



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

**CHEM-100-001**  
**Introductory Chemistry**  
**Winter 2018**

## **COURSE OUTLINE**

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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.

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### **1. Instructor Information**

(a) Instructor	Silvija Smith		
(b) Office hours	Posted on D2L or by appointment		
(c) Location	P233		
(d) Phone	250-370-3372	Alternative:	
(e) E-mail	smiths@camosun.bc.ca		
(f) Website	D2L		

### **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**

- (a) Chemistry 100 Course Notes, Lab Manual, and Problem Sets, 2017 Edition. Camosun College Publications. (Recommended)
- (b) Scientific calculator.
- (c) Safety glasses.

## 4. Course Content and Schedule

### Locations & Times

	Time	Location
Lecture	Mondays 5:30 – 6:20 pm Wednesdays 5:30 – 8:20 pm	Fisher Building, Room F336
Laboratory	Mondays 6:30 – 8:20 pm	Fisher Building, Room F354

### Lecture Plan

Unit	Topic
1	Measurements & Calculations
2	Introductory Terminology
3	Chemical Formulas & Names
4	Calculations Based Upon Formulas
5	Stoichiometry
6	Periodic Table & Electron Distributions
7	Chemical Bonding
8	Gases
9	Liquids & Solutions
10	Organic Chemistry
11	Radioactivity

Lectures, homework exercises, and assignments will follow the course pack at a pace of approximately one unit per week.

### Provisional Laboratory Schedule

Mondays 6:30pm – 8:20 pm in Fisher F354

Note: This is only a preliminary lab schedule, changes will be made due to equipment and/or scheduling. Lab coat and eye protection are both mandatory and **ARE NOT PROVIDED BY THE DEPARTMENT**.

Week	Date (Monday)	Experiment #	Title
1	Jan. 8		Introduction: Safety in the Chemistry Laboratory
2	Jan. 15	1	Density
3	Jan. 22	4	Heat of Combustion
4	Jan. 29	3	Separating Mixtures
5	Feb. 5		Midterm I
6	Feb. 12		College closed for reading week, no class
7	Feb. 19	5	Recycling Copper
8	Feb. 26		Mini-Expt. Accuracy and Precision
9	Mar. 5		Molecular Models: Geometry and Polarity
10	Mar. 12		Midterm II
11	Mar. 19	7	Copper & Silver Nitrate Reaction
12	Mar. 26	11	Magnesium and Hydrochloric Acid
13	Apr. 2		College closed for Easter Monday, no class
14	Apr. 9		Final Exam Review

## 5. Basis of Student Assessment (Weighting)

- (a) Laboratory component: 20%
- (b) D2L quizzes: 20%
- (c) Midterm I: 15% (Mon. Feb. 5. 2018)
- (d) Midterm II: 15% (Mon. Mar. 12. 2018)
- (e) Final exam (cumulative): 30% (TBA)

### The Laboratory Mark

The lab mark is based on attendance and the laboratory report. A student who actively participates in a laboratory class without completing the lab report will receive a minimum score of 40% on that lab (a report must still be submitted).

Students must watch an introductory Lab Safety video in the first lab class before they can begin any experiments. In the event of missing the Lab Safety presentation, students are responsible for watching the safety DVD.

Wearing safety goggles is mandatory in all labs. Students who forget or refuse to wear safety goggles will not be allowed to participate and complete the lab. A mark of zero will be given for the missed laboratory experiment.

**No more than 2 laboratory classes may be missed**, during the course. In the event of a student being unable to attend a laboratory class, it is the students' responsibility to perform the class with another section of the course in order to complete the assignment/report. It is essential that you give your lab instructor the courtesy of an email in the event that you will miss a laboratory class. Missed labs without adequate reason will result in a mark of zero for that lab. Permissions for an exception must be documented by email permission from the instructor.

Laboratory reports can usually be completed during the lab period, but are otherwise due at the beginning of the following experimental lab period, before the class starts. No late laboratory reports will be accepted. The lab manual has been designed to allow students to hand in the completed pages taken directly from the manual. Each lab partner must hand in a separate report even though lab partners are expected to share equally in experimental work.

General Notes:

1. If it is advantageous to the student, any midterm mark which is inferior to the final exam mark, will be replaced by an equal weighting from the final exam.
2. To write the final exam you must have a minimum final score of 50% on laboratory work.
3. You must pass the lecture and lab portions separately in order to pass the course.
4. You must pass the final exam to pass the course.
5. There will be no make-up midterm exams. The weight of a missed midterm will be reassigned to the final exam.
6. No late quizzes/lab reports will be accepted. All quizzes/lab reports are weighted equally.

## 6. Grading System

Standard Grading System (GPA)

Competency Based Grading System

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

N/A

## 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.
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## 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.