

COURSE SYLLABUS



COURSE TITLE: CHEM-112: General College Chemistry 2

CLASS SECTION: 001

TERM: W2025

COURSE CREDITS: 3

DELIVERY METHOD(S): In person lab and lectures

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](#).

INSTRUCTOR DETAILS

NAME: Dr. Ryan Fradette

EMAIL: fradetter@camosun.ca

OFFICE: F344A

HOURS: Monday 12:30-2:30, Friday 11:00-12:00

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, along with CHEM 110, constitutes a first year university transfer package. Topics include: hydrocarbons, alcohols, carboxylic acids, esters, amines, amides, carbohydrates, lipids and proteins.

PREREQUISITE(S):

One of:

- C in Chemistry 12
- C in Camosun Alternative

CO-REQUISITE(S):

Not applicable

EXCLUSION(S):

Not applicable

COURSE LEARNING OUTCOMES / OBJECTIVES

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

1. Identify the major differences between organic and inorganic compounds.
2. Use the organic chemistry nomenclature system as it applies to the major organic compounds.
3. Recognize and draw the structural formulas of the major organic compounds.
4. Identify the molecular isomers, physical characteristics and chemical properties of hydrocarbons - alkanes, alkenes, alkynes and aromatic compounds.
5. Identify the molecular isomers, physical characteristics and chemical properties of alcohols, phenols, ethers and thiols.
6. Describe the structural, physical and chemical characteristics of aldehydes, ketones, carboxylic acids, esters, acid chlorides and anhydrides, amines and amides.
7. Construct structural formulas for selected simple sugars and describe the structural, physical and chemical characteristics of monosaccharides, disaccharides, starch, glycogen, cellulose and mucopolysaccharides.
8. Summarize the biological functions of lipids, and identify and account for the physical and chemical properties of fatty acids, glycerol, triacylglycerols, phospholipids, cholesterol, steroid hormones and bile salts.
9. Identify the structural characteristics of amino acids, and describe the formation and properties of the peptide bond.
10. Describe the relationship between the primary, secondary and tertiary structures of fibrous and globular proteins.
11. Compare the biological functions, chemical structures and characteristics of myoglobin and hemoglobin.
12. Recognize the chemical structures of purines and pyrimidines, and describe their functions as chemical constituents of nucleotides, RNA and DNA.
13. Describe the biological roles and structures of RNA and DNA, and account for the physical and chemical characteristics of polynucleotides.

REQUIRED MATERIALS & RECOMMENDED PREPARATION / INFORMATION

There is no required text book for the course

Course notes will be posted weekly to print from D2L

The First half of the Course is based on:

Organic Chemistry: Mechanistic Patterns, Ogilvie ISBN: 9780176500269*

The Second half of the course will be based on:

Organic Chemistry – A Tenth Edition; McMurray

This textbook is an open educational resource freely available on openstax

<https://openstax.org/details/books/organic-chemistry?Book%20details>

Lab experimental procedures will be posted weekly to print on D2L

Lab Coat and Safety glasses

COURSE 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.

Week #	Wednesday (Lecture) 9:30-10:50 am	Friday (Lecture) 9:30-10:50 am	Friday (Lab) 1:30-4:20 pm
1 (Jan 6)	Intro/Preview Lecture	Chapter 1	Lab Intro
2 (Jan 13)	Chapter 1	Chapter 2 <i>(D2L quiz 1 posted)</i>	Lab 1 - Worksheet
3 (Jan 20)	Chapter 2	Chapter 3	Lab 2 – Melting Points
4 (Jan 27)	Chapter 3 Quiz 1	Chapter 4	Lab 3 - Recrystallization
5 (Feb 3)	Chapter 4	Chapter 4	Lab 4 – Nutmeg
6 (Feb 10)	Chapter 5	Carbohydrates	Midterm 1
7 (Feb 17)	Reading Week	Reading Week <i>(D2L quiz 2 posted)</i>	Reading Week
8 (Feb 24)	Chapter 6	Chapter 6	Lab 5 – Orange Oil
9 (Mar 3)	Chapter 7	Chapter 7	Lab 6 – Saponification
10 (Mar 10)	Chapter 8 Quiz 2	Chapter 8 <i>(D2L quiz 3 posted)</i>	Lab 7 – Worksheet
11 (Mar 17)	Chapter 15	Proteins, peptides, and enzymes	Midterm 2
12 (Mar 24)	Proteins, peptides, and enzymes	Proteins, peptides, and enzymes	Lab 8 – Aspirin
13 (Mar 31)	Lipids	Chapter 9 <i>(D2L quiz 4 posted)</i>	Lab 9 – Aspirin II and Saponification II
14 (Apr 7)	Nucleic Acids	Everyday Chemistry	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 noticed 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)	8 % 4 D2L quizzes
	In-class Quizzes	8% 2 in-class quizzes
	Midterm exams	25% 2 Tests
	Everyday Organic Chemistry Assignment (EDC)	5%
Lab	Labs	24% 6 Lab Assignments (18%) 2 lab worksheets (2%) Prelabs, Performance and preparedness (4%)
Final Exam	Final Exam TBA	30%

D2L Quizzes

- These will take place on D2L
- They are open book
- They will be available from noon on Fridays to 9pm on Fridays of the next week
- Answers will be posted to D2L once the quiz closes
- The lowest of the 4 quizzes will be dropped from your quiz grade

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 8

Lab

- A grade of at least 50% in the lab must be obtained to pass the course
- Even though you may perform the experiments with a partner, and collect identical data, you must submit your own assignment. Duplicate assignments will not be accepted and may be subject to academic infraction.
- 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. It may be possible for the instructor to provide lab data so you can complete the lab calculations for partial marks.
- Late lab assignments are deducted 20% if they are not submitted on time
 - Lab assignment extensions
 - You may use up to 2 lab extensions

- The extensions are good for 2 days an additional 2 days (lab would now be due on Friday)
- 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
- The performance and safety portion of your lab grade is in place to ensure you are on-time, and working safely in the lab
- The prelab portion of your lab mark comes from completing a table to chemical reagents prior to each experiment

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](#) 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 Monday- Friday. 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](#) (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.