Carleton University
Faculty of Science | Department of Chemistry
CHEM 2204 and 2208
Organic Chemistry II
Winter 2026
Syllabus

I. General Information

1. Instructor: David Sabatino, Ph.D.
Office: Steacie Building, Room 207F
Lab: Steacie Building, Room 329
e-mail: david.sabatino@carleton.ca
phone: 613-520-2600 ext. 4229
Office Hours: M, W: 10-11:30 AM, and by appointment

2. Teaching Assistants (TAs): Joshua O'Grady JoshOGrady@cmail.carleton.ca
Matthew Reynolds MatthewReynolds3@cmail.carleton.ca

II. Course Meetings:

- Mondays (M) and Wednesdays (W) 11:35 am – 12:55 pm, location: Please check Carleton Central

III. Course Description, Credits and Requisites:

- Introduction to stereochemistry, spectroscopy, mechanisms, and chemical reactions of alcohols, ethers, epoxides, conjugated pi-systems, aromatic compounds, aldehydes, ketones, amines and carboxylic acids and their derivatives. Further training in the handling and purification of organic compounds, organic chemical reactions, and the use of infrared spectroscopy.
- Pre-requisites: CHEM 2203 or CHEM 2207 (Organic Chemistry I)
  Precludes additional credit for CHEM 2204 and CHEM 2208
- 0.5 credit
- Lectures three hours per week
- Laboratory three hours per week (for CHEM 2204)

IV. Course Materials:

WileyPLUS is a complete courseware solution that includes an interactive eTextbook, videos, tutorials, adaptive practice, assignments, and assessments. WileyPLUS is required for this course, everything else is optional. The cost for the Klein, Organic Chemistry 5th edition WileyPLUS courseware solution for this term is $98.95. Students have the purchase option directly through WileyPLUS or the bookstore. **Please note, the single term WileyPLUS code through the Carleton bookstore is available for $76.50 (plus taxes), which is priced at half of what the full multiterm price is set at.**

The textbook options for this course are also available in the library course reserves https://library.carleton.ca/find/reserves

- **Textbook Options**

1. David Klein and Laurie Starkey, Organic Chemistry 5th ed. Wiley, ISBN: 978-1-394-35080-3
2. John McMurry, Organic Chemistry 9th ed. Cengage Learning, Inc. ISBN: 978-1-305-08048-5

- **Molecular Model Kit Option**

1. Walter Products Molecular Orbital Theory & Structural Molecular Model Kit

V. Class Schedule and Topics *(tentative)*

Date	Lecture
Jan 5, 7	Welcome and Syllabus Review Lecture Topic: Introduction to Organic Chemistry Klein Chapters 6: *Chemical Reactions*
Jan 12, 14	Lecture Topic: Conjugation and Pericyclic Reactions Klein Chapter 16: *Conjugated Pi Systems and Pericyclic Reactions*
Jan 19, 21	Lecture Topic: Chemistry of Benzene and its Derivatives Klein Chapter 17: *Aromatic Compounds*
Jan 26, 28	Lecture Topic: Reactivity of Benzene and its Derivatives Klein Chapter 18: *Aromatic Substitution Reactions*
Feb 2, 4	Lecture Topic: Alcohols and their Derivatives Klein Chapter 12: *Alcohols and Phenols*
Feb 9, 11	Lecture Topic: Chemistry of Alcohol Derivatives Klein Chapter 13: *Ethers, Epoxides, Thiols and Sulfides*
Feb 16-20	Winter break, no classes
Feb 23, 25	**Lecture Topic: Review and Tutorial Session (Feb 23)** **Mid-Term Exam (Feb 25): Conjugated and Aromatic Compounds (Klein Ch. 16-18), Alcohols and Derivatives (Klein Chapters: 12, 13)**
Mar 2, 4	Lecture Topic: Carbonyl Compounds and their Reactivity Klein Chapter: 19: *Aldehydes and Ketones*
Mar 9, 11	Lecture Topics: Reactivity of Carbonyl Derivatives Klein Chapter 21: *Chemistry of Enols and Enolates*
Mar 16, 18	Lecture Topic: Chemistry of Carboxylic Acids and their Derivatives Klein Chapter 20: *Carboxylic Acids and their Derivatives*
Mar 23, 25	Lecture Topic: Chemistry of Amines Klein Chapter 22: *Amines*
Mar 30, Apr 1	Lecture Topic: Chemical Synthesis Klein Chapter 11: *Synthesis*
Apr 6, 8	Lecture Topic: *Review and Tutorial Session*
Apr 11-23	**Final Exam: *Carbonyl Compounds, Carboxylic Acids and Derivatives, Amines* (Klein Chapters: 19-22)**

VI. Grading

Final grade distribution as follows:

1. **Assignments (40%)**

   Description: There will be 4 total assignments, 2 prior to the mid-term and 2 before the final exam. Each will be worth (10%) and will contain problem solving questions similar to those on exams.

2. **Mid-term exam (30%)**

- Date & Location: Wednesday February 25, 11:35 am – 12:55 pm, location: Azrieli Theatre (AT) 301
  Description: Mid-term exam will cover in-class lecture material on Conjugated and Aromatic Compounds, Alcohols and Derivatives based on Klein Chapters: 12, 13 and 16-18

3. **Final exam (30%)**

   Date & Location: Final exam period: April 11-23, location: TBD
   Description: Final exam will cover in-class lecture material on Carbonyl Compounds, Amines, Carboxylic Acids and Derivatives based on Klein Chapters: 19-22

4. **Laboratory (30%_CHEM 2204)**
   Date & Location: Mondays (M), Tuesdays (T), Thursdays (R) or Fridays (F),
   8:35 am – 11:25 am or 1:35 pm – 4:25 pm, location: Steacie (SC) 204D
   Description: Laboratory grades consists of pre-lab reports and quizzes, lab experiments and formal lab reports

Note: CHEM 2204 final course grade = 70% (lecture assignments & tests) + 30% (lab)
CHEM 2208 final course grade = 100% (lecture assignments & tests)

VII. Course Learning Objectives

In this course, students will learn to:
1. Develop a fundamental chemical understanding of the principles in organic chemistry
2. Implement organic reaction mechanisms to understand functional group transformations
3. Elucidate and interpret molecular structure from spectroscopic data
4. Understand the risks and hazards in organic chemistry laboratory practice and propose sustainable alternatives where appropriate
5. Explain the link between organic chemistry and related fields based on scientific literacy
6. Apply organic chemistry to solve complex society problems

VIII. Approach to study

Course expectations and study approach:
1. Attend lectures and tutorials, take notes and ask questions.
2. Review lecture notes before and after class. Avoid falling behind.

3. Complete on time and review assignment problems in preparation for exams.
4. Ask questions and feedback from the course instructor and TAs during and after class hours.

VIV. Course Policies

Attendance:
All lectures will begin promptly at the scheduled time. Do not be late or you may not be admitted to that period.

1. Absences:

Students are responsible for getting the lecture material from their classmates or review the lecture material in the event of an absence.

2. Makeups and Lateness:

Are only permissible with the approval from the instructor. If approved, the student will have one additional week to complete the task. A grade of 0 will be administered if the student does not complete the make-up task within the allotted time period.

3. Distance Exams:

Students who are studying remotely or are varsity athletes with in-person tests or exams can apply to write their exam off-campus if they will be at least **160 km** away from campus on the exam day and meet the course requirements for distance exams. There is a fee for this service, and all exams must be proctored. Apply for a distance exam at Distance Exams - Scheduling and Examination Services. The application deadline for this term is January 20, 2026.

Instructor Responsibilities:

Instructor will be responsible for managing the in-class lecture presentations. The instructor will also be responsible for addressing student questions during and after the lectures, including tutorials and office hours. The instructor will also aid in the preparation of the course requirements (e.g., tutorials). If anything is unclear or mis-understood, ask your instructor, that is here to help! Instructor questions may be addressed during lectures, by email, office hours and appointment.

Student Responsibilities:

Students are expected to act responsibly and engage respectfully with other students and members of the Carleton and the broader community. See the 7 Rights and Responsibilities Policy for details regarding the expectations of non-academic behaviour of students. Those who participate with another student in the commission of an infraction of this Policy will also be held liable for their actions.

Students will be responsible to attend the lectures, participate in class, take notes and ask questions. Students also have the responsibility of obtaining lecture notes from classmates, for any missed lectures, which should be reviewed before the next class. Keep pace with the lecture material and review the lecture notes on a weekly basis. If additional explanation is required, ask questions in class, attend office hours and tutorials, email questions or schedule appointments if scheduling conflicts persist.

Student Concerns:

If a concern arises regarding this course, **your first point of contact is me**: Email or drop in during office hours and I will do my best to address your concern. If I am unable to address your concern, the next points of contact are (in this order):

Note: You can also bring your concerns to Ombuds services.

For additional help, contact science student services:

Science Student Success Centre
3431 Herzberg Laboratories
1125 Colonel By Drive,
Ottawa, ON K1S 5B6

https://sssc.carleton.ca/
Phone: (613) 520-2600 Ext. 3111

X. Academic Accommodations:

It is the policy and practice of Carleton University to promote equity, diversity and inclusion (EDI) in its learning environments. Carleton is committed to providing academic accessibility for all individuals. You may need special arrangements to meet your academic obligations during the term. The accommodation request processes are outlined on the Academic Accommodations website (https://students.carleton.ca/course-outline/).

If you have a documented disability, you may be eligible for reasonable accommodations in compliance with University policy. Please note, students are not permitted to negotiate accommodations directly with professors. To request accommodations or assistance, please self-identify with the Paul Menton Centre (PMC) for Students with Disabilities at the beginning of the semester. For more details, visit the Equity Services website. https://carleton.ca/equity/wp-content/uploads/Student-Guide-to-Academic-Accommodation.pdf

For more information or to register for services, contact PMC at:
Paul Menton Centre
501 University Centre
1125 Colonel By Drive,
Ottawa, ON K1S 5B6

Email:pmc@carleton.ca
Phone:613-520-6608

XI. Information Technology Service Desk:

The first point of contact for any technology related question or problem is Carleton University's Information Technology Service (ITS) Desk. Contact ITS by phone by calling 613-520-3700, via e-mail at its.service.desk@carleton.ca or chat at carleton.ca/its/chat

ITS is staffed by professionals Monday-Friday from 8 a.m.-4:30 p.m. ITS provides phone support for most University applications, including Carleton Central, Brightspace Learning Management System, Carleton 360, Microsoft Windows, and the Microsoft Office suite.

Course Outline Resources

Statement on Chat GPT/Generative AI usage (See the *Sample Syllabus Statements for AI use in Courses* document for examples)

As our understanding of the uses of AI and its relationship to student work and academic integrity continue to evolve, students are required to discuss their use of AI in any circumstance not described here with the course instructor to ensure it supports the learning goals for the course.

Minimal AI use in this course – Basic Assistance Only: Students may use AI tools for basic word processing functions, including grammar and spell checking (e.g. Grammarly, Microsoft Word Editor, Copilot). It is not necessary to document the use of AI for the permitted purposes listed above. If you have questions about a specific use of AI that isn't listed above, please consult your instructor.

XII. Academic Honesty:

Lying, cheating and stealing are not tolerated in civilized society and in scientific work. While you will be encouraged to collaborate, you must follow directions in preparing work independently.

1. Relevant examples of lying include but are not limited to signing in someone else's name on assignments and exams, falsifying documentation or statements to receive an excused absence and claiming to have completed an assignment that you did not complete.

2. Relevant examples of cheating include but are not limited to copying another student's assignment and purporting it as your own or collaborating with another student on an assignment or exam for which collaboration is prohibited.

3. Relevant examples of stealing include plagiarism (purporting another's work no matter the source as your own), removing any items from the classroom or from another student's work area without permission.

4. Accessing unauthorized sites for assignments or tests, unauthorized collaboration on assignments or exams, and using artificial intelligence tools such as ChatGPT when your assessment instructions say it is not permitted.

XIII. Academic and Professional Integrity Policy:

Students are expected to follow the Academic and Professional Integrity Policy outlined in the Student Guide: Carleton University's Academic Integrity Policy. Additional details about this process can be found on the Faculty of Science Academic Integrity website. A list of standard sanctions in the Faculty of Science can be found here.

The specific Academic and Professional Integrity Policy of Carleton University includes:

1. Dependability: candidates are reliable, timely, and consistent in their presence and preparation for courses at the university as well as their field settings.
2. Respect & Empathy: candidates are respectful in their address, writing, language, and physical space toward faculty, university staff, school personnel, peers, students in field.
3. Open-mindedness: candidates respect the context and experience of others; developing skills to use that information in classroom conversation, writing, and lesson planning.
4. Integrity: candidates submit original work, fully cite all sources associated with the development of their work (including information from the internet) and recognize that the university fully supports the use of anti-plagiarism software in support of academic integrity. (Original student work is expected. Any work containing plagiarized material will result in an automatic "0" for the assignment.)
5. Passion for the profession: the right for all students to have access to positive and productive learning environments, and a recognition that the teacher's dedication is to provide a thriving learning environment for all students.