

COURSE SYLLABUS



COURSE TITLE: CHEM-175: Chemistry Essentials for Civil/Mech

CLASS SECTION: X01A

TERM: Winter 2023

COURSE CREDITS: 3

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

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](#).

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: David Stuss (Lecture Instructor)

EMAIL: stussd@camosun.ca

OFFICE: Fisher 350A (Lansdowne Campus)

HOURS: 4:00 - 5:00 PM Mon-Thurs. Virtual office hours available by appointment

NAME: Tatiana Sanz (Lab Instructor)

EMAIL: TatianaS@camosun.ca

OFFICE: Fisher 350B (Lansdowne Campus)

HOURS: 5:00 - 5:50 PM Tuesday (Lansdowne); after lab and online (by appointment)

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

CALENDAR DESCRIPTION

Students are introduced to chemistry concepts essential to success in Civil and Mechanical Engineering Technology. Students will study the periodic table of the elements and chemical nomenclature, chemical bonding, chemical formulas, and stoichiometry. Students will also learn basic lab techniques.

PREREQUISITE(S):

One of:

- C in Pre-calculus 11
- B in Foundations of Math and Pre-calculus 10

- C in MATH 073
- C in MATH 077
- C in MATH 137
- C in MATH 139
- B in MATH 053
- B in MATH 072
- B in MATH 075
- B in MATH 135

CO-REQUISITE(S):

N/A

EXCLUSION(S):

N/A

COURSE LEARNING OUTCOMES / OBJECTIVES

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

1. Use dimensional analysis, metric and SI units in performing chemical calculations.
2. Utilize the specialized vocabulary and nomenclature of chemistry and demonstrate an ability to name chemical compounds.
3. Identify and construct chemical formulas.
4. Communicate an understanding of atomic structure, the differences between elements, and the role of the periodic table in organizing elements within a coherent theoretical and empirical system.
5. Perform mathematical calculations involving chemical formulas, molecular weights, moles, Avogadro's number and Molarity.
6. Balance chemical equations, demonstrate an understanding of the mole concept and solve stoichiometry problems.
7. Conduct experiments in basic chemistry utilizing common chemistry laboratory equipment with practice in basic lab skills.

REQUIRED MATERIALS & RECOMMENDED PREPARATION / INFORMATION

- CHEM 175 Lab Manual
- Safety Glasses
- Scientific Calculator

All items are mandatory and can be purchased in the bookstore.

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 or DATE RANGE	ACTIVITY or TOPIC
1 (Jan 9 – Jan 13)	Orientation – Online Safety Video

WEEK or DATE RANGE	ACTIVITY or TOPIC
2 (Jan 16 – Jan 20)	Experiment 1 - Density
3 (Jan 23 – Jan 27)	<i>no lab</i>
4 (Jan 30 – Feb 3)	Experiment 2 – Identifying Liquid Compounds
5 (Feb 6 – Feb 10)	<i>no lab</i>
6 (Feb 13 – Feb 17)	Midterm 1
7 (Feb 20 – Feb 24)	<i>Reading Break</i>
8 (Feb 27 – Mar 3)	Experiment 3 – Separating Mixtures
9 (Mar 6 – Mar 10)	<i>no lab</i>
10 (Mar 13 – Mar 17)	Experiment 7 – The Cu/AgNO ₃ Reaction
11 (Mar 20 – Mar 24)	<i>no lab</i>
12 (Mar 27 – Mar 31)	Midterm 2
13 (Apr 3 – Mar 7)	Experiment 8 – Water of Hydration
14 (Apr 10 – Mar 14)	<i>no lab</i>
(Apr 17 – Apr 25)	Final Exams

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

DESCRIPTION	WEIGHTING
Laboratory Reports (5 x 4%)	20%
Pre-Labs (D2L Quizzes)	5%
Midterm Test 1	20%
Midterm Test 2	20%
Final Exam (Cumulative)	35%
TOTAL	100%

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

- Students are expected to monitor online communications (via D2L News) and to have a current email address associated with their D2L profile.
- Regular lecture attendance is expected. Students who miss lecture are responsible for obtaining any presented content from peers.
- Students must watch the introductory Laboratory Safety video before the first laboratory class.
- Safety glasses must be always worn in the laboratory. Students who forget or refuse to wear the required safety equipment will not be allowed to participate in the laboratory.
- Students arriving late for labs may receive a penalty on their lab report at the instructor's discretion.
- Online pre-lab quizzes are due at the start of the lab period. Late pre-lab quizzes will not be accepted.
- Lab reports are due at the *start* of the following lab period. Late reports will receive a penalty of -10% per day. Late reports will not be accepted after graded reports have been returned to the class.
- A student must pass both the lecture and laboratory portions separately to be eligible to pass the course.
- There are no make-up labs. In the event a student misses a lab due to illness, the lab instructor must be informed by email prior to lab, or a zero grade will be assigned.
- Participation in *one* lab that is missed due to illness will be excused without medical documentation. Data will be provided by the instructor with the lab report due at the regular time.
- Data provided for any subsequent missed labs can be provided, but marks will be granted for the calculations and analysis only (max. 50%).
- There are no make-up midterm tests. The value of a missed midterm will be assigned to the final exam.
- The final exam is cumulative. If the grade on the final exam is higher than the average midterm grades, the final exam grade will replace the midterm grades.

SCHOOL OR DEPARTMENTAL INFORMATION

Access to Tutoring and Learning Skills Guides is available through the following links.

Science Help Centres (SHC):

<https://camosun.ca/services/academic-supports/help-centres/science-help-centre>

Student Learning Success Guides: All Guides

https://camosun.libguides.com/CSSCHome/Images_HOME?preview=8c8156761f510434e998e6240e396088

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.