

# COURSE SYLLABUS



COURSE TITLE: CHEM-230: Organic Chemistry 1

CLASS SECTION: 001

TERM: W2024

COURSE CREDITS: 3

DELIVERY METHOD(S): In-person lab and lecture

Camosun College campuses are located on the traditional territories of the Lək̓ʷəŋən and W̱SÁNEĆ peoples. We acknowledge their welcome and graciousness to the students who seek knowledge here.

Learn more about Camosun's [Territorial Acknowledgement](#).

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## INSTRUCTOR DETAILS

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NAME: Dr. Ryan Fradette

EMAIL: [fradetter@camosun.ca](mailto:fradetter@camosun.ca)

OFFICE: F344A

HOURS: Monday 10:30-12:30, Tuesday 1:30-2:30

*As your course instructor, I endeavour to provide an inclusive learning environment. However, if you experience barriers to learning in this course, do not hesitate to discuss them with me. Camosun College is committed to identifying and removing institutional and social barriers that prevent access and impede success.*

## CALENDAR DESCRIPTION

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This course provides a general introduction to the theory and practice of organic chemistry. Topics include: alkanes, stereochemistry, alkyl halides, substitution and elimination reactions, free radical reactions, alcohols, ethers, spectroscopy, alkanes and alkynes. The laboratory experiments are designed to expose students to a wide range of organic laboratory techniques.

### PREREQUISITE(S):

One of:

C in CHEM 120

B in CHEM 112 and permission of the Chair

### CO-REQUISITE(S):

All of:

C in CHEM 121

### EXCLUSION(S):

## COURSE LEARNING OUTCOMES / OBJECTIVES

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Upon completion of this course a student will be able to:

1. Utilize the specialized vocabulary and nomenclature based on the IUPAC system for organic compounds including alkanes, cycloalkanes, alkenes, alkynes, alcohols, ethers, epoxides, and alkyl halides according to their structures and functional groups present.
2. Describe the general physical properties such as stability, acidity and basicity, density, melting and boiling point, and water solubility of the above compounds.
3. Describe the chemical properties of the above classes of organic compounds, and explain any differences and similarities.
4. Draw a synthetic scheme outlining the preparation of some of the compounds above and their subsequent reactions, including details such as stereochemistry of some typical reactions and mechanisms, stability of transition states, intermediates, products, and factors affecting the outcome.
5. Utilize the concepts of functional group transformations and reaction mechanisms to explain organic reactions.
6. Demonstrate an ability to apply the method of retrosynthetic analysis based on the knowledge of some general organic reactions of the above compounds.
7. Identify the fundamental differences among the three types of isomerism: structural, geometric, and stereo.
8. Recognize and draw Newman, Fischer, and Haworth projections.
9. Communicate an understanding of the Cahn-Prelog-Ingold sequence rules and to recognize basic differences between enantiomeric and diastereomeric compounds.
10. Communicate an understanding of the phenomena of infrared, ultra violet-visible, and mass spectroscopy and to interpret and predict the spectroscopic data for the classes of organic compounds listed above.

## REQUIRED MATERIALS & RECOMMENDED PREPARATION / INFORMATION

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### Textbook

Access Key: Organic Chemistry 2e (Top Hat Interactive Text) Ogilvie

\*Note I will also fully support the previous edition of the textbook;  
Organic Chemistry: Mechanistic Patterns, Ogilvie ISBN: 9780176500269\*

### Lab

Chem 230/231 Organic Chemistry Experiments, Camosun College

Lab coat

Lab glasses

### Recommended:

Molecular model kit

## COURSE SCHEDULE, TOPICS, AND ASSOCIATED PREPARATION / ACTIVITY / EVALUATION

The following schedule is tentative and course components are subject to change with reasonable advance notice, as deemed appropriate by the instructor.

Week #	Monday (Lecture) 9:30-10:20 am	Lab Monday or Tuesday pm	Tuesday (Lecture) 9:30-10:20 am	Thursday (Lecture) 9:30-10:20 am
1 Jan 8	Intro Lecture	No lab Meeting	Chapter 1	Chapter 1
2 Jan 15	Chapter 1	Exp 1 – Melting points	Chapter 2	Chapter 2
3 Jan 22	Chapter 2	Lab Worksheet	Chapter 3 <i>D2L Quiz 1 due</i>	Chapter 3
4 Jan 29	Chapter 3	Exp 3 – Recrystallization	Chapter 4 <b>Quiz 1</b>	Chapter 4
5 Feb 5	Chapter 4	Lab Worksheet	Chapter 4	Chapter 5
6 Feb 12	Chapter 5	Exp 6 – Nutmeg	<b>Midterm 1</b>	Chapter 6
7 Feb 19	<i>Reading week</i>	<i>Reading week</i>	<i>Reading week</i>	<i>Reading week</i>
8 Feb 26	Chapter 6	Exp 6 – Orange oil	Chapter 6 <i>D2L Quiz 2 due</i>	Chapter 7
9 Mar 4	Chapter 7	Exp 4 – Separations	Chapter 7	Chapter 7
10 Mar 11	Chapter 8	Lab Worksheet	Chapter 8 <b>Quiz 2</b>	Chapter 8
11 Mar 18	Chapter 8	Exp 14 – Reduction of Fluorenone	Chapter 19	Chapter 11
12 Mar 25	Chapter 11	Exp 8 – Reactivity of alkyl halides	<b>Midterm 2</b>	Chapter 11
13 Apr 1	Chapter 11	Holiday Monday - No lab meetings	Chapter 12	Everyday Chemistry
14 Apr 8	Chapter 12	Exp 13 – Synthesis of cyclohexanone	Chapter 12 <i>D2L Quiz 3 due</i>	Review

Students registered with the Centre for Accessible Learning (CAL) who complete quizzes, tests, and exams with academic accommodations have booking procedures and deadlines with CAL where advanced notice is required. Deadlines can be reviewed on the [CAL exams page](http://camosun.ca/services/accessible-learning/exams.html). <http://camosun.ca/services/accessible-learning/exams.html>

## EVALUATION OF LEARNING

	Category	Breakdown
Lecture	D2L quizzes (open book)	3 % 3 D2L quizzes
	In-class Quiz	4% 2 in-class quizzes
	Midterm exams	30% 2 Tests
	Everyday Organic Chemistry Assignment (EDC)	3%
Lab	Labs	25% 8 Labs Assignments (16%) 3 Lab Worksheets (3%) Log book (3%) Performance and preparedness (3%)
Final Exam	Final Exam	35%

### D2L Quizzes

- These will take place on D2L
- They are open book
- They will be available from noon Thursdays to 9pm on Tuesday of the next week
- You will have 3 attempts at each quiz, they are not timed

### In-class Quizzes

- The in-class quizzes will take place during the first 15 minutes of class
- they will be closed book
- Any considerations for missed quizzes must be provided to the instructor *prior* to the quiz.
  - Quizzes cannot be rewritten, the weight of a missed quiz with *prior* notification will be transferred to the next midterm exam
  - Missed quizzes without *prior* notification will result in a grade of zero

### Midterm exams

- The tests will take place during lecture (50 minutes in length)
- They will be closed book
- Any considerations for missed tests must be provided to the instructor *prior* to the test.
  - Midterm exams cannot be rewritten, the weight of a missed midterm exam with *prior* notification will be transferred to the cumulative final exam
  - Missed exams without *prior* notification will result in a grade of zero

### Everyday Chemistry

- This will be a project that will give you a chance to explore everyday chemistry, we will discuss this project in more detail in week 10

### Lab

- A grade of at least 50% in the lab must be obtained to pass the course
- Lab Assignments will be submitted to D2L by 9pm the week following the lab experiment
- Lab Worksheets will be problem sets completed in the lab period
- In the event of a student being unable to attend a laboratory class due to illness it is essential that you give your lab instructor the courtesy of an email *prior* to the lab, failing to do so will result in a grade of zero
  - I do not require documentation for an illness, and will omit one lab due to illness
  - Data can be provided *by the instructor only* for any subsequent missed labs, with marks granted for calculations and post lab questions only
  - It is expected that you will prepare your log book for a missed lab

- Lab assignments are deducted 20% if they are not submitted on time to D2L as PDF files
  - Lab assignment extensions
    - You may use 2 lab assignment extension
    - The extensions are good for 2 days from the normal due date
    - If you wish to use an extension the way you will notify me is by including your intention to use an extension in your assignment submission comments, you don't have to let me know in advance

If you have a concern about a grade you have received for an evaluation, please come and see me as soon as possible. Refer to the [Grade Review and Appeals](http://camosun.ca/about/policies/education-academic/e-1-programming-and-instruction/e-1.14.pdf) policy for more information.  
<http://camosun.ca/about/policies/education-academic/e-1-programming-and-instruction/e-1.14.pdf>

## COURSE GUIDELINES & EXPECTATIONS

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D2L news items and email will be my primary method of communication with you, please make sure you are checking D2L regularly

## SCHOOL OR DEPARTMENTAL INFORMATION

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The school of Arts and Science operates a Science help center with hours available for additional chemistry help on Mondays-Fridays. More information can be found by following the link below

<http://camosun.ca/learn/subjects/chemistry/>

## STUDENT RESPONSIBILITY

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Enrolment at Camosun assumes that the student will become a responsible member of the College community. As such, each student will display a positive work ethic, assist in the preservation of College property, and assume responsibility for their education by researching academic requirements and policies; demonstrating courtesy and respect toward others; and respecting expectations concerning attendance, assignments, deadlines, and appointments.

## SUPPORTS AND SERVICES FOR STUDENTS

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Camosun College offers a number of services to help you succeed in and out of the classroom. For a detailed overview of the supports and services visit <http://camosun.ca/students/>.

Academic Advising	<a href="http://camosun.ca/advising">http://camosun.ca/advising</a>
Accessible Learning	<a href="http://camosun.ca/accessible-learning">http://camosun.ca/accessible-learning</a>
Counselling	<a href="http://camosun.ca/counselling">http://camosun.ca/counselling</a>
Career Services	<a href="http://camosun.ca/coop">http://camosun.ca/coop</a>

Financial Aid and Awards	<a href="http://camosun.ca/financialaid">http://camosun.ca/financialaid</a>
Help Centres (Math/English/Science)	<a href="http://camosun.ca/help-centres">http://camosun.ca/help-centres</a>
Indigenous Student Support	<a href="http://camosun.ca/indigenous">http://camosun.ca/indigenous</a>
International Student Support	<a href="http://camosun.ca/international/">http://camosun.ca/international/</a>
Learning Skills	<a href="http://camosun.ca/learningskills">http://camosun.ca/learningskills</a>
Library	<a href="http://camosun.ca/services/library/">http://camosun.ca/services/library/</a>
Office of Student Support	<a href="http://camosun.ca/oss">http://camosun.ca/oss</a>
Ombudsperson	<a href="http://camosun.ca/ombuds">http://camosun.ca/ombuds</a>
Registration	<a href="http://camosun.ca/registration">http://camosun.ca/registration</a>
Technology Support	<a href="http://camosun.ca/its">http://camosun.ca/its</a>
Writing Centre	<a href="http://camosun.ca/writing-centre">http://camosun.ca/writing-centre</a>

If you have a mental health concern, please contact Counselling to arrange an appointment as soon as possible. Counselling sessions are available at both campuses during business hours. If you need urgent support after-hours, please contact the Vancouver Island Crisis Line at 1-888-494-3888 or call 911.

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## COLLEGE-WIDE POLICIES, PROCEDURES, REQUIREMENTS, AND STANDARDS

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### Academic Accommodations for Students with Disabilities

The College is committed to providing appropriate and reasonable academic accommodations to students with disabilities (i.e. physical, depression, learning, etc). If you have a disability, the [Centre for Accessible Learning](#) (CAL) can help you document your needs, and where disability-related barriers to access in your courses exist, create an accommodation plan. By making a plan through CAL, you can ensure you have the appropriate academic accommodations you need without disclosing your diagnosis or condition to course instructors. Please visit the CAL website for contacts and to learn how to get started:

<http://camosun.ca/services/accessible-learning/>

### Academic Integrity

Please visit <http://camosun.ca/about/policies/education-academic/e-1-programming-and-instruction/e-1.13.pdf> for policy regarding academic expectations and details for addressing and resolving matters of academic misconduct.

### Academic Progress

Please visit <http://camosun.ca/about/policies/education-academic/e-1-programming-and-instruction/e-1.1.pdf> for further details on how Camosun College monitors students' academic progress and what steps can be taken if a student is at risk of not meeting the College's academic progress standards.

### Course Withdrawals Policy

Please visit <http://camosun.ca/about/policies/education-academic/e-2-student-services-and-support/e-2.2.pdf> for further details about course withdrawals. For deadline for fees, course drop dates, and tuition refund, please visit <http://camosun.ca/learn/fees/#deadlines>.

### Grading Policy

Please visit <http://camosun.ca/about/policies/education-academic/e-1-programming-and-instruction/e-1.5.pdf> for further details about grading.

### Grade Review and Appeals

Please visit <http://camosun.ca/about/policies/education-academic/e-1-programming-and-instruction/e-1.14.pdf> for policy relating to requests for review and appeal of grades.

### Mandatory Attendance for First Class Meeting of Each Course

Camosun College requires mandatory attendance for the first class meeting of each course. If you do not attend, and do not provide your instructor with a reasonable reason in advance, you will be removed from the course and the space offered to the next waitlisted student. For more information, please see the “Attendance” section under “Registration Policies and Procedures” (<http://camosun.ca/learn/calendar/current/procedures.html>) and the Grading Policy at <http://camosun.ca/about/policies/education-academic/e-1-programming-and-instruction/e-1.5.pdf>.

### Medical / Compassionate Withdrawals

Students who are incapacitated and unable to complete or succeed in their studies by virtue of serious and demonstrated exceptional circumstances may be eligible for a medical/compassionate withdrawal. Please visit <http://camosun.ca/about/policies/education-academic/e-2-student-services-and-support/e-2.8.pdf> to learn more about the process involved in a medical/compassionate withdrawal.

### Sexual Violence and Misconduct

Camosun is committed to creating a campus culture of safety, respect, and consent. Camosun’s Office of Student Support is responsible for offering support to students impacted by sexual violence. Regardless of when or where the sexual violence or misconduct occurred, students can access support at Camosun. The Office of Student Support will make sure students have a safe and private place to talk and will help them understand what supports are available and their options for next steps. The Office of Student Support respects a student’s right to choose what is right for them. For more information see Camosun’s Sexualized Violence and Misconduct Policy: <http://camosun.ca/about/policies/education-academic/e-2-student-services-and-support/e-2.9.pdf> and [camosun.ca/sexual-violence](http://camosun.ca/sexual-violence). To contact the Office of Student Support: [oss@camosun.ca](mailto:oss@camosun.ca) or by phone: 250-370-3046 or 250-3703841

### Student Misconduct (Non-Academic)

Camosun College is committed to building the academic competency of all students, seeks to empower students to become agents of their own learning, and promotes academic belonging for everyone. Camosun also expects that all students to conduct themselves in a manner that contributes to a positive, supportive, and safe learning environment. Please review Camosun College’s Student Misconduct Policy at

<http://camosun.ca/about/policies/education-academic/e-2-student-services-and-support/e-2.5.pdf> to understand the College's expectations of academic integrity and student behavioural conduct.

**Changes to this syllabus:** Every effort has been made to ensure that information in this syllabus is accurate at the time of publication. The College reserves the right to change courses if it becomes necessary so that course content remains relevant. In such cases, the instructor will give the students clear and timely notice of the changes.