



## COURSE OUTLINE

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

Ω Please note: the College electronically stores this outline for five (5) years only.  
It is **strongly recommended** you keep a copy of this outline with your academic records.  
You will need this outline for any future application/s for transfer credit/s to other colleges/universities.

### 1. Instructor Information

(a)	Instructor:	Dr. Tatiana Popa
(b)	Office Hours:	Monday, Wednesday 4:30-5:30 pm or by appointment
(c)	Location:	Room 106E, Fisher Building, Lansdowne Campus
(d)	Phone:	(250) 370-3374
(e)	Email:	PopaT@camosun.bc.ca

### 2. Intended Learning Outcomes

(No changes are to be made to these Intended Learning Outcomes as approved by the Education Council of Camosun College.)

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) Course Text & Laboratory Manual

*Chemistry 100 Course Notes, Problem Sets, & Laboratory Manual*, 2015 Edition. Camosun College Publications.

This course pack is *required* for this course. A copy may be purchased from the Lansdowne Campus book store.

#### (b) General Materials and Supplies

Safety glasses Safety glasses *are required* when handling hazardous chemicals. Each student is required to provide her or his pair of safety glasses. Students lacking safety glasses when they are required *will not be permitted* to be in the laboratory.

Lab coats Lab coats are *recommended* for all experimental work in the laboratory. Each student has to provide her or his own lab coat.

Calculator A scientific calculator is *required* at times in the laboratory, in lecture, and during term tests and the final exam. Each student is *required* to provide her or his own scientific

calculator. Cell phone-based, tablet-based or computer-based calculators cannot be used during tests or the final exam.

#### 4. Course Content and Schedule

##### Course Times and Locations

Lectures                      Tuesday      5:30 pm - 8:20 pm      Wilna Thomas Bldg - Room 102  
   Thursday      5:30 pm - 6:20 pm      Fisher Building - Room F306

Laboratory                      Thursday      6:30 pm – 8:20 pm      Fisher Building - Room F300

##### Lecture Plan

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

##### Laboratory Schedule

Please familiarize yourself in advance with the lab practices and safety information presented on pages 5 & 6 of the Laboratory Manual.

- Week 1. Thursday, January 12<sup>th</sup>      Laboratory & Safety Orientation
- Week 2. Thursday, January 19<sup>th</sup>      **Experiment 1.** Density
- Week 3. Thursday, January 26<sup>th</sup>      **Experiment 4.** Heat of Combustion
- Week 4. Thursday, February 2<sup>nd</sup>      **Experiment 3.** Separating Mixtures
- Week 5. Thursday, February 9<sup>th</sup>      Term Test #1
- Week 6. Thursday, February 16<sup>th</sup>      Reading Break
- Week 7. Thursday, February 23<sup>rd</sup>      **Experiment 5.** Recycling Copper, Part 1 (brief)  
Mini- Experiment. Accuracy & Precision
- Week 8. Thursday, March 2<sup>nd</sup>      **Experiment 5.** Recycling Copper, Parts 2 to 5
- Week 9. Thursday, March 9<sup>th</sup>      **Experiment 5.** Recycling Copper, Part 6 (completion)  
Model building – Molecular Geometry & Polarity
- Week 10. Thursday, March 16<sup>th</sup>      Term Test #2
- Week 11. Thursday, March 23<sup>rd</sup>      **Experiment 7.** Copper & Silver Nitrate Reaction
- Week 12. Thursday, March 30<sup>th</sup>      **Experiment 11.** Magnesium – HCl reaction
- Week 13. Thursday, April 6<sup>th</sup>      **Experiment 12.** Neutralization
- Week 14. Thursday, April 13<sup>th</sup>      Lab wrap-up; Final Exam Review

#### 5. Basis of Student Assessment (Weighting)

- (a) Assignments              10%
- (b) Laboratory work        25%
- (c) Test I and II              30%
- (d) Final exam                35%

## 6. Grading System

(No changes are to be made to this section unless the Approved Course Description has been forwarded through the Education Council of Camosun College for approval.)

### 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	Minimum level of achievement for which credit is granted; a course with a "D" grade cannot be used as a prerequisite.	1
0-49	F	Minimum level has not been achieved.	0

### 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 E-1.5 at [camosun.ca](http://camosun.ca) 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, due to design may require a further enrollment in the same course. No more than two IP grades will be assigned for the same course. (For these courses a final grade will be assigned to either the 3 <sup>rd</sup> course attempt or at the point of course completion.)
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.

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

### LEARNING SUPPORT AND SERVICES FOR STUDENTS

There are a variety of services available for students to assist them throughout their learning. This information is available in the College calendar, at Student Services, or the College web site at [camosun.ca](http://camosun.ca).

### STUDENT CONDUCT POLICY

There is a Student Conduct Policy **which includes plagiarism**. It is the student's responsibility to become familiar with the content of this policy. The policy is available in each School Administration Office, at Student Services, and the College web site in the Policy Section.

ADDITIONAL COMMENTS AS APPROPRIATE OR AS REQUIRED