



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

CHEM-100-004
Introductory Chemistry
Fall 2018

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

(a) Instructor	David Stuss, M.Sc.
(b) Office hours	Mon – Thurs 3:30 – 4:30 <i>or by appointment</i>
(c) Location	Fisher 350A
(d) Phone	(250) 370-3438
(e) E-mail	stussd@camosun.bc.ca

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)	Text: Coursepack (Mandatory)	<i>Chemistry 100 Course Notes, Lab Manual, and Problem Sets</i> , 2015 Edition. Camosun College Publications.
(b)	Safety Glasses (Mandatory)	Bookstore has "UVEX" safety eyewear – please check if using others

(c)	Lab coat (Recommended)	Bookstore has cloth coats available – please check if using another type
(d)	Covered Footwear (Mandatory)	Exposed feet (e.g. sandals, flip-flops) are not permitted in the lab during experiments
(e)	Scientific Calculator (Recommended)	Available in bookstore. Smartphones / PDAs or similar devices cannot be used during testing or labs.

4. Course Content and Schedule

Locations & Times

	Time	Location
Lecture	Monday 12:30 – 1:20 PM	Fisher Building, Room F210
	Tues, Weds, Thurs 12:30 – 1:20 PM	Wilna Thomas Building, Room WT103
Lab	Tuesday 1:30 – 3:20 PM	Fisher Building, Room F300

Lecture Plan

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

Lectures & homework exercises will follow the coursepack at a pace of approximately one unit per week.

Lab & Exam Schedule

Week	Lab Date	Lab No.	Lab Name
1	4 Sep	-	Safety Orientation
2	11 Sep	1	Density
3	18 Sep	2	Identifying Liquids
4	25 Sep	3	Separating Mixtures
5	2 Oct	4	Heat of Combustion
6	9 Oct	13	Synthesis of Aspirin
7	16 Oct	5	Recycling Copper
8	23 Oct	-	Midterm Exam
9	30 Oct	7	The Cu / AgNO ₃ Reaction
10	6 Nov	10	Volume of a Gas
11	13 Nov	14	Preparation of some Common Substances
12	20 Nov	11	The Magnesium HCl Reaction
13	27 Nov	12	Neutralization
14	4 Dec	-	<i>Review</i>

Quizzes: 6 in-class, 30 minute review quizzes on recent material

Quiz	Date**		Quiz	Date**
1	Sep 19		4	Oct 31
2	Oct 3		5	Nov 14
3	Oct 17		6	Nov 28

(**Quiz dates may change with advance notice provided by the instructor. Quiz content will be discussed in class and posted online in D2L).

5. Basis of Student Assessment (Weighting)

Labs 10 x 2%)	20%
Quizzes (5 x 4%)	20%
Midterm Exam	20%
Final Exam (comprehensive)	40%

1. To write the final exam you must achieve a minimum final score of **50%** on laboratory work.
2. You must pass **both** the lecture portion and the laboratory portion in order to pass the course.
3. In the theory section of the course, if the final exam mark is higher than the combined midterm + quiz mark, it will replace the combined midterm + quiz mark.
4. Quizzes are worth 4% each. The worst quiz score will be dropped when calculating the final quiz mark.
5. There will be no make-up quizzes or midterm exam. The weight of a missed quiz / midterm will be reassigned to the final exam.

The Laboratory Mark

The lab mark is based on participation and the laboratory report. A student that participates in a laboratory class without completing the lab report will receive a minimum score of 50% 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 (30 minute) safety DVD, available from the technician's office prior to their first experiment.

Wearing of **safety goggles** is **mandatory** in all labs. Students who forget safety goggles will not be allowed to complete the lab.

Punctual attendance in all the lab periods is mandatory. There are **NO EXCEPTIONS** other than an official doctor's note. Missed labs without adequate reasons will result in a mark of zero for that lab. **Permissions for an exception must be documented by email permission from the instructor and by a submitting the doctor's note.**

Laboratory reports can usually be completed in-class but are otherwise due in the next lecture period. 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 if though lab partners are expected to share equally in experimental work. **Plagiarized lab reports are subject to academic penalties** – see section 8 below.

6. Grading System

Standard Grading System (GPA)

Competency Based Grading System

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

The Camosun Student Success Centre offers many support services including online Learning Skills Guides, Learning Circles, and one-one-one appointments. Students are encouraged to explore what is available here: <http://camosun.ca/services/writing-centre/learning-skills.html>

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 can be found at:

<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. The policy regarding plagiarism can be reviewed here:

<http://camosun.ca/about/policies/education-academic/e-2-student-services-and-support/e-2.5.1.pdf>

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.