



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

CHEM-100-001
Introductory Chemistry
Summer 2019

COURSE OUTLINE

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

Ω 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

| | |
|---------------|---|
| Instructor: | Diana Li |
| Office Hours: | Tue & Thu 2:00-3:20 pm, Fri 2:30-3:20 pm, or by appointment. |
| Location: | Fisher 344C |
| Phone: | 250-370-3444 |
| Email: | lid@camosun.bc.ca |
| Website: | http://camosun.ca/learn/programs/chem.html |

To avoid class interruptions & cancellations, please refrain from wearing fragrance or other strongly scented products to class!

2. Intended Learning Outcomes

Upon completion of this course the 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 name chemical compounds, and identify and construct chemical formulas.
3. Summarize the characteristics of electrons, protons and neutrons, and identify their roles as components of atoms, ions and isotopes, including radioisotopes.
4. Describe atomic structure, the differences between elements, and the role of the periodic table in organizing elements within a coherent theoretical and empirical system.
5. Describe and account for the periodic table trends concerning atomic number, atomic radius, ionization energy and electronegativity.
6. Compare the formation and characteristics of ionic and molecular compounds.
7. Perform mathematical calculations involving chemical formulas, molecular weights, moles, Avogadro's number and Molarity.
8. Balance chemical equations, including use of the mole concept, and solve stoichiometry problems.
9. Account for the general characteristics of the gas, liquid, and solid states.
10. Conduct experiments in basic chemistry, utilizing common chemistry laboratory equipment with an enhanced knowledge and practice in basic lab skills.

3. Required Materials

| | |
|-------|--|
| Texts | Required: ♦ Chem 100 Course Notes / Lab Manual / Problem Sets, Department of Chemistry & Geoscience, Camosun College. 2013. |
| Other | Scientific calculator. Eye protection is mandatory in the lab & lab coat is highly recommended. |

4. Course Content and Schedule

| Lecture Plan: | | | |
|---------------|---|-----|------------------------------------|
| Ch. | Topic (approx. # of lecture hours) | Ch. | Topic (approx. # of lecture hours) |
| 1 | Measurements & Calculations (4) | 7 | Chemical Bonding (5) |
| 2 | Introductory Terminology (4) | 8 | Gases (5) |
| 3 | Chemical Formulas & Names (5) | 9 | Liquids & Solutions (3) |
| 4 | Calculations Based Upon Formulas (4) | 10 | Organic Chemistry (3) |
| 5 | Stoichiometry (4) | 11 | Radioactivity (2) |
| 6 | Periodic Table & Electron Distributions (3) | | |

Students may not use recording devices in the classroom without the prior permission of the instructor. However, 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. Recordings made in the classroom are for the student's personal use only, and distribution of recorded material is prohibited.

5. Basis of Student Assessment (Weighting)

| | |
|----------------------------|--|
| Labs (up to 9 experiments) | 20% |
| Test I (Chapters 1-3) | 20% (Week III Wednesday, May 22 Lab Period)* |
| Test II (Chapters 4-6) | 20% (Week V Wednesday, June 5 Lab Period)* |
| Final Exam (comprehensive) | 40% (TBA ~Week IV, 3 hours in June) |

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

Notes:

- (1) Student must pass the lab portion of the course to obtain credit for Chem 100. Your lab faculty will go over the lab component of Chem 100 and lab evaluation with you...
- (2) Student is encouraged to attempt both tests. Test score that is not as high as that of the June 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!
- (3) Student must write each test in the lab period as scheduled for his/her section. No one is allowed to write late and there will be no exceptions. Early exam is a privilege and not a right; thus, at full discretion of the instructor.

6. Grading System

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

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

Hard copies of the 1st, 2nd, & 3rd Australian Editions of B-L-B are available in the Library Reserve Room.

Note: Short answers to all red numbered exercises are at the back of the text, and a hard copy of the Solutions Manual for the 1st Australian Edition is in the library. Answers to red & black numbered exercises in the 3rd Australian edition will be available for Chem 120 & 121 students.

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. |

Di's Summer 2019 Chem 100 Preliminary Lecture & Lab Plans

Di's office/phone/email: F344C, 370-3444, lid@camosun.bc.ca

Lab Faculty: David Stuss, F380A (stussd@camosun.bc.ca)

| Wk | Monday | Tuesday | Wednesday | Thursday |
|-----|---|------------------------------------|---|------------------------------------|
| | 1:00-2:50 Lab in F354 3:30-5:20 pm Lecture in E201 | 3:30-5:20 pm Lecture in E201 | 1:00-2:50 Lab in F354 3:30-5:20 pm Lecture in E201 | 3:30-5:20 pm Lecture in E201 |
| I | 5/6 Lab Orientation in F356— attendance mandatory for all registered & waitlisted students! General Course Info & Ch. 1 | 5/7 Ch. 1 | 5/8 Expt. 1—Density Ch. 1 | 5/9 Ch. 2 |
| II | 5/13 Expt. 2—Identifying Liquid Compounds Ch. 2 | 5/14 Ch. 3 | 5/15 Expt. 3—Separating Mixtures Ch. 3 | 5/16 Ch. 3 & Test I Review |
| III | 5/20 Victoria Day—College Closed | 5/21 Test I Review & Ch. 4 | 5/22 Test I (Ch. 1-3) 1:00-2:50 pm in F354 Ch. 4 | 5/23 Ch. 4 & Ch. 5 |
| IV | 5/27 Expt. 5—Recycling Copper Return Test I & Ch. 5 | 5/28 Ch. 5 | 5/29 Expt. 5—Recycling Copper & Expt. 6 —The Iron and Copper Sulfate Reaction Ch. 6 | 5/30 Ch. 6 |
| V | 6/3 Expt. 7—Copper & Silver Nitrate Reaction Test II Review | 6/4 Ch. 7 | 6/5 Test II (Ch. 4-6) 1:00-2:50 pm in F354 Ch. 7 | 6/6 Ch. 7 & Ch. 8 |
| VI | 6/10 Molecular Models, Geometry & Polarity Return Test II & Ch. 8 | 6/11 Ch. 8 | 6/12 Expt. 11—Magnesium & Hydrochloric Acid Ch. 9 | 6/13 Ch. 9 |
| VII | 6/17 Expt. 12—Neutralization Ch. 10 | 6/18 Ch. 10 | 6/19 Wrapping up Lab Work Exam Info & Review | 6/20 Exam Info & Review |

Eye protection is mandatory in the lab!!

May 13—Add Course/Drop with Tuition Refund Deadline; May 21—Fees Due

June 7—Last Day to Drop/Audit...

June 24-26 Exam Period for Summer 2019