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

CHEM-100-005
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.*

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1. Instructor Information

(a) Instructor	Daniel Donnecke, PhD.		
(b) Office hours	Tu 12:30 – 13:20		
(c) Location	F 106E		
(d) Phone	250-370-4447	**Alternative:**	
(e) E-mail	donnecked@camosun.bc.ca		
(f) Website			

2. Intended Learning Outcomes

(If any changes are made to this part, then the Approved Course Description must also be changed and sent through the approval process.)

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*)**	*Chemistry 100 Course Notes, Lab Manual, and Problem Sets, 2*015 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 10:30 – 12:20 Thursday 10:30 – 12:20	Fisher Building, Room F210 Fisher Building, Room F310
Lab	Tuesday 10:30 AM – 12:20 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 course pack at a pace of approximately one unit per week.

Lab & Exam Schedule

Week	Lab Date	Lab No.	Lab Name
1	4 Sep	-	*First meeting, safety in the lab*
2	11 Sep	1	Density
3	18 Sep	2	Identifying Liquid Compounds
4	25 Sep	3	Separating Mixtures
4	27 Sep	-	**Term Test 1**
5	2 Oct	4	Heat of Combustion
6	9 Oct	13	Synthesis of ASA
7	16 Oct	5	Recycling Copper
8	23 Oct	-	**Midterm Exam** *during the lab period*
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
12	22 Nov	-	**Term Test 2**
13	27 Nov	12	Neutralization
14	4 Dec	-	Review

5. Basis of Student Assessment (Weighting)

Labs	20%
Term Tests	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. There will be no make-up term tests or midterm exam. The weight of a missed term test / 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 be present for the introductory Lab Safety Talk in the first lab class before they can begin any experiments. In the event of missing the Lab Safety Talk 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 submitting the doctor's note.**

Laboratory reports can usually be completed in-class but are otherwise due one week late (i.e. at the beginning of the following lab period). The lab manual has been designed to allow students to hand in the completed pages taken directly from the manual. Labs are done in pairs although each lab partners is expected to share equally in experimental work, calculations and the write up. The submission of one lab report per group (with the name of both students written on the report) is sufficient but if lab partners wish to hand in individual reports I will grade them individually.

6. Grading System

[X] Standard Grading System (GPA)

[ ] Competency Based Grading System

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

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	*Incomplete*: 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	*In progress*: 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	*Compulsory Withdrawal*: 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.