



COURSE OUTLINE

1. **Course:** CHEM 559, Organic Spectroscopy - Fall 2021

Lecture 01: MWF 12:00 - 12:50 in SB 146

Instructor	Email	Phone	Office	Hours
Dr. Ian Hunt	irhunt@ucalgary.ca	220-6430	SA 144G	Please email

Course activities start with in-person class meeting Wednesday Sept 8th 2021 and in-person tutorials Thursday Sept 9th 2021.

Office hours are uncertain at this time as the campus COVID situation evolves. Zoom meetings preferred at this time.

In Person Delivery Details:

Scheduled lecture times will be used for in-person discussion and assessment sessions, not for the delivery of lecture content. This means a "blended" and "flipped" hybrid approach. Blended or hybrid in the sense that there will be in-person and online parts, flipped in the sense that content is covered out of the classroom.

Assessment activities (quizzes and examinations) are in-person taking place during scheduled Friday class times (quizzes starting Sept 17 2021).

"Live" 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. in the Monday classes). If this is the case then this will be announced via D2L and email on the Friday before.

Scheduled tutorials will be in-person active problem solving sessions. Tutorials have always been about the opportunity to practice and ask questions. Therefore, practice materials will be made available for each tutorial session to be worked on and discussed during those sessions.

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:**

Some aspects of this course are being offered in real-time via scheduled meeting times. For those aspects you are required to be online at the same time.

To help ensure Zoom sessions are private, do not share the Zoom link or password with others, or on any social media platforms. Zoom links and passwords are only intended for students registered in the course. Zoom recordings and materials presented in Zoom, including any teaching materials, must not be shared, distributed or published without the instructor's permission.

Lectures:

Course "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 course text book. These presentations are based on spectroscopic topics rather than 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 scheduled in-person class sessions (discussions and assessments). It will also help you manage the work flow and avoid feeling like you face a "wall of materials".

Course Site:

D2L: CHEM 559 L01-(Fall 2021)-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 email from ucalgary email addresses within 2 business days.

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:

Component(s)	Weighting %	Date
Final examination	30	Final exam period (Registrar scheduled)
Midterms I, II and III	45 = (3 x 15%)	24/9/2021, 22/10/2021 & 26/11/2021
Spectroscopy quizzes	25	weekly (Fridays), starting 17/09/2021

All assessments are in-person.

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 will have a final exam that will be scheduled by the Registrar. [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.

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 assessments are open paper book and are to be completed under *exam conditions*. eBooks are NOT allowed (see section 7)

(c) The weekly quizzes typically have 2 spectroscopy problem questions. Across the semester, 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.

(d) Students are required to write at least 50% of the examinations (note that the Final is required) and 50% of the quizzes questions (i.e. excused absences can only be awarded for a maximum of 2 midterms and half the quiz questions). 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](#), 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 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.

Notes:

(a) Deferred examinations and quizzes will ONLY be provided for the Final Examination and then only with the approval of the Associate Dean.

(b) 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 and if I know ahead of time, alternatives are easier to consider.

The Chem 559 course coordinator will review the information provided and make a decision that will be communicated to you via UofC email. The appropriate information must be provided to the course coordinator within 10 business days of the term work due date in order for an excused absence to be considered.

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 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:**

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

REGULARLY SCHEDULED CLASSES HAVE PRECEDENCE OVER ANY OUT-OF-CLASS-TIME-ACTIVITY. If you have a conflict with an out-of-class-time-activity in another course with any component of Chem 559, then you should contact the course coordinator / instructor of that **other 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.*

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 Chem 559 examinations and quizzes will be open paper book. 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: Friday Sept 24 2021, Friday Oct 22 2021, and Friday Nov 26 2021.

See item 4 above related to deferred midterm examinations.

"Exam conditions" : All examinations, quizzes *etc.* are open paper book, paper notes *etc.* Model kits and non-programmable calculators are allowed. Wireless devices and other electronic devices are not allowed.

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 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 www.ucalgary.ca/wellnesscentre or call [403-210-9355](tel: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](tel:403-220-2208). The complete University of Calgary policy on sexual violence can be viewed at (<https://www.ucalgary.ca/legal-services/sites/default/files/teams/1/Policies-Sexual-and-Gender-Based-Violence-Policy.pdf>)
- d. **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](#)
[Research Integrity Policy](#)

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

e. **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 Dr. Yuen-Ying Carpenter by email yyscarpe@ucalgary.ca preferably 10 business days before the due date of an assessment or scheduled absence.

- f. **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.
- g. **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: ombuds@ucalgary.ca.
- h. **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.
- i. **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.

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 - Sep 07 2021 12:35

Department Approval

Electronically Approved - Sep 07 2021 12:56

Associate Dean's Approval