

COURSE SYLLABUS



COURSE TITLE: CHEM-231: Organic Chemistry 2

CLASS SECTION: 001

TERM: S2022

COURSE CREDITS: 4

DELIVERY METHOD(S): In-Person

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

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

For COVID-19 information please visit <https://legacy.camosun.ca/covid19/index.html>

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 explanation in advance, you will be removed from the course and the space offered to the next waitlisted student.

INSTRUCTOR DETAILS

NAME: Dr. Ryan Fradette

EMAIL: fradetter@camosun.bc.ca

OFFICE: F344A

HOURS: Monday, Tuesday, Thursday at 11:20 by appointment

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

This course is a continuation of CHEM 230. Topics include: aromatic compounds, aldehydes and ketones, carboxylic acids and derivatives, amines, amino acids and peptides and carbohydrates. The laboratory experiments are mainly directed towards the syntheses of various organic compounds.

PREREQUISITE(S):

All of:

- C in CHEM 121
- C in CHEM 230

COURSE LEARNING OUTCOMES / OBJECTIVES

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 aldehydes, ketones, benzene & its derivatives, carboxylic acids and their derivatives, amines, and carbohydrates according to their structures and functional groups present.
2. Compare and contrast the general physical properties such as stability, acidity and basicity, melting and boiling point, and water solubility.
3. Describe the chemical properties of the above classes of organic compounds, and relate any differences and similarities.
4. Draw a synthetic route outlining the preparation of some of the compounds above and their reactions, including details such as stereochemistry of selected 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 use the method of retrosynthetic analysis to interconvert the above classes of organic compounds.
7. Communicate an understanding of the phenomena of proton and carbon-13 nuclear magnetic resonance spectroscopy and to interpret and predict the spectroscopic data for the classes of organic compounds listed above.

REQUIRED MATERIALS & RECOMMENDED PREPARATION / INFORMATION

Textbook

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

Lab

Chem 230/231 Organic Chemistry Experiments, Camosun College

Lab coat

Lab glasses

Recommended:

Molecular model kit

URSE SCHEDULE, TOPICS, AND ASSOCIATED PREPARATION / ACTIVITY / EVALUATION

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

Lecture Schedule

Chem 230 Review (Ch 1-6, 11, 12)

Chapter 7 – π Bond Electrophiles

Chapter 9 – Aromaticity

Chapter 10 – Electrophilic aromatic substitution

Chapter 20 – Cycloadditions

Chapter 15 – Carboxylic acids and derivatives

Chapter 16 – Acetals and related compounds

Chapter 17 – Carbonyl based nucleophiles

Chapter 18 – Conjugate addition

Lab and Test Exam

Week	Wednesday Lab	Thursday Lecture	Friday Lab
Week 1 (May 2)	(no lab meeting)	D2L Quiz 1 (review)	IR Lecture (F300)
Week 2 (May 9)	IR lab	Quiz 1	Experiment 10 – elimination reaction
Week 3 (May 16)	Exp 11 – Grignard	D2L Quiz 2	Exp 12 – Diels-Alder
Week 4 (May 23)	NMR lecture (F300)	Quiz 2	NMR lecture (F300)
Week 5 (May 30)	Midterm Exam (F300)		Exp 27 - Glucosamine
Week 6 (June 6)	Spectroscopy Exam (F300)	Quiz 3	Exp 18 – Condensations (dibenzalactone only)
Week 7 (June 13)	Exp 17 – Wittig	D2L Quiz 3	Review (F300)

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 on D2L)	3% 3 D2L quizzes
	In-class Quizzes	15% 3 in-class quizzes
	Midterm exam	20%
	Reaction Presentation (Discuss in week 4)	2%
Lab	Lab and Spectroscopy	25% 6 Lab assignments (15%) Spectroscopy Exam (5%) Log book (3%) Performance and preparedness (2%)
Final Exam	Final Exam	35%

D2L Quizzes

- These will take place on D2L
- They are open book
- They will be available from 9am Tuesdays to 9pm on Thursdays of the same week

In-class Quizzes

- The in-class quizzes will take place during lecture time (30 minutes in length)
- They will be closed book
- Any considerations for missed tests 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 corresponding Midterm or Final Exam

Exams

- The Exams will take place during lab time (90 minutes in length)
- They will be closed book
- Any considerations for missed tests must be provided to the instructor *prior* to the test.
 - Tests cannot be rewritten, the weight of a missed test with *prior* notification will be transferred to the final exam

Reaction Presentation

- 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 4

Lab

- Lab assignments will be submitted to D2L by 9pm 4 days after you have collected all experimental data for the lab (Monday for Wednesday labs Wednesday for Friday labs)
- A grade of at least 50% in the lab must be obtained to pass the course
- In the event of a student being unable to attend a laboratory class it is advised that the student attempt to obtain data from a partner or perform the class with another section in order to complete the assignment/report. It is essential that you give your lab instructor the courtesy of an email in the event that you miss a laboratory class. Late lab assignments are deducted 20% if they are not submitted on time, and will not be accepted after 7 days.
 - Lab assignment extensions
 - 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

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

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

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

STUDENT RESPONSIBILITY

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

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	http://camosun.ca/advising
Accessible Learning	http://camosun.ca/accessible-learning
Counselling	http://camosun.ca/counselling
Career Services	http://camosun.ca/coop
Financial Aid and Awards	http://camosun.ca/financialaid
Help Centres (Math/English/Science)	http://camosun.ca/help-centres
Indigenous Student Support	http://camosun.ca/indigenous
International Student Support	http://camosun.ca/international/
Learning Skills	http://camosun.ca/learningskills
Library	http://camosun.ca/services/library/
Office of Student Support	http://camosun.ca/oss
Ombudsperson	http://camosun.ca/ombuds
Registration	http://camosun.ca/registration
Technology Support	http://camosun.ca/its
Writing Centre	http://camosun.ca/writing-centre

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.

COLLEGE-WIDE POLICIES, PROCEDURES, REQUIREMENTS, AND STANDARDS

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](http://camosun.ca/services/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. To contact the Office of Student Support: 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.