to-face instructional activities, and 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.
Student and Faculty Expectations: Most of the work will be done asynchronously but the requirement for all students to reserve specific days for graded coursework, is given in the course schedule. There is no minimum number of study hours per day nor per week. Students should expect to study 2 hours for every one (1) lecture hour. From many years of teaching summer courses, in the consolidated time frame, students should not expect to be successful by cramming all coursework into 1-2 days per week, especially just before an exam. The course material is intrinsically cumulative and builds on previous theories. For any online course, it is also essential for you to be extremely pro-active, and this is even more true during this accelerated summer session. It is each student's responsibility to meet and complete all course components and assignments.

Student Conduct: Only students officially enrolled in the course may access course materials and components. Students must attend the discussion for which they are officially enrolled. Students are not allowed to share any course materials with anyone outside the class. At all times students are expected to conduct themselves in a mature and professional manner, which includes but is not limited to: treating everyone with courtesy and respect. Students are expected to take care of their personal/professional matters before lectures/discussions/exams since students are not allowed to be un-proctored, through Zoom, during scheduled graded meetings. Panopto videos utilized will be uploaded and made available on SAKAI. Other graded discussion and exam instructions will be given and thus it is expected that students will be on time and ready for the start of each ZOOM meeting.

It is each individual student's responsibility to meet course requirements. As this is an on-line course, any issues with Wi-Fi connections, computer functionality, accessing SAKAI and/or GRADESCOPE, accessing and/or uploading documents for grading are solely the responsibility of each student.

Other responsibilities include:

- **Required student's full availability during the scheduled times of Lectures and Discussions**
- **SEE SCHEDULE: Students must attend the discussion ZOOM meetings for which they are officially enrolled.**

- **Required: Windows or Mac computer (these will not be compatible: Chromebook, iPad, any other devices)**
- **Required: Webcam (external or built-in in the device), earphones, microphone.**
- **Required: any scanning app (free good Apps: Built-in Notes App in iPhones, free apps: CamScanner, Genius Scanner etc.)**
- **Required format of all handwritten submissions is PDF. Other files/formats will not be accepted.**
- **Required: Stable internet connection for all synchronous meetings and for submission of graded materials.**
- **Required: Smartphone or any mobile device**
- **Required: Reduced noise environment or room. For the exams and discussions student are required to be arranged in a room in which they are clearly visible via Zoom and not interrupted and no other people, but the student is present.**
- **Required: Sakai access: Communication will go through Sakai and Zoom synchronous sessions. It is student's responsibility to follow the announcements, and all policies of the class.**
- **Required: Sakai, Zoom and Panopto access associated with Loyola UVID (access given automatically for each individual discussion for those officially enrolled).**

A blank answer template as a pdf file, for each graded discussion and graded exam, will be provided for downloading by 05:00 PM on the day before the start-time of the graded component.

Any digital ink device: such as iPad with Apple Pencil, Surface Pro with any pen, android Tablet with pen, etc. This course was designed in such a way that lack of any of these devices will not affect the performance in the class. This digital device is very useful during group discussions only.

A WileyPlus registration flyer with the access code will be posted under RESOURCES on SAKAI.

Academic Integrity: Consult the Undergraduate Studies Handbook for additional information. 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. For on-line homework, students creating multiple accounts will be considered in violation of academic integrity. Anything submitted that is incorporated as part of your grade in this course must represent your own work, unless indicated otherwise. All exams are self-contained: closed book and closed note. No external materials/notes/books or personnel are allowed: no unauthorized resources. During exams, violations include but are not limited to: cell phone ringing, using unauthorized notes or books, communicating with another student, utilizing any on-line resource. Depending on the seriousness of the incident, different sanctions may be imposed. 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. 2020).
Trust and integrity are important qualities in students. All submitted work must represent your own, work and your own work only. Academic dishonesty of any kind, such as plagiarism and cheat sheets on exams, will not be tolerated. Any student caught cheating on an assignment in any way will receive, at minimum, a zero score or zero %, for that assignment and be reported to Chairperson or Assistant Chairperson, of the Chemistry & Biochemistry Department and the Dean of the School of Arts and Sciences. A zero on an exam for cheating will not allowed to be dropped. For further information regarding the Academic Integrity policy and disciplinary procedures, refer to the Undergraduate Studies Catalog:
http://www.luc.edu/academics/catalog/undergrad/reg_academicintegrity.shtml.
Academic Dishonesty also includes such infractions as:
• Obtaining a copy of tests or scoring devices
• Using another student's answers during an examination
• Providing another student questions or answers to or copies of examination questions
• Having another person impersonate the student to assist the student academically
• Impersonating another student to assist the student academically
• Representing as one's own work the product of someone else's creativity
• Using, or having available for use, notes or other unpermitted materials during "closed book" examinations

• Duplicating any portion of another student's homework, paper, project, laboratory report, take-home examination, electronic file or application for submission or accepting a copy of tests or scoring device
• Having someone other than the student prepare any portion of the student's homework, paper, project, laboratory report, take-home examination, electronic file or application, other than for a teacher-approved collaborative effort.
• Permitting another student to copy any portion of another student's homework, paper, project, laboratory report, take-home examination, electronic file, or application other than for a teacher-approved collaborative effort
• Using any portion of copyrighted or published material, including but not limited to electronic or print media, without crediting the sources
• Any other action intended to obtain credit for work that is not one's own.

Materials from the course cannot be shared outside the course without the instructor's written permission. Students may not be aware of copyright and intellectual property rights.
Students engaged in official university off-campus activities will need to make proactive arrangement for missed course assignments, in providing the appropriate signed documentation in advance of the date missed.
Academic Integrity Revisited: Consult the Undergraduate Studies Handbook for additional information. 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/
Anything you submit that is incorporated as part of your grade in this course must represent your own work, unless otherwise authorized. All exams are proctored and permitted materials and resources will be clearly stated prior to each exam. During exams, violations include but are not limited to: **using unauthorized notes, books, or electronic resources, communications with other people, efforts to thwart electronic proctoring, misuse and abuse of time limits.** Falsifying statements and facilitating misconduct for other students also constitutes a violation of academic integrity. Any student found to be in violation or cheating will be given a zero for the assignment/exam (which cannot be dropped from the course grade) and the incident will be reported to the Chemistry Department Chair and the Office of the CAS Dean. Depending on the seriousness of the incident, additional sanctions may be imposed.

Disability Accommodations: Students requiring accommodations at the University need to contact the Coordinator of Services for Student Accessibility Center (SAC), Sullivan Center. Accommodations are provided after receiving documentation from SAC Testing and allowance of a reasonable time frame for arrangements (minimally, one week in advance). Accommodations cannot be retroactive. Contact: http://www.luc.edu/sac/
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). After the second attempt, the student must secure approval for a third attempt. Read the full policy at this link (scroll down):
https://www.luc.edu/chemistry/courses.shtml
Other Items

- Accommodations for religious reasons will be considered if the request is made to the instructor in person within the first week of the term. Absences for religious observances will be discussed in office hours.
- The instructor reserve the right to modify the syllabus for any course requirement at any time.

Learning Objectives: Students who successfully complete this course will be able to do the following at an acceptable level: Name and draw complex organic structures; Predict both physical and chemical properties as well as identify and name, aromatics, phenols, aldehydes, ketones, carboxylic acids, derivatives of carboxylic acid, amines; Describe and differentiate between various mechanisms, such as electrophilic versus nucleophilic aromatic substitution; Relate reaction mechanisms to intermediates, stereochemistry, and kinetics; predict reaction mechanism from experimentally related data and vice versa; Work with multi-step reaction pathways; develop synthetic pathways to simple organic compounds; Use NMR, IR, UV, and mass spectrometry data to identify structures; predict the spectroscopic data from the structure; Identify and describe biomolecules including carbohydrates, amino acids/proteins and heterocyclic/nucleotide/nucleic acids; Predict the structure and stereochemistry of various carbonyl and other condensation reactions.

Grading: Semester grades will be determined by the following criteria: discussion group work, two unit exams and one cumulative final exam. See schedule. There are no, early and no make-up exams or assignments.

Final Course Grade Assigned: A: 100% – 85.0% A- : 84.9% – 80.0% B+: 79.9% – 75.0%
B: 74.9% – 70.0% B-: 69.9% – 65.0% C+: 64.9% – 60.0% C: 59.9% – 55.0%
C-: 54.9% – 50.0% D+: 49.9% – 45.0% D: 44.9% – 40.0% F: < 40.0%

SCHEDULE:			
Week (dates)	**MONDAY: 005, 006** **09:40 AM - 10:40 AM** **01:30 PM – 02:30 PM**	**WEDNESDAY:** **005: 09:40 AM - 10:40 AM** **006: 01:30 PM – 02:30 PM**	**FRIDAY:** **005: 09:40 AM - 10:40 AM** **006: 01:30 PM – 02:30 PM**
1 July 05- 09	**HOLIDAY: NO CLASS MEETING**	Introduction **ZOOM** CHP 14 REVIEW, CHP 15 Problem-solving, Q&A;	PANOPTO VIDEOS CHP 15, 16 Problem-solving, Q&A **ZOOM**
2 July 12 - 16	**DISCUSSION #1** **ZOOM** PANOPTO VIDEOS Chapters 16, 17	Problem-solving, Q&A **ZOOM**	**EXAM I ZOOM** CHP 18
3 July 19 - 23	PANOPTO VIDEOS Chapters 18, 19	Problem-solving, Q&A **ZOOM** CHP 19	**DISCUSSION #2 ZOOM** CHP 20 NOMENCLATURE, PHYSICAL PROPERTIES ACIDITIES
4 July 26 - 30	PANOPTO VIDEOS CHP 20, RXNS SYNTHESIS C.A. DERIVATIVES NOMENCLATURE SPECTROSCOPY	Problem-solving, Q&A **ZOOM**	**EXAM II ZOOM** (emphasis since Exam I) CHP 22
5 Aug. 02 - 06	PANOPTO VIDEOS Chapters 22, 21	Problem-solving, Q&A **ZOOM**	**DISCUSSION #3 ZOOM** "W" DAY; CHP 24
6 Aug. 09 - 13	PANOPTO VIDEOS Chapters 24, 25	Problem-solving, Q&A **ZOOM**	**FINAL EXAM ZOOM** (comprehensive/cumulative

Description of Discussion Group Work: Three 30-minute graded discussions with access in SAKAI in TESTS & QUIZZES with 5 minutes for uploading a single or group pdf into GRADESCOPE; 25-30 points each, via ZOOM per the schedule shown. Discussion questions will come from concepts from suggested readings, recorded lecture notes, and from concepts related to suggested homework problems, usually emphasizing one or two major concepts. Most of the questions will be free-response. A blank answer sheet will be made available in SAKAI under RESOURCES, which students can print out or hand-draw identical to the blank answer sheet. One student in the group will answer questions on the answer sheet, take a picture with their phone, convert to a pdf file to be uploaded into GRADESCOPE. Allowed/Authorized materials will be listed in SAKAI. Group members will be assigned, and active participation via both SAKAI, TESTS & QUIZZES and ZOOM is required to share in the group score. Each group will upload one pdf file into GRADESCOPE.

Description of Exams: Two 50-minute unit exams with access in SAKAI in TESTS & QUIZZES and 5 minutes for uploading into GRADESCOPE, 100 points each; and a 2-hour final exam, 200 points, starting on Fridays per the schedule shown. Questions will come from concepts from suggested readings, recorded lecture notes and from

concepts related to suggested homework problems, and from discussion handouts. Most of the questions will be free-response. A blank answer sheet will be made available in SAKAI under RESOURCES, which students can print out or hand-draw identical to the blank answer sheet. Students will answer questions on the answer sheet, take a picture with their phone, convert to a pdf file to be uploaded into GRADESCOPE. Allowed materials will be listed in SAKAI with each exam. Exams are to be completed individually without assistance from any other person and without use of unauthorized resources. A single student pdf is to be uploaded into GRADESCOPE.

Recommended Practice Problems: Because you will be required to answer questions individually on exams, you should study by answering questions individually. Watching lectures/explanations and reading the textbook are necessary but not sufficient for individual success.