

Introductory Organic Chemistry I

Syllabus

Course Number SC/CHEM 2020 3.0 Sections A, B, C
Term Fall
Session 2018-2019
Prerequisites CHEM 1000 3.00 and CHEM 1001 3.00

Course Directors Dr. Hovig Kouyoumdjian (Sections A&C)
Office: CB 350
Office Hours: M 3-5 pm, T 2-4 pm
orgchem@yorku.ca (direct emails to the lecturer will be ignored)

Prof. Ryan Hili (Section B)
Office: LSB 429B
Office Hours: TBA
orgchem@yorku.ca (direct emails to the lecturer will be ignored)

Lab Coordinator Olga Girina
Office: CB 308
orgchem@yorku.ca (direct emails to the lab coordinator will be ignored)
(416) 736-2100 x33091

Meeting Times Section A
Lecture MF 1:00, 90 min, SLH D
Tutorial F 11:30, 60 min, ACW 206

Section B
Lecture MF 1:00, 90 min CLH F
Tutorial F 11:30, 60 min, CLH F

Section C
Lecture TR 5:30, 90 min, CLH F
Tutorial F 10:30, 60 min, CLH F

NOTE: Midterm examinations will be held during tutorial time. You must write the midterm in the appropriate time and room you are normally scheduled in. If you have a valid course conflict, wait for instructions from the instructors the week prior to the test.

Laboratory 3 hour sessions at variable times during the week, depending on lab group. Labs start the week of September 17 or 21 depending on section and you will have labs every other week throughout the term. A detailed lab schedule is posted on Moodle.

Learning Tools

Textbook:

Organic Chemistry by L.G. Wade (**NEW** custom edition for York University) will be supplied by the York bookstore. Included is an access code for the solutions manual online. NOTE: The 9th edition of Wade is identical to the new custom edition.

NOTE: The old custom edition of Wade (orange cover) will no longer be supported however recommended textbook problems will be posted on Moodle as a courtesy.

Online Mastering:

This fall, the textbook (as sold by the York bookstore) will come bundled with online access to the publisher's website for online activities. We will be using this access in the form of short quizzes throughout the semester (varied time limits). If you purchased the textbook separately or are using a different textbook, you can buy an online access code from the bookstore separately (\$60). Instructions on how to use the online system will be covered during class as well as on Moodle.

iClicker Cloud (REEF) Polling

Students are expected to obtain a free REEF account by clicking on the iClicker link on Moodle. Make sure to click on your section's link. Specific details are provided on Moodle. After September 18, 2018, polling questions and pop-quizzes in class will count toward your 6% participation mark.

Molecular Model Kit:

Not required but extremely useful study aid, and strongly encouraged. Molecular model kits are allowed during midterm and final exams. The York bookstore will have kits in stock by two different suppliers. Demonstrations of various molecular models will be provided during the first class meeting or during office hours.

Laptop Policy: While laptops are not banned in CHEM 2020, experience show that laptops do not help with note taking in this class, mainly because this course involves a lot of structures that need to be drawn quickly. For this reason, a tablet computer with a stylus may prove helpful for students interested in technology. A device with an internet connection will be required to participate in class polling using iClicker Cloud (REEF).

Lab Manual:

You will get your lab manual during your first lab session from your TA (free of charge). Prior to the first lab session we will post the first sections of the manual on the course website so you have all the relevant material you need to prepare for your first lab.

Lab Safety:

Safety goggles (NOT glasses) and lab coats are mandatory. All students (except those with a full lab exemption) are required to watch the laboratory safety video on Moodle and obtain a grade of 100% on the laboratory safety quiz on Moodle. Students may take the quiz an unlimited number of times.

Study load Organic chemistry in many ways resembles a new language and you cannot avoid quite a bit of memorizing (vocabulary). It is a very intensive course requiring much practice, and to do well, you have to do a lot of writing – write formulas, write equations, so that you can write complex structures quickly. You cannot learn organic chemistry just by reading about it. A conservative estimate for study time is about **5 hours per each lecture, beginning from day one**. It is important to keep up with the lectures, as they often refer to previously discussed material. It is very easy to fall behind and very difficult to catch up if you do. It is highly recommended that you go over the chapter prior to the lecture!

Learning Outcomes Upon successful completion of CHEM 2020 3.0, students will be able to:

- Predict hybridization and geometry of atoms within an organic molecule
- Draw resonance structures for a given compound and assign relative importance
- Understand trends in Brønsted-Lowry acidity as related to chemical structure
- Understand bond and molecular dipole moments as related to physical properties
- Draw organic structures from IUPAC names for a variety of functional groups
- Draw conformations of various cycloalkanes and predict relative energy states of each
- Understand stability trends in reactive intermediates such as radical and carbocations
- Draw accurate representations of organic molecules in three dimensions
- Understand molecular chirality and other concepts relating to stereoisomerism
- Draw and predict reaction mechanisms using arrow-pushing depictions
- Understand a variety of chemical reactions relating to alkenes, alkynes, alcohols and other related functional groups
- Propose functional group transformations needed to synthesize a target compound

More specific learning outcomes will be provided at the onset of each chapter of material.

Evaluation

Grading scheme for the course

Online Mastering quizzes (x5)	5%	Throughout the term
Class polling and pop quizzes	6%	Throughout the term
Midterm exam (50 min)	17%	October 5, 2018 (tutorial time)
Midterm exam (50 min)	17%	November 9, 2018 (tutorial time)
Laboratory	20%	Throughout the term
Final exam (3 hours)	35%	Final exam period

Pass Requirements: A passing grade of 50% for the total mark assessed as part of the lecture component (everything except the lab) is required to pass the course. A passing grade for the lab component requires a minimum lab average of 67%. Students in lab 99 will have their laboratory component assessment from their previous attempt at the course.

Mastering Quizzes Policies

There will be 6 Mastering quizzes in total but only your best 5 will count towards your final grade (to account for illness, technical difficulties, etc.). Time limits may vary slightly depending on the exact content of the quiz but expect to plan 35-45 minutes per quiz attempt. You may attempt each quiz once or twice. If you attempt a quiz twice, you may be presented with different questions. The **average** of your two attempts will be used to determine your quiz mark. If you only attempt a quiz once, then only that mark will be counted.

The marks on individual quizzes will then count as follows:

≥80%:	full quiz credit (1.0% towards final course mark)
60-79%:	half quiz credit (0.5% towards final course mark)
<60%:	no quiz credit

Students may opt out from the Mastering quizzes. The 5% course weighting will then be redistributed to the final exam (+5%).

Opting out is an **irreversible decision** and has a deadline of September 18, 2018. Opting out may be applied for on Moodle.

Class Polling Policies

Polling will begin at the start of the course, but will only count for marks after September 18, 2018. You **MUST** participate in the polling section you are officially enrolled in.

REEF has an attendance feature which allows us to determine who is actually in class, rather than polling from home. **The instructors will be taking attendance 6 or 7 times on random days.** Students not in the classroom will not have their polling answers count for marks on those days. We will not accommodate any absences for class polling.

There are 20 lecture sessions between September 18 (counting from Sept. 20) and December 4 with no polling for marks being performed during tutorial times. Each class provides chance to earn 1 raw mark, out of a potential 20 throughout the term. 16 days out of 20 will be "normal" class days and the remaining 4 will be "pop quiz" days, as detailed below. Students will not be told in advance which days will be pop quiz days.

On "normal" class days, it does not matter if the question is answered correctly or not. On these days, students will earn 1 raw mark for answering all (or all but one) questions on a particular class day.

On "pop quiz" days, there will be 4 questions asked in a row, each of which will be graded according to whether or not the answer is correct. Each pop quiz question is worth 0.25 raw marks, meaning getting all 4 questions correct gives a student 1 raw mark. Pop-quizzes will be treated as closed-book assessments and students will be expected not to communicate with others during this time.

The 20 possible raw marks will be converted into your final course polling grade in a bracketed scheme as follows:

≥16 raw marks: full polling credit (6% towards final course mark)
0-15 raw marks: prorated credit

This policy accounts for occasional absences due to **illness, forgotten devices, religious obligations and other unforeseen circumstances**. We will not be looking for, or accepting documentation for, absences related to this course component.

Midterm Exam Policies

There will be no makeup midterm exams. If a student misses the midterm for **any** reason, the weight of the missed midterm(s) will be shifted to the final exam (NO exceptions). **No documentation is required.** Regrading request information will be made available on Moodle after each midterm is returned. The course directors reserve the right to regrade the entire exam paper, with the new mark being final.

Students who have a conflict with a religious holiday are required to contact their instructors at least two weeks prior to the affected midterm to learn how they will be accommodated. Late requests will likely not be accepted for consideration.

Final Exam Policies

The final exam schedule will not be known until October. However, all students are expected to be available for the **complete** final exam period and no travel or other arrangements should be made to start before the end of the exam period. This is to allow for weather emergencies and other reasons for rescheduling. A conflict with previously made travel arrangements is **not** an acceptable reason for missed final exams.

The missed exam policy will be posted on Moodle by late November/early December 2018.

Final grade Faculty of Science approved letter grades

NOTE: Numerical grades are only guides for assigning of final grades. The course director retain the prerogative on how to use numerical grades to assign letter grades. Exam and laboratory marks are made available to students, however a final numerical mark is not disclosed to the student. There will be no extra credit assignments granted.

Notes on Labs Unless a student has a lab exemption (lab 99) or partial lab exemption (arranged by the lab coordinator), attendance at laboratory sessions is mandatory. Assessment of the laboratory component of the grade is as outlined in the lab manual. Absences will result in a grade of zero for a particular lab, unless for a justifiable reason (e.g. illness, family emergency, traffic accident, etc.) and with appropriate documentation (doctor's note, traffic report, etc.) Please be advised that we will follow-

up on any documentation provided and that the course director retains discretion on allowing make-up laboratories. In the event that a make-up lab is allowed, this will be coordinated by Ms. Olga Girina, and the student must make him or herself available for the assigned make-up period.

All lab reports (including in-lab reports) must be independently produced pieces of work.

Lab reports (labs 4 and 5) are nominally due one week after completion of the lab at 5 pm sharp. Late lab reports will be penalized at the rate of 10% per day including weekends. Students may incur penalty for one weekend day only by submitting a copy to the turnitin module on Moodle on Saturday, followed by an identical hard copy to their TA on the following Monday. There will also be no penalty for students who supply appropriate documentation to the Lab Coordinator as soon as possible after the due date. If lateness is the result of a medical illness, the documentation must specify an extended period of incapacitation, not just the due date.

Course Content The course material follows the sequence of chapters in *Organic Chemistry* by L.G. Wade (subject to change). For a detailed list of textbook sections that we will likely cover, please refer to the relevant document posted on the course website.

Chapter 1	Introduction and Review
Chapter 2	Structure and Properties of Organic Molecules
Chapter 3	Structure and Stereochemistry of Alkanes
Chapter 4	Study of Chemical Reactions
Chapter 5	Stereochemistry
Chapter 6	Alkyl Halides
Chapter 7	Alkenes: Structure and Synthesis
Chapter 8	Reactions of Alkenes
Chapter 9	Alkynes
Chapter 10	Structure and Synthesis of Alcohols
Chapter 11	Reactions of Alcohols

Important Information for All Students:

Students who opt out of using Turnitin.com must submit an electronic version of their reports to their instructor by the same deadline. Supporting documentation may be requested and other means of plagiarism detection may be used.

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

<http://www.yorku.ca/secretariat/senate/committees/ascp/documents/CourseInformationForStudentsAugust2012.pdf>