



UNIVERSITY OF CALGARY
FACULTY OF SCIENCE
DEPARTMENT OF CHEMISTRY
COURSE OUTLINE

1. **Course:** CHEM 351, Organic Chemistry I -- Fall 2018

Instructor Name	Email	Phone	Office	Hours
<i>L01:</i> (MWF 09:00 - 09:50 in SB 103) Ian Hunt	irhunt@ucalgary.ca	220-6430	SA144G	Open door
<i>L02:</i> (MWF 10:00 - 10:50 in SB 103) Chang-Chun Ling	ccling@ucalgary.ca	403-220-2768	SB235	TBA
<i>L03:</i> (MWF 11:00 - 11:50 in ICT 102) Rohen Prinsloo	rprinslo@ucalgary.ca	403-220-2417	SB 221	TBA
Coordinator(s): Ian Hunt	irhunt@ucalgary.ca	220-6430	SA144G	Open door, drop in

Course Site:

D2L: CHEM 351 ALL-(Fall 2018)-Organic Chemistry I

Department of Chemistry:

Office: Science A 229

Phone: 403 220-5381

Email: chem.info@ucalgary.ca

Note:

Students must use their U of C account for all course correspondence.

Tutorials: SA 204. **Start the week of Sept. 10th.**

Laboratories: See your timetable, **Start the week of Sept. 10th.**

2. **Requisites:**

See section [3.5.C](#) in the Faculty of Science section of the online Calendar.

Prerequisite(s): Chemistry 201 or 211, and 203 or 213.

Antirequisite(s): Credit for Chemistry 351 and 357 will not be allowed.

Notes: Students are advised to take Chemistry 351 and 353 in consecutive terms.

3. **Grading:**

The University policy on grading and related matters is described in [F.1](#) and [F.2](#) of the online University Calendar. In determining the overall grade in the course the following weights will be used:

Component(s)	Weighting %	Date
Midterm exam	20	Tu Nov 6th 2018 7-9pm
Final exam	45	TBA (Registrar scheduled)
Laboratory	20	weekly
e-Learning (clickers, tutorial assignments)	15	--

Each piece of work (reports, assignments, quizzes, midterm exam(s) or final examination) submitted by the student will be assigned a grade. The student's grade for each component listed above will be combined with the indicated weights to produce an overall percentage for the course, which will be used to determine the course letter grade.

The conversion between a percentage grade and letter grade is as follows.

	A+	A	A-	B+	B	B-	C+	C	C-	D+	D
Minimum % Required	95.00 %	85.00 %	80.00 %	75.00%	70.00%	65.00 %	60.00 %	55.00%	50.00%	45.00 %	40.00 %

The marks for each of the course components will be recorded as a numerical score. These numerical scores will be combined as shown above to arrive at the total numerical score which will then be converted to the letter grade that will be reported to the Registrar. In assigning the final course letter grade, the scale shown above will be used (e.g. A- starts at 80.00%, A at 85.00%).

This course has a registrar scheduled final exam.

Notes

(1) A minimum 50% on the laboratory **is required** in order to satisfy the prerequisite requirement (i.e. C-) for further Science courses.

(2) A minimum 50% [weighted average](#) on the examinations (MT & FIN) or minimum 50% on the Final is required in order to satisfy the prerequisite requirement (i.e. C-) for further Science courses or better.

(3) Notes (1) and (2) mean that if a student scores below 50% in **either** the laboratory **or** the examination component, then the *maximum* course letter grade they can obtain in Chem 351 is a D+.

(4) The **e-Learning mark** is based on the best five out of six components: five equally weighted [tutorial assignments](#) to be completed using Moodle (free system) and the Top Hat "[clicker](#)" mark. The Top Hat "clicker" mark is based equally on the correctness of your responses and participation to questions asked during in lecture time. Due to the nature of the way that the Top Hat (clicker) system is used, the mark calculated and the class logistics, we do not manage absences or individual technical issues. If you do not use Top Hat, then your e-Learning mark automatically comes from all of the tutorial assignments.

(5) [Tutorial assignments](#) are written under "exam conditions" (as described below). You will be allowed to use a non-programmable calculator and/or model kit and have access to a periodic table and spectroscopy data tables if required. Absolutely no other resources of any kind can be used while completing an assignment, (see course website for more details). Any violation of these rules will be viewed as academic misconduct.

(6) Students repeating the course within the last two years [can be exempted](#) from repeating the laboratory work of the course if a grade of 75% or higher was obtained. However, students are still responsible for the laboratory content as it may be covered in other course work (e.g. examinations, assignments). The laboratory grade achieved on the previous attempt will be carried forward. Such students must contact the Chemistry Undergraduate Program Administrator, in the Chemistry Main Office, SA 229 before the drop date (September 13th, 2018).

4. Missed Components of Term Work:

The regulations of the Faculty of Science pertaining to this matter are found in the Faculty of Science area of the Calendar in [Section 3.6](#). It is the student's responsibility to familiarize himself/herself/themself with these regulations. See also [Section E.3](#) of the University Calendar.

Deferred examinations will ONLY be provided for the Final Examination and then only with the *approval of the Associate Dean*.

Absences from any term work (midterm, assignments, laboratory activities) must be reported to the course coordinator within 48 hrs (email is fine). In the event that a student misses term work due to illness then an official medical note will be required. If a student misses the term work for other reasons, then analogous documentation will be required. The Chem 351 course coordinator will need to see the original documentation for review / decision and keep it (or a copy) for their records. The documentation must be provided to the course coordinator within 15 days of the date of the term work due date in order for an excused absence to be considered.

For missed laboratory work, students are **required** to make up any excused absences (i.e. those for which acceptable documentation has been provided and approved). For more details on making up missed laboratory work, please first consult section 5 of the F18 Chem 351 laboratory manual and complete the required form following the instructions on the form and submit it via email to the laboratory coordinator for approval. If you have any concerns then contact the F18 Chem 351 laboratory coordinator.

If an excused absence is approved for other items of term work, then you will be awarded a grade for that piece of term work equal to your final examination grade. If no such documentation is provided within the required time frame, then a grade of zero will be assigned to the item of term work.

5. Scheduled out-of-class activities:

The following out of class activities are scheduled for this course.

Activity	Location	Date and Time	Duration
CHEM 351 MT	TBA	Tuesday, November 6, 2018 at 7:00 pm	2 Hours

REGULARLY SCHEDULED CLASSES HAVE PRECEDENCE OVER ANY OUT-OF-CLASS-TIME-ACTIVITY. If you have a conflict with the out-of-class-time-activity, please contact your course coordinator/instructor no later than **14 days prior** to the date of the out-of-class activity so that alternative arrangements may be made.

Please email the **course coordinator** *including a copy of your weekly university schedule* (email facilitates a reply etc.) as soon as possible but no later than **14 days prior** to the midterm date so that an ALTERNATE examination time can be arranged for you.

If you have a conflict of an out-of-class-time-activity in another course with any scheduled component of Chem 351, then you should contact the course coordinator/instructor of the course with the out-of-class activity no later than **14 days prior** to the date of the out-of-class activity so that alternative arrangements may be made. They are obliged to make suitable alternate arrangements for you.

See note in section 4 about deferred examinations.

6. Course Materials:

Textbook: No text book is required. We provide an Organic Chemistry etext on the course website.

If you wish to purchase a textbook because it better suits your individual learning style, "Organic Chemistry - Mechanistic Patterns" by Ogilvie et. al (published by Nelson) or "Organic Chemistry" by Jones (published by Norton) are good choices for our courses, otherwise ask your instructor.

Molecular Model kits: *very strongly* recommended (an allowed resource in examinations, available from the Bookstore).

Chemistry 351 Laboratory Manual (free, online on the [course website](#)).

A self-duplicating **Laboratory Notebook** (required, available from the Bookstore)

Laboratory safety coat (required, available from the Bookstore)

Laboratory safety glasses (required, available from the Bookstore)

Padlock (required to secure drawer of laboratory glassware and equipment (each student is assigned their own drawer))

Top Hat account (*available* from Top Hat, see [course website](#) for more details, free for UofC students)

7. Examination Policy:

All examinations are common to all sections, *i.e.* students in L01, L02 and L03 write the same examinations. All the instructors are involved in determining content coverage, creating, selecting and reviewing examination questions, creating and reviewing grading rubrics and grading of student answers as well as reviewing the grades once collated.

See item 4 above related to deferred examinations.

All Chem 351 examinations, assignments and quizzes will be under exam conditions..

"Exam conditions" : All examinations, assignments, quizzes *etc.* are closed book. Model kits and non-programmable calculators are allowed, a periodic table and spectroscopy data tables will be provided if required. **No other aids** including any form of "cheat" or "data" materials. Wireless devices and other electronic devices are not allowed.

Any student with academic accommodations must be registered with Student Accessibility Services (see Section 12(f) below), and have reviewed their accommodations (as described on the SAS documents) with the course coordinator *ideally* within the first 15 days of the semester or at least 7 days before any scheduled activity for which accommodations are required.

Students should also read the Calendar, [Section G](#), on Examinations.

8. Approved Mandatory and Optional Course Supplemental Fees:

Laboratory Breakage Fee and Late Check Out Fee . The Department of Chemistry has a laboratory glassware breakage fee and a late check out fee. At the start of the course, each student is assigned a drawer and checks-in to establish that they have a complete set of usable equipment. By signing for check-in, a student agrees that they are now responsible for the equipment until check-out. At the time the student checks out, any equipment that is missing, unusable or has been replaced during the semester will be charged to the student. All students, even those who withdraw early from the course, must check out of the laboratory before the last day of lectures (Friday December 7th 2018). Any student who fails to check out before the last day of lectures for the term will be assessed a charge of \$30.00. If this fee is not paid by the last day of the final examination period of the term, an additional \$10.00 administrative fee will be charged and university services (registration, transcripts, etc.) may be withheld.

9. Writing across the Curriculum Statement:

For all components of the course, in any written work, the quality of the student's writing (language, spelling, grammar, presentation etc.) can be a factor in the evaluation of the work. See also Section [E.2](#) of the University Calendar.

10. Human studies statement:

If you agree, your course work may be used for research purposes. Your responses will remain anonymous and confidential. Grouped data (no individual responses) may be used in academic presentations and publications. Participation in such research is voluntary and will not influence grades in this course. Students' signed consent forms will be withheld from instructors until after final grades are submitted. More information will be provided at the time student participation is requested.

See also [Section E.5](#) of the University Calendar.

11. Reappraisal of Grades:

A student wishing a reappraisal, should first attempt to review the graded work with the Course coordinator/instructor or department offering the course. Students with sufficient academic grounds may request a reappraisal. Non-academic grounds are not relevant for grade reappraisals. Students should be aware that the grade being reappraised may be raised, lowered or remain the same. See [Section I.3](#) of the University Calendar.

- 1. Term Work:** The student should present their rationale as effectively and as fully as possible to the Course coordinator/instructor within **15 days** of either being notified about the mark, or of the item's return to the class. If the student is not satisfied with the outcome, the student shall immediately submit the Reappraisal of Graded Term work form to the department in which the course is offered. The department will arrange for a re-assessment of the work if, and only if, the student has sufficient academic grounds. See sections [I.1](#) and [I.2](#) of the University Calendar
- 2. Final Exam:** The student shall submit the request to Enrolment Services. See [Section I.3](#) of the University Calendar.
- 3. Laboratory work,** please see the Chem 351 F18 student laboratory manual for details. The appeal should be

made first to your laboratory TA. If you need to appeal to the Laboratory Coordinator, then you will need to provide the original work, a written statement (clearly stating the concern) and your UofC email contact information (all to be done within the 15 day period). The Laboratory Coordinator will then take the work to review it and provide appropriate feedback via UofC email.

12. OTHER IMPORTANT INFORMATION FOR STUDENTS:

- a. **Mental Health** The University of Calgary recognizes the pivotal role that student mental health plays in physical health, social connectedness and academic success, and aspires to create a caring and supportive campus community where individuals can freely talk about mental health and receive supports when needed. We encourage you to explore the mental health resources available throughout the university community, such as counselling, self-help resources, peer support or skills-building available through the SU Wellness Centre (Room 370, MacEwan Student Centre, [Mental Health Services Website](#)) and the Campus Mental Health Strategy website ([Mental Health](#)).
- b. **SU Wellness Center:** The Students Union Wellness Centre provides health and wellness support for students including information and counselling on physical health, mental health and nutrition. For more information, see www.ucalgary.ca/wellnesscentre or call [403-210-9355](tel:403-210-9355).
- c. **Sexual Violence:** The University of Calgary is committed to fostering a safe, productive learning environment. The Sexual Violence Policy (<https://www.ucalgary.ca/policies/files/policies/sexual-violence-policy.pdf>) is a fundamental element in creating and sustaining a safer campus environment for all community members. We understand that sexual violence can undermine students' academic success and we encourage students who have experienced some form of sexual misconduct to talk to someone about their experience, so they can get the support they need. The Sexual Violence Support Advocate, Carla Bertsch, can provide confidential support and information regarding sexual violence to all members of the university community. Carla can be reached by email (svsa@ucalgary.ca) or phone at [403-220-2208](tel:403-220-2208).
- d. **Misconduct:** Academic misconduct (cheating, plagiarism, or any other form) is a very serious offence that will be dealt with rigorously in all cases. A single offence may lead to disciplinary probation or suspension or expulsion. The Faculty of Science follows a zero tolerance policy regarding dishonesty. Please read the sections of the University Calendar under [Section K](#). Student Misconduct to inform yourself of definitions, processes and penalties. Examples of academic misconduct may include: submitting or presenting work as if it were the student's own work when it is not; submitting or presenting work in one course which has also been submitted in another course without the instructor's permission; collaborating in whole or in part without prior agreement of the instructor; borrowing experimental values from others without the instructor's approval; falsification/fabrication of experimental values in a report. **These are only examples.**
- e. **Assembly Points:** In case of emergency during class time, be sure to FAMILIARIZE YOURSELF with the information on [assembly points](#).
- f. **Academic Accommodation Policy:** Students needing an accommodation because of a disability or medical condition should contact Student Accessibility Services in accordance with the procedure for accommodations for students with disabilities available at [procedure-for-accommodations-for-students-with-disabilities.pdf](#).

Students needing an accommodation in relation to their coursework or to fulfill requirements for a graduate degree, based on a protected ground other than disability, should communicate this need, preferably in writing, to the Associate Head of the Department of Chemistry, Dr. Farideh Jalilehvand by email ahugchem@ucalgary.ca or phone 403-220-5353. Religious accommodation requests relating to class, test or exam scheduling or absences must be submitted no later than **14 days** prior to the date in question. See [Section E.4](#) of the University Calendar.
- g. **Safewalk:** Campus Security will escort individuals day or night (See the [Campus Safewalk](#) website). Call [403-220-5333](tel:403-220-5333) for assistance. Use any campus phone, emergency phone or the yellow phones located at most parking lot pay booths.
- h. **Freedom of Information and Privacy:** This course is conducted in accordance with the Freedom of Information and Protection of Privacy Act (FOIPP). Students should identify themselves on all written work by placing their name on the front page and their ID number on each subsequent page. For more information, see [Legal Services](#) website.
- i. **Student Union Information:** [VP Academic](#), Phone: [403-220-3911](tel:403-220-3911) Email: suvpaca@ucalgary.ca. SU Faculty Rep., Phone: [403-220-3913](tel:403-220-3913) Email: sciencerep@su.ucalgary.ca. Student Ombudsman, Email: suvpaca@ucalgary.ca.

- j. **Internet and Electronic Device Information:** Unless instructed otherwise, cell phones should be turned off during class. All communication with other individuals via laptop, tablet, smart phone or other device is prohibited during class unless specifically permitted by the instructor. Students that violate this policy may be asked to leave the classroom. Repeated violations may result in a charge of misconduct.
- k. **Surveys:** At the University of Calgary, feedback through the Universal Student Ratings of Instruction ([USRI](#)) survey and the Faculty of Science Teaching Feedback form provides valuable information to help with evaluating instruction, enhancing learning and teaching, and selecting courses. Your responses make a difference - please participate in these surveys.

13. Laboratory Information

Laboratory activities will begin the week of September 10th, 2018. It is mandatory that students wear a lab coat and safety glasses at all times when working in the lab. Students wearing inappropriate laboratory attire will not be permitted to conduct experiments for safety reasons. The manual can be found online (course D2L site). You must consult the online laboratory manual prior to attending any of your scheduled lab periods and printout the required portion of the manual that outlines the procedures you will be doing.

Students repeating the course within the last two years can be exempted from the Laboratory Component of the Course if a grade of 75% or higher was obtained. The lab grade achieved on the previous attempt will be carried forward. Such students must contact the Chemistry Undergraduate Program Administrator in the Chemistry Main Office, SA 229 **before the drop date (September 13th, 2018)**.

Department Approval:

Electronically Approved

Date: 2018-08-30 09:43

**Associate Dean's Approval for
out of regular class-time
activity:**

Electronically Approved

Date: 2018-08-30 12:05

Course Outcomes

- Recognize and employ the conventions of naming, structure drawing, and curved arrow pushing to communicate about organic compounds
- Draw reaction mechanisms with appropriate curved arrows to account for how bonds are made and broken in organic reactions
- Analyze the structural features of starting materials, reaction intermediates, and products to predict or rationalize their physical properties or reaction behaviour
- Identify and interpret spectral data to deduce the structure of simple organic molecules
- Perform laboratory experiments using techniques that are safe and appropriate for handling and manipulating organic compounds.
- Propose a short (ca. 1-4 step), feasible synthesis for the formation of a specific organic product using a limited number of possible reaction types: acid/base, radical substitution, nucleophilic substitution, or elimination reactions.