



School of Arts & Science  
CHEMISTRY AND GEOSCIENCE DEPARTMENT

CHEM 120-02  
College Chemistry 1  
2017W

## COURSE OUTLINE

The Approved Course Description is available on the web @ \_\_\_\_\_

Ω Please note: this outline will be electronically stored for five (5) years only.  
It is strongly recommended students keep this outline for your records.

### 1. Instructor Information

(a)	Instructor:	Stephen McKinnon		
(b)	Office Hours:	Posted on office door / by appointment		
(c)	Location:	Fisher 348A		
(d)	Phone:	250-370-3472	Alternative Phone:	
(e)	Email:	mckinnons@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) **Mastering Chemistry Course Code.** \$50 Access Code can be purchased from the Pearson Website <http://www.pearson.com.au/9781442563902> or the bookstore. If you choose to purchase a new textbook or ebook (see below) then a Mastering Chemistry Course Code is included. (valid for 24 months after activation).
- (b) Lab Experiments: Chemistry 120 Laboratory Manual, (In-house)
- (c) Safety Glasses

## Other Recommended Materials

CHEMISTRY, The Central Science: a Broad Perspective<sup>®</sup> by Brown, Lemay, Bursten, Langford, Sagatys, and Duffy. Prentice Hall, Australian 3<sup>rd</sup> edition.  
\$145 (Hard copy with access code)  
\$114 (ebook with access code)

The 1<sup>st</sup> and 2<sup>nd</sup> editions or other texts are also acceptable, but you will still need to purchase a **Mastering Chemistry access code**.

## 4. Course Content and Schedule

Lecture Plan:	
Textbook chapter (Brown at al.)	Topic (approximate number of hours)
2-4	Review of selected topics (6)
6	Electronic structure of atoms (7-8)
7	Periodic properties of the elements (3)
8	Basic concepts of chemical bonding (3-4)
9	Molecular geometry & bonding theory (3)
10	Gases (3-4)
11	Intermolecular forces, liquids and solids (3)
12	Solutions (3)
13	Chemistry of the environment (3)

## 5. Basis of Student Assessment and Weighting

(a) Midterm Test I	(L.O. 1 and 2)	10%
(b) Midterm Test II	(L.O. 3 – 5)	15%
(c) Final Exam	Cumulative	35%
(d) Laboratory	(L.O. 6 and 7)	25%
(e) Online Assignments		15%

### Notes

1. Students must complete a minimum of 70% of the laboratory work to pass the laboratory component of Chem 120. Students must pass the laboratory portion (>50%) of the course in order to obtain credit for Chem 120.
2. Test score that is not as high as that of December final exam will be dropped automatically and its weight redistributed to the final exam. For anyone who misses both tests, your final exam will then be 60% of the course grade.
3. Students must write each test as scheduled. No one is allowed to write late and there will be no exceptions. Early exam is a privilege and not a right, at full discretion of the instructor.

## 6. Important Dates

Feb. 6 (Mon): **Test I 9:30-11:20am in Lab**

Feb. 13-17: Reading break

Mar. 13 (Mon): Last day to Withdraw from course or Change to Audit

Mar. 20 (Mon): **Test II 9:30-11:20am in Lab**

Apr. 14 (Fri): Good Friday

Apr. 17 (Mon): Easter Monday

## 7. Grading System

### 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.

## 8. 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 on the College web site in the Policy Section.

# Winter 2017 Lab Schedule

Chem 120-002 – Mondays, 9:30-12:20 in Fisher 356

Week Number Begins on	Activity & Experiment Number	Actual Date of Lab Monday
I Jan 9 <sup>th</sup>	Intro and Safety Orientation - Mandatory	Jan 9 <sup>th</sup>
II Jan 16 <sup>th</sup>	Expt. 2 - Densities of Solids & Liquids	Jan 16 <sup>th</sup>
III Jan 23 <sup>rd</sup>	Expt. 3 - Stoichiometry of Chemical Reactions— <b>Gp A</b>	Jan 23 <sup>rd</sup>
IV Jan 30 <sup>th</sup>	Expt. 3 - Stoichiometry of Chemical Reactions— <b>Gp B</b>	Jan 30 <sup>th</sup>
V Feb 6 <sup>th</sup>	<b>Test I in Lab (2 hours)</b>	Feb 6 <sup>th</sup>
VI Feb 13 <sup>th</sup>	Family Day / Reading Break	Feb 13 <sup>th</sup>
VII Feb 20 <sup>th</sup>	Expt. 4 - Spectroscopic Determination of [Ni <sup>2+</sup> ] in Aqueous Solution	Feb 20 <sup>th</sup>
VIII Feb 27 <sup>th</sup>	Expt. 5 - Spectrophotometric Determination of Iron	Feb 27 <sup>th</sup>
IX Mar 6 <sup>th</sup>	Expt. 6 - Determination of Copper Using Atomic Absorption Spectroscopy	Mar 6 <sup>th</sup>
X Mar 13 <sup>th</sup>	Expt. 7 - Determination of the Total Hardness of Water Using E.D.T.A.	Mar 13 <sup>th</sup>
XI Mar 20 <sup>th</sup>	<b>Test II in Lab (2 hours)</b>	Mar 20 <sup>th</sup>
XII Mar 27 <sup>th</sup>	Expt. 9 - The Preparation of Potassium Tris(oxalato)Ferrate(III)	Mar 27 <sup>th</sup>
XIII Apr 3 <sup>rd</sup>	Expt. 10 - Analysis of Potassium Tris(oxalato)Ferrate(III)	Apr 3 <sup>rd</sup>
XIV Apr 10 <sup>th</sup>	Expt. 8 - Molecular Shapes & VSEPR Lecture	Apr 10 <sup>th</sup>
<b>Final Exam Period - Apr 18 – 22<sup>nd</sup>, 24 – 26<sup>th</sup></b>		

**Note:** This is only a preliminary lab schedule, changes will be made due to equipment &/or glassware problems, or rescheduling of tests...

**Eye protection is mandatory!!**

