

# COURSE SYLLABUS



COURSE TITLE: CHEM-120: College Chemistry 1

CLASS SECTION: 001

TERM: Winter 2024

COURSE CREDITS: 3

DELIVERY METHOD(S): Face to face

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: John Lee

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

OFFICE: F350 C

HOURS: Wednesday, Thursday, Friday 1:30 to 2:20

*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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For both university and technology students, this course starts with atomic structure and periodic properties and leads to a discussion of chemical bonding, thermochemistry, molecular structure, intermolecular structure, colligative properties, intermolecular forces of attraction and their role in environmental issues. The experiments include chemical synthesis and analysis by titration and spectroscopy.

### PREREQUISITE(S):

One of:

- C in Chemistry 12
- C in Camosun Alternative

### CO-REQUISITE(S):

### EXCLUSION(S):

## COURSE LEARNING OUTCOMES / OBJECTIVES

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

1. Utilize nomenclature rules to name ionic and covalent compounds.
2. Demonstrate an understanding of stoichiometry by balancing chemical equations and performing mathematical calculations involving chemical reactions.
3. Describe the electronic structure of any atom in the periodic table and apply it to explain many of the physical and chemical properties of the elements.
4. Utilize simple bonding theories to explain why elements combine to form the compounds they do and also to explain many of the properties of compounds.
5. Apply knowledge of intermolecular interactions to rationalize many important physical properties of bulk matter in the gas, liquid and solid phases.
6. Use standard chemistry lab equipment, including burets, pipets, Buchner filters, and volumetric glassware in the correct manner.
7. Perform many standard laboratory procedures, such as titrations, preparation of standard solutions, the preparation, isolation, and purification of compounds, as well as use spectrophotometers to make analytical measurements.

## REQUIRED MATERIALS & RECOMMENDED PREPARATION / INFORMATION

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All course materials will be posted on D2L. You will need to purchase a **CHEM 120 Laboratory Manual** from the Bookstore to bring to your laboratory classes. You will also need a **lab jacket**, and a pair of **safety glasses**. Although not required for purchase, you may find access to a copy of Chemistry: The Central Science, Brown, LeMay, Bursten, a good resource.

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

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

WEEK or DATE RANGE	ACTIVITY or TOPIC	OTHER NOTES
1	Chapter 0: Foundations and review of essentials	Lab Safety
2	Chapter 0: Foundations and review of essentials	Stoichiometry of Reactions; Group A
3	Chapter 1: Electronic Structure of Atoms	Stoichiometry of Reactions; Group B
4	Chapter 1: Electronic Structure of Atoms	Spectrophotometric Determination of Nickel

WEEK or DATE RANGE	ACTIVITY or TOPIC	OTHER NOTES
5	Chapter 2: Periodic Properties	Colorimetric Determination of Iron in a Vitamin Tablet
6	Chapter 3: Bonding	Term Test 1
7	Reading Break	Reading Break
8	Chapter 3: Bonding	Determination of Copper using Atomic Absorption Spectroscopy
9	Chapter 4: Molecular Geometry and Bonding Theories	Determination of the Hardness of Water
10	Chapter 4: Molecular Geometry and Bonding Theories	Molar Volume of a Gas
11	Chapter 5: Intermolecular Forces	Term Test 2
12	Chapter 5: Intermolecular Forces/Chapter 6: Gases	Preparation of Potassium tris(oxalate) ferrate(III)
13	Chapter 6: Gases	Easter Monday
14	Review	Preparation of Potassium tris(oxalate) ferrate(III)
15	Exam Week	

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

DESCRIPTION	WEIGHTING
Laboratory Experiments and Assignments	25 %
Final Exam	40 %
Term Test 1	17.5 %
Term Test 2	17.5 %
<b>TOTAL</b>	<b>100%</b>

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

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In order to pass the course, students must pass the laboratory with a score of 50 %. There is an expectation that students complete all laboratory experiments, along with the associated assignments. In the event that you miss a laboratory session due to illness or extenuating circumstances, you must inform your instructor via email before the laboratory session. Your instructor may require you to complete the assignment using data provided, or an online version of the experiment. The laboratory assignment due dates are specified on D2L. No late assignments will be accepted unless you have prior accommodations through CAL, or you have requested an extension due to illness or extenuating circumstances. 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. If you complete the practical part of an experiment, but fail to upload an assignment by the due date without a granted extension, you may be given a participation mark only.

Students must write each test during the time scheduled in the course outline, and submit required assignments by the specified deadline. On a case-by-case basis, and at the instructor's discretion, a student experiencing a personal emergency or an uncontrollable extenuating circumstance (as outlined in the Academic Concessions Policy) may arrange an alternate time, before the tests have been returned to the class, with the Assessment Centre to write the missed test. <https://camosun.ca/apply/how-apply/assessment-and-testing/rescheduled-camosun-course-exams>

The weighting of any missed term tests will be carried over to the final. Students that write in the CAL should book test times at least two weeks in advance. If it is advantageous to the student the theory mark will be solely derived from the final examination, or a combination of midterms and the final.

## SCHOOL OR DEPARTMENTAL INFORMATION

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Department Chair: John Lee: [leejohn@camosun.ca](mailto:leejohn@camosun.ca)

Assistant to the Dean: Katya Bissky: [BisskyK@camosun.ca](mailto:BisskyK@camosun.ca)

Applied Chemistry & Geoscience Program Leader: Steve McKinnon: [McKinnonS@camosun.ca](mailto:McKinnonS@camosun.ca)

The School of Arts and Science offers a Science Help Centre at Lansdowne campus. Zach and Matt are available in Fisher 264 everyday to assist you in chemistry, biology and physics, between 9:00 to 4:30.

Students may only use recording devices in the classroom with the prior permission of the instructor or the Centre for Accessible Learning. The instructor's permission is not required when the use of a recording device is sanctioned by the College's Centre for Accessible Learning in order to accommodate a student's disability, *and* when the instructor has been provided with an instructor notification letter which specifies the use of a recording device.

Camosun College is a scent-free institution. Please refrain from wearing scents. Thank you.

## 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.

## 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.

### 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.