



## COURSE OUTLINE

### 1. **Course:** CHEM 559, Organic Spectroscopy - Fall 2023

Lecture 01 : MWF 12:00 - 12:50 in ST 127

Instructor	Email	Phone	Office	Hours
Dr. Ian Hunt	irhunt@ucalgary.ca	220-6430	SA 144G	Open door, drop in OR send an make an appointment (please state that you are in Chem 559 and provide several alternate time options)

Course activities start with an in-person class meeting Wednesday, Sept 6th, 2023 and in-person tutorials Thursday, Sept 7th, 2023.

Office hours = open door, no specific times. Just drop-by or send an email to request a specific appointment (make sure to say you are in CHEM 559 and to suggest several different times to deal with possible conflicts).

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:**

Scheduled class meeting times will be used for in-person discussion and assessment sessions, **not for the delivery of lecture content**. This is what is referred to as a "blended" or "hybrid" and "flipped" approach. Blended or hybrid in the sense that there will be in-person and online components, flipped in the sense that lecture "content" is "delivered" outside of the classroom.

#### **Lectures:**

CHEM 559 "lecture" content will be made available through D2L as a series of narrated PowerPoint presentations or pdf documents for asynchronous use in conjunction with the recommended course text book. These presentations are based on spectroscopic topics rather than as 50 minute lecture time slots. The materials will be made available in D2L as the semester progresses to allow students to work through the appropriate materials ready for the related scheduled in-person class sessions (discussions and assessments). This should help you manage the work flow and avoid feeling like you face a "wall of material".

Discussion sessions will typically take place in-person during scheduled Wednesday class times. At certain times, it is possible that additional discussion sessions maybe required /scheduled (e.g. during the Monday meeting time). If this is the case, then this will be announced via D2L and email on the Friday before. Otherwise, the Monday timeslot can effectively double as office hours.

Assessment activities (quizzes and examinations) are in-person, taking place during scheduled in-person Friday class meeting times.

#### **Tutorials:**

CHEM 559 tutorials (Thursday mornings) are in-person, active problem solving sessions including some group work. Tutorials have always been about the opportunity to practice and ask questions. Therefore, practice materials will be provided at each tutorial session to be worked on and discussed during those sessions.

#### **Course Site:**

D2L: CHEM 559 L01-(Fall 2023)-Organic Spectroscopy

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

I will endeavour to provide a reply to course-related emails from ucalgary email addresses within 2 business days.

#### **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](mailto:bjmheyne@ucalgary.ca))

## 2. Requisites:

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

### Prerequisite(s):

Chemistry 351, and one of 353 or 355.

## 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
Quizzes	25%	Ongoing		
Midterm 1	15%	Sep 29 2023 at 12:00 pm (50 Minutes)	in-person	in class
Midterm 2	15%	Oct 20 2023 at 12:00 pm (50 Minutes)	in-person	in class
Midterm 3	15%	Nov 24 2023 at 12:00 pm (50 Minutes)	in-person	in class
Registrar Scheduled Final Exam	30%	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

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
<b>Minimum % Required</b>	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 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 3 hours.

### Notes:

(a) A minimum 50% simple/unweighted average on the examinations (midterms & final) or minimum 50% on the Final is required in order to obtain a C- or better.

(b) All assessment activities are open paper book and are to be completed in-person and under *exam conditions*. eBooks are NOT allowed (see section 7)

(c) The weekly quizzes (Fridays) typically have 2 spectroscopy problem questions to be completed during the 50min in-person class session. All quiz questions are equally weighted. At the end of the semester, the highest and lowest quiz question scores will be automatically dropped to generate the overall quiz score. In a normal / typical semester, there are 8-12 quiz questions across the semester (Fr Sept 22 - Fr Nov 24 2023, except on Fridays with course MT).

(d) Students are required to write at least two of the midterms and 2/3 of the quizzes questions in order to be eligible for a C- or better. Any students who have concerns about fulfilling this criteria should contact Dr Hunt as soon as possible to discuss the situation.

The University of Calgary offers a [flexible grade option](https://science.ucalgary.ca/current-students/undergraduate/program-advising/flexible-grading-option-cg-grade), 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:**

In the event that a student legitimately fails to submit any online or in-person assessment on time (e.g. due to illness, domestic affliction, 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, or possible exemption and reweighing of components. Absences not reported within 48 hours will not be accommodated. Students may be asked to provide supporting documentation ([Section M.1](#)) for an excused absence, See [FAQ](#).

If an excused absence is approved, options for how the missed assessment is dealt with is at the discretion of the coordinator or course instructor. Some options such as an exemption and pro-rating among the components of the course may not be a viable option based on the design of this course.

Notes:

(a) The option to defer examinations or quizzes will ONLY be provided for the Final Examination and then only with the *approval of the Associate Dean*.

(b) Students are allowed one excused absence from a midterm (i.e. they are expected to write 2 of the 3 midterms).

(c) Students are expected to write a minimum of 2/3 of the quiz questions.

(c) As per UofC regulations, absences from any term work (midterms, quizzes etc.) must be reported to the course coordinator within 48 hrs (email is fine). Please provide some context and detail on the reason for the absence. With advance warning, alternative plans of action are easier to consider and facilitate.

Any students who have concerns about these items should contact Dr Hunt as soon as possible to discuss the situation.

The CHEM 559 course coordinator will review the information provided and make a decision that will be communicated to you via UofC email.

If an excused absence is approved for items of term work, then you will be awarded a grade for that piece of term work equal to your final examination grade. If the required information is not provided then a grade of zero will be assigned to the item of term work.

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

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

**REGULARLY SCHEDULED CLASSES HAVE PRECEDENCE OVER ANY OUT-OF-CLASS-TIME-ACTIVITY** . If another one of your courses has an out-of-class-time-activity that conflicts with any in-class component of Chem 559, then you should contact the course coordinator / instructor of the **other course** with the out-of-class activity no later than **10 business days prior** to the date of the out-of-class activity so that alternative arrangements may be made. *It is the course with the out-of-class activity that is obliged to make suitable alternate arrangements for you.*

#### 6. **Course Materials:**

Recommended Textbook(s):

Pavia, Lampman, Kriz and Vyvyan, *Introduction to Spectroscopy (recommended for undergraduate students)*: Cengage.  
Silverstein, Webster and Kiemle, *Spectrometric Identification of Organic Compounds" (recommended for graduate students, option 1)*: Wiley.  
Crews, Rodriguez and Jaspars, *Organic Structure Analysis (recommended for graduate students, option 2)*: Oxford.

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:

All CHEN 559 examinations and quizzes will be under **Exam conditions**". This means open paper book, paper notes etc. Model kits and non-programmable calculators are allowed. Electronic books and hence laptops, smart phones, iPads and all other types of wireless devices are **not allowed**.

There will be 3, 50 minute, in-class midterms: F Sept 29 2023, F Oct 20 2023, and F Nov 24 2023.

See item 4 above related to deferred midterm examinations.

Any student with academic accommodations must be registered with Student Accessibility Services (see Section 12(e) below), and have reviewed their accommodations (as described on the SAS documents) with the course coordinator within the first 15 days of the semester or at least 10 business 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:

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.

For example, it is important that "final answers" to questions are clearly identified and answered in the required and appropriate manner.

## 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.

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 [I.1](#) and [I.2](#) of the University Calendar

b. **Final Exam:** The student shall submit the request to Enrolment Services. See [Section I.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 ([syva@ucalgary.ca](mailto:syva@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](mailto:science1@su.ucalgary.ca), [science2@su.ucalgary.ca](mailto:science2@su.ucalgary.ca), [science3@su.ucalgary.ca](mailto: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](mailto: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:**

- Interpret and use the spectroscopic data from UV, MS, IR and NMR (including 2D) to be able to distinguish similar structures or deduce the structure of an unknown organic molecule.

Electronically Approved - Aug 29 2023 09:11

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**Department Approval**