



CAMOSUN COLLEGE
School of Arts & Science
Department of Chemistry & Geoscience

CHEM-110-D02
General College Chemistry 1
Fall 2020

COURSE OUTLINE

The course description is online @ <http://camosun.ca/learn/calendar/current/web/chem.html>

Please note: This outline will not be kept indefinitely. It is recommended students keep this outline for their records, especially to assist in transfer credit to post-secondary institutions.

1. Instructor Information

| | |
|------------------|---|
| (a) Instructor | Larry Lee |
| (b) Office hours | Best to email for arrangement |
| (c) Location | F344B |
| (d) Phone | Please email Alternative: |
| (e) E-mail | leel@camosun.bc.ca (email response is faster) |
| (f) Website | Online.camosun.ca (Desired 2 learn – D2L). Top hat https://app-ca.tophat.com |

2. Intended Learning Outcomes

Upon completion of this course the 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.

5. Basis of Student Assessment (Weighting)

| | | |
|-----|-----------------------|-------------------|
| (a) | 2 mid terms exams | 25% (12.5 % each) |
| (b) | On-line (D2L) | 15% |
| (c) | On-line participation | 5% |
| (d) | Final Exam | 30% |
| (e) | Lab work | 25 % |

- a) Quizzes and assignments are posted on D2L. For minimum work, quizzes should be completed. For best results, both quizzes and assignments should be completed and self-assessed. Assignments are not graded by the instructor.
- b) On-line homework is from D2L. There will be 10–15 questions per week.
- c) Midterms are 120 minutes in length and will be given during the first two hours of a lab period (F354)

The midterm schedule is below:

Midterm 1 – Tuesday October 13, 2020

Midterm 2 – Tuesday November 17, 2020

- c) Final exam is written the week following the end of the term. The final is a maximum **180 minutes** in duration and **all** the material covered in class will be examined.

Exam notes:

1. All exams count and an absence from an exam will result in a zero unless a medical note or equivalent is provided. In the event that an excuse is given for a missed quiz or midterm, the weighting for that quiz or midterm will be transferred to final exam. Missed final exam will result in an incomplete grade and student will need to receive the Dean's permission to write a deferred exam.
2. Non-programmable calculators are allowed during any quiz or exam.
3. Exams can be written in pencil or pen. If written in pencil, no remarking will be allowed.
4. If you obtain a mark in the final exam which is better than the sum of the marks obtained in the lecture portion of the course and with the condition that you completed all two midterms and the mastering chemistry on-line work, I will count only the final exam. If the final exam is worse than the lecture portion, the final exam will count as 35% of the overall grade.

Laboratory notes:

1. A safety orientation is given at the beginning of the lab. All labs will be online.
2. You must complete at least 75% of the lab work and obtain a mark of at least 50% in order to pass the overall course. If you fail to hand in more than three lab reports, you will not pass the lab portion of the course and you will not be allowed to write the final exam.
3. Lab reports must be submitted (primarily using D2L assignment unless otherwise instructed) no later than one week after the completion of the experimental. No ungraded lab reports will be accepted after the return of graded reports. **Please scan any written work and review for clarity. A Video on best scan practices is available on D2L.**

6. Grading System

- Standard Grading System (GPA)
- Competency Based Grading System

7. Recommended Materials to Assist Students to Succeed Throughout the Course

Mastering Chemistry on-line tutorial is available. There are also self-assess quizzes and assignments with answers posted on desired to learn (D2L). Alternative on-line sources are Khan Academy. BC open text <https://opentextbc.ca/chemistry/front-matter/preface/> and <https://open.umn.edu/opentextbooks/BookDetail.aspx?bookId=22>

Alternatively, I am available outside my office hours. Please email to schedule appointment.

8. College Supports, Services and Policies



Immediate, Urgent, or Emergency Support

If you or someone you know requires immediate, urgent, or emergency support (e.g. illness, injury, thoughts of suicide, sexual assault, etc.), **SEEK HELP**. Resource contacts @ <http://camosun.ca/about/mental-health/emergency.html> or <http://camosun.ca/services/sexual-violence/get-support.html#urgent>

College Services

Camosun offers a variety of health and academic support services, including counselling, dental, disability resource centre, help centre, learning skills, sexual violence support & education, library, and writing centre. For more information on each of these services, visit the **STUDENT SERVICES** link on the College website at <http://camosun.ca/>

College Policies

Camosun strives to provide clear, transparent, and easily accessible policies that exemplify the college's commitment to life-changing learning. It is the student's responsibility to become familiar with the content of College policies. Policies are available on the College website at <http://camosun.ca/about/policies/>. Education and academic policies include, but are not limited to, Academic Progress, Admission, Course Withdrawals, Standards for Awarding Credentials, Involuntary Health and Safety Leave of Absence, Prior Learning Assessment, Medical/Compassionate Withdrawal, Sexual Violence and Misconduct, Student Ancillary Fees, Student Appeals, Student Conduct, and Student Penalties and Fines.

A. GRADING SYSTEMS <http://camosun.ca/about/policies/index.html>

The following two grading systems are used at Camosun College:

1. Standard Grading System (GPA)

| Percentage | Grade | Description | Grade Point Equivalency |
|------------|-------|--------------------------------------|-------------------------|
| 90-100 | A+ | | 9 |
| 85-89 | A | | 8 |
| 80-84 | A- | | 7 |
| 77-79 | B+ | | 6 |
| 73-76 | B | | 5 |
| 70-72 | B- | | 4 |
| 65-69 | C+ | | 3 |
| 60-64 | C | | 2 |
| 50-59 | D | | 1 |
| 0-49 | F | Minimum level has not been achieved. | 0 |

2. Competency Based Grading System (Non GPA)

This grading system is based on satisfactory acquisition of defined skills or successful completion of the course learning outcomes

| Grade | Description |
|-------|---|
| COM | The student has met the goals, criteria, or competencies established for this course, practicum or field placement. |
| DST | The student has met and exceeded, above and beyond expectation, the goals, criteria, or competencies established for this course, practicum or field placement. |
| NC | The student has not met the goals, criteria or competencies established for this course, practicum or field placement. |

B. Temporary Grades

Temporary grades are assigned for specific circumstances and will convert to a final grade according to the grading scheme being used in the course. See Grading Policy at <http://camosun.ca/about/policies/index.html> for information on conversion to final grades, and for additional information on student record and transcript notations.

| Temporary Grade | Description |
|-----------------|--|
| I | <i>Incomplete</i> : A temporary grade assigned when the requirements of a course have not yet been completed due to hardship or extenuating circumstances, such as illness or death in the family. |
| IP | <i>In progress</i> : A temporary grade assigned for courses that are designed to have an anticipated enrollment that extends beyond one term. No more than two IP grades will be assigned for the same course. |
| CW | <i>Compulsory Withdrawal</i> : A temporary grade assigned by a Dean when an instructor, after documenting the prescriptive strategies applied and consulting with peers, deems that a student is unsafe to self or others and must be removed from the lab, practicum, worksite, or field placement. |

