



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

CHEM-120-001
College Chemistry 1
Fall 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

(a) Instructor	Dr. Ryan Fradette
(b) Office hours	See posted times on office door and by appointment
(c) Location	F 344 A
(d) Phone	250 370 3446 Alternative: _____
(e) E-mail	fradetter@camosun.bc.ca
(f) Website	D2L

2. Intended Learning Outcomes

Upon completion of this course the student will be able to:

1. Utilize nomenclature rules to name ionic and covalent compounds.
2. Demonstrate an understanding of stoichiometry by balancing chemical equations and performing mathematical calculations involving chemical reactions.
3. Describe the electronic structure of any atom in the periodic table and apply it to explain many of the physical and chemical properties of the elements.
4. Utilize simple bonding theories to explain why elements combine to form the compounds they do and also to explain many of the properties of compounds.
5. Apply knowledge of intermolecular interactions to rationalize many important physical properties of bulk matter in the gas, liquid and solid phases.
6. Use standard chemistry lab equipment, including burets, pipets, Buchner filters, and volumetric glassware in the correct manner.
7. Perform many standard laboratory procedures, such as titrations, preparation of standard solutions, the preparation, isolation, and purification of compounds, as well as use spectrophotometers to make analytical measurements.

3. Required Materials

(a) Texts

Mastering Chemistry Course Code. \$75. A Mastering Chemistry Access Code can be purchased from the bookstore. If you choose to purchase a new textbook or ebook (see below) then this includes a Mastering Chemistry Course Code. It is valid for 18 months after activation.

Chemistry 120 Laboratory Manual, Fall 2017 Edition (Neil Meanwell)

A scientific calculator (I recommend the Sharp EL-531XG, as it is the model I use, it is affordable, and readily available in the bookstore, you may however use any calculator of your choice. Please be aware that you will not be able to use a smartphone/tablet as a calculator for any exam or quiz)

Other Recommended Materials for the Course

Chemistry, The Central Science, Brown, Le May, Bursten. Custom Camosun Edition. \$160. (For hard copy and access code). ebook and access code \$115. Available from the Camosun Bookstore

The 2nd and 1st Australian editions are also acceptable if you have a used book. **If you buy a used book that is not the most recent edition you will still need to purchase a Mastering Chemistry access code.**

Chemistry 100, Camosun College course pack is a good source of review material for those students who may have been away from Chemistry for a while, a review package is also posted on D2L

4. Course Content and Schedule

(Can include: Class hours, Lab hours, Out of Class Requirements and/or Dates for quizzes, exams, lecture, labs, seminars, practicums, etc.)

Lecture Times: Wednesday in F 202: All Lectures at 5.30 pm - 8.20 pm.

Topic (approximate lecture hours)	Book Chapter
Review/Preview (9)	1-4
Electronic Structure of Atoms (7)	6
Periodic Properties (3)	7
Chemical Bonding (4)	8
Molecular Geometry (3)	9
Intermolecular Forces (2)	11
Gases (4)	10
Solutions (3)	12
Chemistry of the Environment (2)	13

Laboratory classes: Monday 5.30 to 8.20 pm F 356. Laboratory schedule and midterm dates are shown below.

Note: This is only a preliminary lab schedule, changes will be made due to equipment &/or scheduling of other sections... Lab coat and eye protection are both mandatory!!

Week Number	Activity & Experiment Number	Actual Date of Lab Mondays
I Sep 2 nd	Labour Day No Classes	Sep 2 nd
II Sep 9 th	Lab Safety and orientation: Attendance Mandatory unless previous lab credit has been granted	Sep 9 th
III Sep 16 th	Expt. 2 Densities of Solids & Liquids	Sep 16 th
IV Sep 23 rd	Group A Expt. 3 Stoichiometry of Chem. Rxns	Sep 23 rd
V Sep 30 th	Group B Expt. 3 Stoichiometry of Chem. Rxns	Sep 30 th
VI Oct 7 th	Expt. 4 The Spectroscopic Determination of Nickel in Aqueous Solution	Oct 7 th
VII Oct 14 th	Expt. 5 Colorimetric Determination of Iron in a Vitamin Tablet	Oct 14 th
VIII Oct 21 st	Expt. 5 Colorimetric Determination of Iron in a Vitamin Tablet	Oct 21 st
IX Oct 28 th	Expt. 6 Determination of Copper Using Atomic Absorption Spectroscopy	Oct 28 th

X Nov 4 th	Midterm Exam	Nov 4 th
XI Nov 11 th	Remembrance Day NO classes	Nov 11 th
XII Nov 18 th	Expt. 9 The Preparation of Potassium Tris(oxalato)Ferrate(III)	Nov 21 nd
XIII Nov 25 th	Expt. 10 Analysis & Uses of Potassium Tris(oxalato)Ferrate(III)	Nov 28 th
XIV Dec 3 rd	Quiz/Review	Dec 5 th
Final Exam Period	Final Exam TBD Dec 9 th to Dec 13 th	

5. Basis of Student Assessment (Weighting)

The course mark will be derived in the following manner:

Midterm Exam (Nov. 4 th)	15 %
Quizzes (3x5%, dates posted on D2L)	15 %
Final Exam	30 %
Laboratory work	25 %
Online Assignments	15 %

If it is advantageous to the student the theory mark will be solely derived from the final examination, or a combination of midterm with the final. **Online assignment marks may not be carried over so you must complete these before the due date. You usually have several weeks to do these assignments so no excuses will be accepted, no exceptions.**

In the event of the midterm exam or quiz being missed due to illness/other commitments the weight of the missed test will be carried over to the final.

The Laboratory Mark

The breakdown of the Laboratory mark is as follows:

Laboratory notebook (with safety data completed prior to lab).	10 %
Quality of Lab Reports/Data Sheets	70 %
Lab performance/preparedness/professionalism	20%

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 advised that the student attempt to obtain data from a partner or perform the class with another section 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 miss a laboratory class. Late reports/Data Sheets are deducted 20% if they are not submitted at the beginning of the lab period, and will not be accepted after 7 days.

Students must receive a passing score of 50 % in the laboratory portion of the course, in order to be eligible to receive a passing grade in the course.

Students are responsible for obtaining their own safety glasses and laboratory jacket from the bookstore. It is not the responsibility of the College to provide you with safety equipment.

6. Grading System

Standard Grading System (GPA)

Competency Based Grading System

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

Your instructor is always the best resource. In the event that office hours do not fit your schedule, please email for an appointment.

The School of Arts and Science also offers science help centres. The chemistry help centre operates out of F 358. The hours are posted on the website: <http://camosun.ca/learn/subjects/chemistry/> and on the notice board along the hallway of the chemistry laboratories.

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
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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.