



COURSE OUTLINE

1. **Course:** CHEM 353, Organic Chemistry II - Spring 2023

Lecture 01 : MWF 10:00 - 11:50 in MFH 164

Instructor	Email	Phone	Office	Hours
Dr Ashley Causton	acauston@ucalgary.ca	403 210-3968	SA 144A	TBA

To account for any necessary transition to remote learning for the current semester, courses with in-person lectures, labs, or tutorials may be shifted to remote delivery for a certain period of time. In addition, adjustments may be made to the modality and format of assessments and deadlines, as well as to other course components and/or requirements, so that all coursework tasks are in line with the necessary and evolving health precautions for all involved (students and staff).

In Person Delivery Details:

Check your class schedule and the course schedule posted on D2L for more details.

Lectures: The course "lectures" are posted as a series of videos (with supporting documentation). A schedule of the expected timeline for completion of each component of the course content is posted in D2L.

Generally, the weekly schedule the in-person component is:

- Monday: lecture to highlight the major learning points of the online videos, and/or a problem solving session where the knowledge is applied.
- Wednesday: open office hours (or tutorial/review where we work through problems).
- Friday: "phase test" (or tutorial/review where we work through problems).

Laboratory: Experiments for this course are in-person and start on Monday May 8th 2023 at your registered weekly laboratory time/location in EEEL.

- The experimental schedule (plan for 8 experiments) and laboratory manual can be found on the course D2L website.
- Each of the laboratory activities has a "primary graded activity"; this might be for a report, or based on your answers to a set of questions (e.g. online via MOODLE). The primary graded activities are equally weighted. Laboratory reports will be submitted via a D2L Dropbox and will have due dates that will be specified for each activity.

Re-Entry Protocol for Labs and Classrooms:

To limit the spread of COVID-19 on campus, the University of Calgary has implemented safety measures to ensure the campus is a safe and welcoming space for students, faculty and staff. The most current safety information for campus can be found [here](#). **Online Delivery Details:**

This course does not follow a scheduled meeting pattern.

Lecture Material: As mentioned above, these can be found as video recordings (with supporting documentation) in the course D2L shell.

- There will be a time-line schedule to help keep you up-to-date with your progress through the material. In order to be successful in this condensed Spring course, it is very important to stay up-to-date with the course content material.

Tutorial Assignments: These are administered via the MOODLE learning management system. Check the schedule posted on D2L for the content and due date for each online assignment.

- There are five open book assignments each worth 1% each towards the final course grade (for a total of 5%). There is a submission deadline for each. Each module will build on previous modules and therefore these modules are cumulative. Please see the course website for the detailed schedule along with what is covered in each module.

Course Site:

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

Equity Diversity & Inclusion:

The University of Calgary is committed to creating an equitable, diverse and inclusive campus, and condemns harm and discrimination of any form. We value all persons regardless of their race, gender, ethnicity, age, LGBTQIA2S+ identity and expression, disability, religion, spirituality, and socioeconomic status. The Faculty of Science strives to extend these values in every aspect of our courses, research, and teachings to better promote academic excellence and foster belonging for all.

The Chemistry EDI Committee acknowledges there are persistent barriers that prevent such accessibility and hinder our progress towards EDI. Our representatives (faculty, postdocs, graduate and undergraduate students) are committed to addressing any concerns and work towards proactive solutions that enact necessary change within the department. To submit anonymous questions, comments or concerns regarding EDI related issues, please reach out to our Associate Head EDI, Belinda Heyne (bjmheyne@ucalgary.ca)

2. Requisites:

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

Prerequisite(s):

Chemistry 351.

Antirequisite(s):

Credit for Chemistry 353 and either 355 or 357 will not be allowed.

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:

Course Component	Weight	Due Date (duration for exams)	Modality for exams	Location for exams
Online Tutorial Assignments ¹	5%	Ongoing		
Laboratory ²	20%	Ongoing		
Phase Test 1 ³	10%	May 12 2023		
Phase Test 2 ⁴	10%	May 19 2023		
Phase Test 3 ⁵	10%	Jun 02 2023		
Phase Test 4 ⁶	10%	Jun 09 2023		
Registrar Scheduled Final Exam	35%	Will be available when the final exam schedule is released by the Registrar	in person	Will be available when the final exam schedule is released by the Registrar

¹ The tutorial grade will come from five open access online quizzes (administered via MOODLE), each worth 1% and covering a set of topics. See the schedule for tutorial submission dates.

² Each of the experiments may have each of the following: (a) Pre-laboratory quizzes (online in Moodle) due before the start of your scheduled laboratory. (b) Pre-laboratory summary should be written and the pdf submitted to the specific D2L Dropbox before the start of your scheduled laboratory. This is required in order for you to attend the laboratory session for safety reasons. (c) Laboratory notebook : a duplicate copy of the notes taken during experiments need to be handed to the TA before your leave the laboratory. (d) Primary graded activity (e.g. experimental report, or answers to a set of questions (Moodle) etc). Laboratories are equally weighted. Report pdf to be submitted to the specific D2L Dropbox with due dates that will be specified for

³ 60 minutes in-class

⁴ 60 minutes in-class

⁵ 60 minutes in-class

⁶ 60 minutes in-class

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 %	90 %	85 %	80%	75%	70 %	65 %	60%	55%	50 %	45 %

This course will have a Registrar Scheduled Final exam that will be delivered in-person and on campus. [The Final Examination Schedule](#) will be published by the Registrar's Office approximately one month after the start of the term. The final exam for this course will be designed to be completed within 2 hours.

- A minimum 50% on the laboratory is required in order to satisfy the prerequisite requirement (i.e. C-) for further Science courses.
- A minimum 50% weighted average on examinations (phase tests and final exam) or 50% on the final exam is required in order to satisfy the prerequisite requirement (i.e. C-) for further Science courses.
- Notes (a) and (b) mean that if a student scores below 50% in either the laboratory or the examination component, the maximum course letter grade they can obtain in CHEM 353 is a D+.
- Students repeating the course can be exempted from the laboratory component of the course if the prior (UofC) CHEM 353 laboratory grade of 75% or higher were obtained, and the laboratory was completed fully or mostly in-person in the last 3 years. However, students are still responsible for the laboratory content as it may be covered in other course work (e.g. examinations). The laboratory grade achieved on the previous attempt will be carried forward. Such students must contact the Undergraduate Science Centre and complete the opt out process by Friday April 28th 2023, or immediately after registering in the course (whichever is later).

The University of Calgary offers a [flexible grade option](#), Credit Granted (CG) to support student's breadth of learning and student wellness. Faculty units may have additional requirements or restrictions for the use of the CG grade at the faculty, degree or program level. To see the full list of Faculty of Science courses where CG is not eligible, please visit the following website: <https://science.ucalgary.ca/current-students/undergraduate/program-advising/flexible-grading-option-cg-grade>

4. Missed Components Of Term Work:

The university has suspended the requirement for students to provide evidence for absences. Please do not attend medical clinics for medical notes or Commissioners for Oaths for statutory declarations.

In the event that a student legitimately fails to submit any online or in-person assessment on time (e.g. due to illness etc...), please contact the course coordinator, or the course instructor if this course does not have a coordinator to arrange for a re-adjustment of a submission date. Absences not reported within 48 hours will not be accommodated. If an excused absence is approved, one possible arrangement is that the percentage weight of the legitimately missed assignment could also be pro-rated among the components of the course. This option is at the discretion of the coordinator and may not be a viable option based on the design of this course.

- Deferred examinations will only be provided for the Final Examination and students must apply through their student centre.
- Absences from any in-person course component must be reported to the course coordinator (Dr. Ashley Causton) within 48 hours via email (acauston@ucalgary.ca). The time limit will be ignored in the case of emergency circumstances. Given the current situation, no official documentation beyond an email is required; however, if an absence is not reported within 48 hours it will result in a grade of zero for the missed component.
- The course website outlines the procedures and more details on scheduling a makeup time for laboratory experiments. Any questions regarding laboratory makeups beyond the information on the website should be directed to the laboratory coordinator (Dr. Ashley Causton, acauston@ucalgary.ca). All absences must be reported within 48 hours (university regulations), however, the earlier the better to allow for time to possibly reschedule and make up the laboratory/phase test depending on the circumstances. On some occasions, it might not be possible to schedule a makeup and an excused absence may be granted. Any excused course component will receive the same grade percentage as a student's grade on the final examination.
- In addition to posting lecture content online, the following accommodations will be made to minimize the impact of health and safety-related disruptions for students.
 - Online open book assignments: All excused absences will be given the same grade as obtained on the final exam.
 - Laboratory: Students with an excused laboratory absence will be given the same grade as obtained on the final exam, provided that the student attends and submits more than 6 labs (i.e. 6 out of the 8 labs). When given an excused laboratory absence students are excused from all components of that specific laboratory experiment. However, the student is still required to know the content of the experiment because it may be tested in an exam or quiz.

- Phase Tests: There are no deferred phase tests. The weight of this component will be shifted to the final exam.

5. **Scheduled Out-of-Class Activities:**

There are no scheduled out of class activities for this course.

6. **Course Materials:**

Textbook: No textbook is required. We provide an Organic Chemistry e-text via the course website. If you wish to purchase a textbook because it 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 course. Otherwise, consult your instructor.

Molecular model kits are very strongly recommended.

Chemistry 353 Spring 2023 Laboratory Manual (free, online via 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).

In order to successfully engage in their learning experiences at the University of Calgary, students taking online, remote and blended courses are required to have reliable access to the following technology:

- A computer with a supported operating system, as well as the latest security, and malware updates;
- A current and updated web browser;
- Webcam/Camera (built-in or external);
- Microphone and speaker (built-in or external), or headset with microphone;
- Current antivirus and/or firewall software enabled;
- Stable internet connection.

For more information please refer to the UofC [ELearning](#) online website.

7. **Examination Policy:**

You are allowed to bring a molecular model kit into examinations and phase tests.

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

8. **Approved Mandatory And Optional Course Supplemental Fees:**

There are no mandatory or optional course supplemental fees for this course.

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:**

Students will not participate as subjects or researchers in human studies.

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.

- a. **Term Work:** The student should present their rationale as effectively and as fully as possible to the Course coordinator/instructor within **ten business 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 submit the Reappraisal of Graded Term work [form](#) to the department in which the course is offered within 2 business days of receiving the decision from the instructor. The Department will arrange for a reappraisal of the work within the next ten business days. The reappraisal will only be considered if the student provides a detailed

rationale that outlines where and for what reason an error is suspected. See sections [1.1](#) and [1.2](#) of the University Calendar

- b. **Final Exam:** The student shall submit the request to Enrolment Services. See [Section 1.3](#) of the University Calendar.

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 Services:** For more information, see their [website](#) or call [403-210-9355](#).
- c. **Sexual Violence:** 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](#). The complete University of Calgary policy on sexual violence can be viewed [here](#).
- d. **Student Ombuds Office:** A safe place for all students of the University of Calgary to discuss student related issues, interpersonal conflict, academic and non-academic concerns, and many other problems.
- e. **Student Union Information:** [SU contact](#), Email your SU Science Reps: science1@su.ucalgary.ca, science2@su.ucalgary.ca, science3@su.ucalgary.ca,
- f. **Academic Accommodation Policy:**

It is the student's responsibility to request academic accommodations according to the University policies and procedures listed below. The student accommodation policy can be found at: <https://www.ucalgary.ca/legal-services/sites/default/files/teams/1/Policies-Student-Accommodation-Policy.pdf>

Students needing an accommodation because of a disability or medical condition should communicate this need to Student Accessibility Services in accordance with the Procedure for Accommodations for Students with Disabilities: <https://www.ucalgary.ca/legal-services/sites/default/files/teams/1/Policies-Accommodation-for-Students-with-Disabilities-Procedure.pdf>.

Students needing an accommodation in relation to their coursework or to fulfil requirements for a graduate degree, based on a Protected Ground other than Disability, should communicate this need, by filling out the [Request for Academic Accommodation Form](#) and sending it to Associate Head, Undergraduate by email ahugchem@ucalgary.ca preferably 10 business days before the due date of an assessment or scheduled absence.

- g. **Misconduct:** Academic integrity is the foundation of the development and acquisition of knowledge and is based on values of honesty, trust, responsibility, and respect. We expect members of our community to act with integrity. Research integrity, ethics, and principles of conduct are key to academic integrity. Members of our campus community are required to abide by our institutional [Code of Conduct](#) and promote academic integrity in upholding the University of Calgary's reputation of excellence. Some examples of academic misconduct include but are not limited to: posting course material to online platforms or file sharing without the course instructor's consent; submitting or presenting work as if it were the student's own work; submitting or presenting work in one course which has also been submitted in another course without the instructor's permission; borrowing experimental values from others without the instructor's approval; falsification/fabrication of experimental values in a report. Please read the following to inform yourself more on academic integrity:

[Student Handbook on Academic Integrity](#)
[Student Academic Misconduct Policy](#) and [Procedure](#)
[Faculty of Science Academic Misconduct Process](#)
[Research Integrity Policy](#)

Additional information is available on the [Student Success Centre Academic Integrity page](#)

- h. **Copyright of Course Materials:** All course materials (including those posted on the course D2L site, a course website, or used in any teaching activity such as (but not limited to) examinations, quizzes, assignments, laboratory manuals, lecture slides or lecture materials and other course notes) are protected by

law. These materials are for the sole use of students registered in this course and must not be redistributed. Sharing these materials with anyone else would be a breach of the terms and conditions governing student access to D2L, as well as a violation of the copyright in these materials, and may be pursued as a case of student academic or [non-academic misconduct](#), in addition to any other remedies available at law.

- i. **Freedom of Information and Privacy:** This course is conducted in accordance with the Freedom of Information and Protection of Privacy Act (FOIPPA). 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.
- j. **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.

Course Outcomes:

- Analyze and use the structural and electronic characteristics of the organic species to predict or rationalise properties and reactivity.
- Draw reasonable reaction mechanisms with appropriate curved arrows to account for the step by step bonding changes in organic reactions.
- Design and evaluate feasible syntheses of small organic molecules from simple starting materials.
- Classify molecules as being aromatic, non-aromatic or anti-aromatic to recognise and describe the implications this has on their stability, properties and reactivity.
- Analyse chemical information to determine a reasonable solution to a problem involving the reactions and / or spectroscopic data of organic species.
- Use experimental procedures to safely set-up, perform and clean up reactions that apply standard introductory organic techniques and report the outcomes.

Electronically Approved - Apr 27 2023 12:08

Department Approval