CHEM 2020 Introductory Organic Chemistry I

Syllabus

SC/CHEM 2020 3.0 Sections A, B and C
Term: Fall 2024
Prerequisites: SC/CHEM 1000 & 1001

1. COURSE STAFF

CLASS LECTURERS

Prof. Art Orellana (Section A) Office: CB 440
Office Hours: MF 15:00-16:00
Email*: ch2020@yorku.ca

Prof. Muhammad Yousaf (Section B) Office: LSB 431C
Email*: mnyousaf@yorku.ca

Prof. Lana Hébert (Section C) Office: CB 218
Office Hours: TR 14:30-15:30
Email*: Lana.Hebert@yorku.ca

LAB COORDINATOR:

Michelle Barton-Marsh
Office: 322 CB
Email*: mebarton@yorku.ca

* Only York University email addresses will be acknowledged

COURSE COORDINATOR:

Professor Arturo Orellana. CH2020@yorku.ca

- Use this address for all **administrative questions** for the course coordinator.
- Do not use the eClass messaging facility.
- Course related questions sent to Professor Orellana's personal email will not be acknowledged.
- For subject-related questions please direct your messages to the respective lecturer.

2. CLASS MEETINGS

Section A - Orellana
Lectures M,F 13:00-14:20 (VH A)
Tutorials F 11:30-12:20 (CLH L)

Section B - Yousaf
Lectures M,F 13:00-14:20 (ACW 206)
Tutorials F 14:30-12:20 (ACE 102)

Section C - Hébert
Lectures T,R 17:30-18:50 (ACW 206)
Tutorials F 10:30-11:20 (ACW 109)

Students are required to write their midterms on predetermined Sundays.

3. LABORATORY

The lab schedule will be available on the eClass site. The lab sessions will tentatively start the week of September 16. A hard copy of the lab manual will be given to you in person, monitor the EClass site for further instructions at the start of the term.

4. COURSE MATERIALS

Textbook

W. Ogilvie *et al.* Organic Chemistry: Mechanistic Patterns, 2nd edition, Nelson/TopHat
This is an online textbook for both CHEM 2020 and CHEM 2021 that will be used for all homework practice problems and solutions. Lifetime access for both courses is at the discounted price of $79 CDN. Getting the discounted price will require access to the site through eClass and creation of an account with TopHat. Until access is purchased, students will be able to access the text during a limited- duration trial period.
No additional resource needs to be purchased for this course.
A hardcopy version of this text can be ordered, but it will not be identical to the online version, which will contain some edits, additions and deletions made by the course instructors. Moreover, many of the practice problems are not visible in the hardcopy version.

No other textbook will be used or supported.

iClicker Cloud
There are no course assessments that require the use of iClicker Cloud. Nevertheless, students are encouraged to obtain access through eClass so that helpful feedback can be obtained by the instructor during lecture.

Molecular Model Kit (optional but highly recommended)
This is a very useful tool allowing you to properly visualize molecular structures,

conformations and stereochemistry. Two different kits are available at the York bookstore. Molecular model kits are allowed at midterms and at the final exam.

Lab Manual
This will be available in hardcopy free of charge. Details will be posted on Eclass at the start of the term.

5. LEARNING OUTCOMES

Upon completion of the course, students will be able to:

- Assign atomic hybridization and molecular geometries
- Draw resonance structures and assign their relative importance
- Relate trends in acidities and basicities to structure
- Relate physical properties to intermolecular forces, and to bond and molecular dipole moments
- Describe and interpret aromaticity and resultant properties
- Draw organic structures with a variety of functionalities from common and IUPAC names
- Assign isomers and enantiomers using conventions
- Accurately draw two-dimensional representations of three-dimensional molecules and interpret them
- Draw conformations of alkanes and cycloalkanes and predict their relative energies
- Describe and interpret concepts of stereoisomerism, including chirality
- Draw and interpret chemical reaction equations and mechanisms involving a variety of reagents in combination with alkenes, alkynes, carbonyl groups and other functional groups
- Propose reactants, reagents and products for a variety of transformations
- Propose sequences of transformations leading to a desired outcome

Chapter-specific learning outcomes will be provided as appropriate.

5. EVALUATION

Tentative until Sept. 18, 2024. No exceptions or individual variances from the grading scheme and policies will be made for any student.

Midterm Exams: **2×20%**
Oct. 20 and Nov. 24, 2024
75 min. Sundays at 3:00 pm – Detailed information will be provided via EClass
Material covered at each midterm to be finalized a week beforehand.

Laboratory (5 labs) **20%**
individual labs are 4% each

Final Exam (180 min) **40%**

Course Pass Requirements:
- Both lecture and lab components must be passed to pass the course.
- Passing the lecture component requires writing the final exam and an overall grade of 40/80 (50%) on everything other than the labs.
- Passing the laboratory component requires an overall grade of 50%, assessed through in-lab performance, pre-lab preparedness and lab reports.

Students who completed all of the lab exercises in person in a previous attempt at the course during the past two years can be exempted from the lab component, using their previous attempt at the course transferred to this semester. *Labs completed online will not be considered for exemption this semester.*

Midterms and associated policies
- **Only valid York ID will be accepted as a form of identification.**
- Two proctored, in-person midterms are planned on the dates announced at the beginning of term. Each will last 75 minutes and count toward **20%** of the final grade. Students with accommodations will have an extended midterm duration as determined by SAS. *It is the responsibility of the students with accommodations to book their midterm tests ahead of time with the alt exam center.*
- There will be no make-up midterms and no replacement assignments, without exception.
- Students will not be asked for documented justification of any absence, and none will be accepted.
- The 20% value of any missed midterm will automatically be applied to the final exam, no matter the reason for the absence.

Final Exam and associated policies
- **Only valid York ID will be accepted as a form of identification.**
- A proctored, in-person final exam lasting 180 minutes will be scheduled by the Registrar's Office within the published official exam period (December 5-20, 2024 inclusive). The exam schedule will become available sometime in October.

- Students are not to make travel plans to start before December 21, 2024. No advanced exams will take place.
- Students must write the final exam to pass the course.
- Students missing the final exam will write the deferred exam, to be scheduled by the course coordinator before the end of the following term. Details will be posted on eClass about the risks associated with missing the final exam, of the procedure to follow to write the deferred exam including the submission of documentation, and of the consequences of either not doing so or not showing up for the deferred exam.
- No final grade will be submitted for students missing the final exam. Unless a deferred exam is written, the final grade will automatically revert to F.

Labs and associated policies

- Full details of the expectations on students, their responsibilities and grading will appear in the Fall 2023 lab manual and on eClass.
- Among the expectations:
    - Students will be expected to be punctual and may be denied entry into the lab if they are late.
    - Students are **required** to wear appropriate attire and their own protective equipment (details on eClass) and **will be refused entry** into the lab otherwise.
    - **No student cell phones will be allowed in the lab.**
    - Students will be safe, professional and respectful during the labs and will be asked to leave otherwise. No make-up labs will offered in these cases.
- The time provided for these lab reports allows for self-accommodation and no other accommodation is required unless specified by SAS.
- All labs must be completed. Absences will earn a grade of zero for missed labs unless documented justification of a legitimate reason for the absence is provided to the lab coordinator, in which case the weight of a single lab will transfer to the final exam. There will be no makeup sessions. Missing two or more labs will lead to your deregistration from the course.

6. IMPORTANT INFORMATION

Academic Honesty: Numerous students in Faculty of Science courses have been charged with academic misconduct when materials that they uploaded to third-party repository sites (*e.g.* CourseHero, OneClass, etc.) were used by students in later offerings of the course. Both uploading and downloading students are liable to be charged with a breach of academic honesty. The student presenting such materials as their own work may be charged with plagiarism and the student making such materials available for download may be charged with aiding and abetting that plagiarism on the grounds that they were wilfully blind to the reasonable likelihood of supporting the plagiarism. There is no statute of limitations on charges of academic dishonesty, and repeated offenses may lead to expulsion or the revocation of the degree from graduated students.
Accordingly, to avoid this risk, students are urged *not* to upload their work to such sites. Such sites provide instructors with identifying information according to their Honor Code.

Generative AI. The use of generative artificial (GenAI) tools in the preparation or completion of homework, assignments, tests, exams or any other form of assessment in this course **is not permitted.** Using AI-based tools tools for any part of an assessment may be treated as a breach of cheating as outlined in York University's Senate Policy on Academic Conduct.

Copyright: Note also that exams, tests, lecture notes, lecture recordings, problem sets and any other video, audio or written works made available to students are the copyrighted works of the instructor, whether copyright is overtly claimed or not (*i.e.* whether © is used or not). Furthermore, instructors are free by law to use and incorporate limited amounts of other copyrighted materials but such may only be legally used within the context of the course. It is a breach of Canadian copyright law to disseminate, re-publish or upload such documents outside the context of the course without the specific and written permission of the instructor, whether as originally supplied, annotated or otherwise modified, whether in whole or in part, whether as digital copies, photocopies, photographs or scans. Such breach is aggravated when shared or uploaded to third-party sites to potentially aid and abet academic dishonesty.

University policies: Students are required to make themselves aware of school policies relating to Academic Honesty and Integrity, Access, Religious Accommodation, Student Conduct and other matters. Plagiarism and other academic offenses will be sanctioned to the fullest extent in accordance with university and Faculty policies.
A summary of these policies can be accessed at
https://www.yorku.ca/secretariat/policies/policies/academic-conduct-policy-and-procedures/