COURSE SYLLABUS

COURSE TITLE: CHEM-110: General College Chemistry 1

CLASS SECTION: 002

TERM: Winter 2024

COURSE CREDITS: 3

DELIVERY METHOD(S): in-person lectures & labs

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: Diana Li

EMAIL: lid@camosun.ca

OFFICE: Fisher 344C

HOURS: Tuesday-Thursday 14:30-15:20. Virtual office hour 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

The first part of a college level package for students in the life sciences and non-science programs. The topics comprise chemical energetics, chemical equilibrium, acids and bases and oxidation/reduction chemistry.

PREREQUISITE(S):

One of:

- C in Chemistry 11
- C in Camosun Alternative

CO-REQUISITE(S):

EXCLUSION(S):

COURSE LEARNING OUTCOMES / OBJECTIVES

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

1. Identify, describe and account for the general characteristics of gases, liquids and solids - interionic and intermolecular forces; vaporization and condensation; melting and freezing; specific characteristics of water.
2. Utilize solution terminology, account for and compare the solubilities of ionic and molecular compounds, and describe the impact of temperature and pressure on solubility.
3. Describe the characteristics of solubility equilibria and use mathematical techniques employed in dealing with this phenomenon.
4. Describe and account for the colligative and osmotic properties of aqueous solutions.
5. Account for differences in the rates of chemical reactions, apply Le Chatelier's Principle to equilibrium processes, and explain how catalysts influence reaction rates.
6. Apply mathematics and equilibrium constant expressions to descriptions of reversible reactions and chemical equilibria.
7. Identify Arrhenius, Bronsted and Lewis acids and bases, and describe the chemical properties of each type of substance.
8. Describe the ionization of water, the pH scale, weak and strong acids and bases, neutralization and the actions of buffer solutions.
9. Perform mathematical calculations involving pH, hydronium ion concentrations and acid-base titrations.
10. Define oxidation and reduction and assign oxidation numbers to the elements of substances involved in oxidation-reduction reactions. Demonstrate the ability to use oxidation numbers in balancing redox reactions.
11. Demonstrate an understanding of electrochemistry and account for the characteristics and uses of the standard hydrogen electrode, standard reduction potentials, electrolytic and voltaic cells.
12. Describe the characteristics of the major types of organic compounds – alkanes, alkenes, alkynes, aromatic hydrocarbons, alcohols, ethers, aldehydes and ketones, carboxylic acids and esters, amines and amides.

REQUIRED MATERIALS & RECOMMENDED PREPARATION / INFORMATION

Texts	♦Please go to https://www.camosuncollegebookstore.ca/buy_access_codes.asp **Chemistry: The Central Science in SI Units, Expanded Edition, Global Edition -- Mastering Chemistry with Pearson eText (ACC); $119.10** Brown, Theodore^LeMay, H.^Bursten, Bruce^Murphy, Catherine^Woodward, Patrick^Stoltzfus, Matthew Once you have purchased an Access Code, please follow the instructions on the last page of this course syllabus for Mastering Chemistry registration.
Other	♦Chem 110 Lab Manual (Eye protection is mandatory & lab coat is highly recommended!) ♦Scientific calculator [If you are taking math courses at Camosun, you need to buy certain Sharp model (scientific calculator with statistic functions). Please check with our Math Department or Bookstore.] ♦Technological Requirements: http://camosun.ca/services/orientation/online-learning.html

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.

Lecture Plan:

Unit	Topic (approx. # of lecture hours)	Expanded 15th Global Ed.
1	Thermochemistry (8)	Ch. 5
2	Chemical Kinetics (4)	Ch. 14
3	Chemical Equilibrium (5)	Ch. 15
4	Solution & Solubility (4)	Ch. 2, 4, 17
5	Acid-Base Equilibria (4)	Ch. 4, 16, 17
6	Ionization & Neutralization (2)	
7-I 7-II	Oxidation & Reduction (2) Electrochemistry (1)	Ch. 4 & 20

WEEK or DATE RANGE	ACTIVITY or TOPIC (approximate # of lecture hours) New lecture materials will be available on D2L on or before Sunday of each week.
I	General Course Info (1) & Unit 1 Thermochemistry (2)
II	Unit 1 Thermochemistry (3)
III	Unit 1 Thermochemistry (3)
IV	Unit 2 Chemical Kinetics (3)
V	Unit 2 Chemical Kinetics (1) & Test I Review (2)
VI	Unit 3 Chemical Equilibrium (3) * Tuesday, Feb. 13—Test I in Lab (Units 1 & 2, approx. 2.5 hours)
VII Mon, Feb. 19 Family Day	Reading Break
VIII	Return & go over Test I (1) & Unit 3 Chemical Equilibrium (2)
IX	Unit 4 Solution & Solubility (3)
X	Unit 4 Solution & Solubility (1) & Test II Review (2)
XI	Unit 5 Acid-Base Equilibria (3) * Tuesday, March 19—Test II in Lab (Units 3 & 4, approx. 2.5 hours)
XII March 29, Good Friday	Return & go over Test II (1); Unit 5 Acid-Base Equilibria (1); Unit 6 Ionization & Neutralization (1)
XIII April 1, Easter Monday	Unit 6 Ionization & Neutralization (1); Unit 7-Part I Redox (1)
XIV	Unit 7-Part I Redox (1); Exam Info & Review (2)
Monday, April 15	Winter 2024 Exam Period begins

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 scan be reviewed on the CAL exams page. http://camosun.ca/services/accessible-learning/exams.html

EVALUATION OF LEARNING

DESCRIPTION	WEIGHTING
Labs (up to 10 experiments)	20%
Test I (Units 1 & 2; Week VI Lab period— 2.5 hours)*	20%
Test II (Units 3 & 4 Week XI Lab period—2.5 hours)*	20%
Final Exam (comprehensive)	40%
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 policy for more information. http://camosun.ca/about/policies/education-academic/e-1-programming-and-instruction/e-1.14.pdf

* Test dates to be confirmed during the first week of classes in January.

Notes:

1. Student must pass the lab portion of the course to obtain credit for Chem 110 (i.e. you fail the course when you fail the lab component). Your lab faculty will go over the lab component of Chem 110 and lab evaluation with you…
2. Students are required to check D2L and their emails regularly. The email address associated with his/her myCamosun profile must be up to date.
3. Student is encouraged to attempt both tests. Test score (including no score) that is not as high as that of the April final exam will be dropped automatically and its weight redistributed to the final exam. However, anyone who is caught cheating will receive zero for that test which will not be redistributed. For anyone who misses both tests, your final exam will then be 80% of the course grade!
4. **Student must write each test during the lab period as scheduled for his/her section. No one will be allowed to write late and there will be no makeup test, no exceptions!**

COURSE GUIDELINES & EXPECTATIONS

Lecture Attendance:

Students are expected to attend classes regularly and be on time. It is your responsibility to acquire all information given during a class missed, including notes, exam info & review, etc.

School of Arts & Science Academic Honesty Guidelines: http://camosun.ca/learn/school/arts-science/images/Arts%20and%20Science%20Academic%20Honesty%20Guidelines.pdf

Camosun Grading Systems:
http://camosun.ca/registration-records/student-records/camosun-grading-systems

SCHOOL OR DEPARTMENTAL INFORMATION

Science Help Centres (SHC):
https://camosun.ca/services/academic-supports/help-centres/science-help-centres

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.

Registration Policies and Procedures

Please visit http://camosun.ca/learn/calendar/current/procedures.html

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.

Mastering Chemistry Registration:

Go to https://www.pearson.com/mastering.

Under Register, select **Student**.

Confirm you have the information needed, then select **OK! Register now**.

Enter your instructor's course ID: **li73366**, and **Continue**.

Enter your existing Pearson account **username** and **password** to **Sign In**.
You have an account if you have ever used a MyLab or Mastering product.

If you don't have an account, select **Create** and complete the required fields.

Select an access option.

» Enter the access code that came with your textbook or that you purchased separately from the bookstore.

» If available for your course,
- Buy access using a credit card or PayPal.
- Get temporary access.

If you're taking another semester of a course, you skip this step.

From the You're Done! page, select **Go To My Courses**.

On the My Courses page, select the course name **Chem 110 - Winter 2024** to start your work.
Please contact **Student Technical Support** **https://support.pearson.com/getsupport/s/contactsupport** if the eText is missing or you need assistance.

To sign in later:

Go to https://www.pearson.com/mastering.

Select **Sign In**.

Enter your Pearson account **username** and **password,** and **Sign In**.

Select the course name **Chem 110 - Winter 2024** to start your work.

To upgrade temporary access to full access:

Go to https://www.pearson.com/mastering.

Select **Sign In**.

Enter your Pearson account **username** and **password,** and **Sign In**.

Select **Upgrade access** for **Chem 110 - Winter 2024**.

Enter an access code or buy access with a credit card or PayPal.