Introductory Organic Chemistry II
Syllabus

Course Number	SC/CHEM 2021 3.0 Sections M, N
Term	Winter
Session	2018-2019
Prerequisites	CHEM 2020 3.0

Course Directors

Dr. Hovig Kouyoumdjian (both sections)
Office: CB 350
Office Hours: M 3-5 pm & T 2-4 pm
Online office hours: Adobe Connect (by appointment)
orgchem@yorku.ca

Lab Coordinator

Ms. Olga Girina
Office: CB 308
orgchem@yorku.ca

Meeting Times

Section M
Lecture MF 1:00, 90 min, ACW 206
Tutorial F 11:30, 60 min, ACW 206

Section N
Lecture TR 5:30, 90 min, VH B
Tutorial F 10:30, 60 min, ACW 206

NOTE: Midterm examinations will be held during tutorial times. You are expected to write the midterm in the appropriate time and room you are normally scheduled in. If you have a valid course conflict, contact 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 January 14 or 21 depending on section and you will have labs every other week throughout the term. A detailed lab schedule will be posted on Moodle.

Learning Tools

Textbook:
Organic Chemistry by L.G. Wade (**NEW** custom edition for York University Volume II) 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 (green cover) will no longer be supported however recommended textbook problems will be posted on Moodle as a courtesy.

Online Mastering:
Students who used Mastering for CHEM 2020 last fall will not need to use a new access code (read the instructions provided on Moodle). There will be short quizzes throughout the semester (with time limits) that will count for marks in the course. Instructions on how to use the online system will be covered during class as well as on Moodle.
Students who did not take CHEM 2020 last fall will need a new access code from the

York bookstore. The price should not exceed $60, hence please let us know if you are asked to pay more than that. For technical inquiries please contact melody.vincent@pearsoned.com.

iClicker Cloud (REEF) Polling
Students are expected to obtain a free REEF account **by clicking on the iClicker link on Moodle** (iClickers – Section M and N). Make sure to click on your section's link. Specific details are provided in Moodle. **Please do not add the course through the app!** After January 16, 2019, 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. You are welcome to reuse your old kits from CHEM 2020.

Laptop Policy:
Laptop Policy: While laptops are not banned in CHEM 2021, 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 the first sections of the manual will be posted 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 not registered in lab 99 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. Students who took CHEM 2020 last term do not need to watch the video nor take the quiz again. Any student who appears, to a lab instructor or TA, to be incapacitated in any manner (i.e. due to alcohol, cannabis, drugs, prescription medications, etc.) and who, consequently, may be a risk to the safety of themselves or that of other students, will be asked to leave the lab.

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 2021 3.0, students will be able to:

- Determine the structures of simple organic compounds using infrared and nuclear magnetic resonance spectroscopy, as well as mass spectrometry
- Explore the structure and reactivity of various functional groups including: ethers and epoxides, aromatic rings, aldehydes, ketones, amines, carboxylic acids and their derivatives
- Expand the concepts of acidity and basicity from first year and CHEM 2020 to a greater number of organic molecules
- Understand the concept of aromaticity and the role it plays in stability and reactivity
- Propose synthetic pathways for simple organic molecules from precursors
- Draw reasonable reaction mechanisms using proper arrow-pushing notation

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%	February 8, 2019
Midterm exam (50 min)	17%	March 8, 2019
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. Contact your course instructor if you wish to enroll or switch into lab 99.

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 35-55 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 individual 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 using Moodle. The 5% course weighting will then be redistributed to the final exam (+5%).

Opting out is an **irreversible decision** and has a deadline of January 16, 2019. Opting out may be applied for on Moodle. **No exceptions!!**

Class Polling Policies

Polling will begin at the start of the course, but will only count for marks after January 16, 2019. You MUST participate in the polling section you are officially enrolled in.

There are 20 lecture sessions between January 17 and April 3 with no polling for marks being performed during tutorial times. Each class provides the 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, except that the following days will definitely be "normal" days: February 7, 8 and March 7, 8.

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 the answer is correct. Each pop quiz question is worth 0.25 marks, meaning that getting all 4 questions correct gives the student 1 raw mark. Pop quizzes will be treated as closed-book assessments and students will be expected not to communicate with other students 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:	Pro-rated

The bracketed policy accounts for occasional absences due to illness, forgotten devices, religious obligations and other foreseen circumstances. We will not be looking for, nor accepting documentation for, absences relating to this course component. **No Exceptions!!**

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 course instructor 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 February. 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 early April 2019.

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.

Formal lab reports (labs 9 and 10) are nominally due one week after completion of the lab at 5 pm sharp – this includes the online submission to turnitin as well as the Crowdmark submission. Late lab reports will be penalized at the rate of 10% per day including weekends. 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 For a detailed list of textbook sections that we will likely cover, please refer to the relevant document posted on the course website.

Chapter 12	Infrared Spectroscopy and Mass Spectrometry
Chapter 13	Nuclear Magnetic Resonance Spectroscopy
Chapter 14	Ethers and Epoxides
Chapter 16	Aromaticity
Chapter 17	Reactions of Aromatic Compounds
Chapter 18	Aldehydes and Ketones
Chapter 19	Amines
Chapter 20	Carboxylic Acids
Chapter 21	Carboxylic Acid Derivatives

Important Information for All Students:

Students should familiarize themselves with important sessional dates, including drop deadlines as well as the late withdrawal period between March 8, 2019 and April 3, 2019. A complete list of sessional dates is available at: http://registrar.yorku.ca/enrol/dates/fw17 . York's late withdrawal policy states: "You may withdraw from a course using the registration and enrolment system after the drop deadline until the last day of class for the term associated with the course. When you withdraw from a course, the course remains on your transcript without a grade and is notated as "W". The withdrawal will not affect your grade point average or count towards the credits required for your degree."

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 the academic honesty policy can be found at

http://secretariat-policies.info.yorku.ca/policies/academic-honesty-senate-policy-on/