



School of Arts & Science
CHEMISTRY AND GEOSCIENCE DEPARTMENT
CHEM 060-001
Introduction to Chemistry
2008Spring

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:	Daniel Dönnecke		
(b)	Office Hours:	Mo & Wed 1:30-2:20 pm		
(c)	Location:	F 348A		
(d)	Phone:		Alternative Phone:	
(e)	Email:	DonneckeD@camosun.bc.ca		
(f)	Website:			

2. Intended Learning Outcomes

(No changes are to be made to this section, unless the Approved Course Description has been forwarded through EDCO for approval.)

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

1. Utilize the specialized vocabulary and nomenclature of chemistry.
2. Use metric and SI units in performing chemical calculations.
3. Describe the experimental discovery of subatomic particles, summarize the characteristics of electrons, protons and neutrons, and identify their roles as components of atoms, ions and isotopes including radioisotopes.
4. Communicate an understanding of 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. Demonstrate an ability to name chemical compounds, and identify and construct chemical formulas.
7. Compare the formation and characteristics of ionic and molecular compounds.
8. Demonstrate an ability to perform mathematical calculations involving chemical formulas, molecular weights, moles, Avogadro's number and Molarity.
9. Balance chemical equations, demonstrate an understanding of the information they provide chemists and solve stoichiometry problems.
10. Identify and account for the general characteristics of the gas state and solve mathematical problems involving Boyle's Law, Charles' Law, Gay-Lussac's Law and Avogadro's Law.
11. Use basic organic chemistry nomenclature and structural representations associated with simple organic molecules and common functional groups.

12. Conduct experiments in basic chemistry utilizing common chemistry laboratory equipment with a knowledge and practice in basic chemical safety procedures.

3. Required Materials

(a) Text: *Chemistry 060 Study Notes, Supplementary Problems, & Laboratory Manual*, 2007 Edition.

(b) Other:

Safety glasses Safety glasses are required when handling hazardous chemicals. The students are required to provide their own pair of safety glasses. Students lacking safety glasses when they are required will not be permitted to work in the laboratory (required for all but the first lab).

Lab coats Lab coats are required for any experiments involving hazardous chemicals. Students are required to provide their own lab coats. Students lacking lab coats when required will not be permitted to work in the laboratory.

Scientific calculator Calculators may be required in the lab, in class and during exams. Each student is required to provide her or his own calculator.

4. Course Content and Schedule

Credits 4 credits

In-class workload 8 h of lectures per week.

Experiments are conducted according to the schedule below.

Out-of-class workload 10 hours per week

Number of weeks 7 weeks

Pre-requisite Math 10 or assessment

Course Times and Locations

Lectures Mondays and Wednesdays
 2:30 to 3:20 PM
 Fisher Building, Room 214

 Tuesdays and Thursdays
 2:30 to 5:20 PM
 Fisher Building, Room 214

Laboratory Periods Mondays and Wednesdays
3:30 to 5:20 PM
Fisher Building, Room 354

* Due to the large class size, experiments 5 will be conducted in consecutive lab sections with approximately half of the students attending in either lab period.

Laboratory & Exam Schedule

Please familiarize yourself in advance with the lab practices and safety information presented on pages 4 & 5 of the Lab Manual.

<i>Monday, May 5th</i>	Safety Orientation, Experiment 1. Density
<i>Wednesday, May 7th</i>	Experiment 2. Identifying Liquid Compounds.
<i>Monday, May 12th</i>	Experiment 4. Heat of Combustion.
<i>Wednesday, May 14th</i>	Experiment 3. Separating Mixtures.
<i>Thursday, May 15th</i>	<u>Term Test 1</u>
<i>Wednesday, May 21th</i>	Experiment 6. Iron - Copper Sulfate Reaction.
<i>Monday, May 26th</i>	Experiment 7. Copper - Silver Nitrate Reaction, start Experiment 5.
<i>Tuesday, May 27th</i>	<u>Term Test 2</u>
<i>Wednesday, May 28th</i>	Experiment 5. Recycling Copper (Half the class).
<i>Monday, June 2nd</i>	Experiment 5. Recycling Copper (Half the class).
<i>Wednesday, June 4th</i>	Experiment 9. Chemical Reactivity.
<i>Thursday, June 5th</i>	<u>Term Test 3</u>
<i>Monday, June 9th</i>	Experiment 11. The Magnesium - Hydrochloric acid reaction.
<i>Wednesday, June 11th</i>	Experiment 12. Neutralization.
<i>Thursday, June 12th</i>	<u>Term Test 4</u>
<i>Monday, June 16th</i>	Experiment 14, start experiment 13.

Wednesday, June 18th **Finish Experiment 13.**

Thursday June 19th **Final Exam Review Period**

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

(a) Laboratory Experiments & Reports

Attendance in the lab periods is mandatory. No laboratory experiment can be missed without an acceptable reason submitted in writing such as a suitable note from a Medical Doctor. **Laboratory reports are due in the following experimental lab period, unless otherwise stated.** Late reports will be accepted up to 48 hrs later but receive a 25 % late penalty of the maximum obtainable grade. The lab manual has been designed to allow students to hand in the completed pages taken directly from the manual. For some experiments you will be provided with additional handouts with instructions for the write up that need to be completed and handed in. A formal laboratory report is typically required for one designated experiment. Each lab partner must hand in a separate report even if though lab partners typically share equally in experimental work. Sharing thoughts is o.k. but direct copying from each other is not. **You must submit a minimum of 75 % of the lab work for grading and score a minimum of 50 % on the lab portion of the course to be permitted to write the final exam.**

The value the lab reports contribute to the final grade is 20%.

(c) Term Tests

There are four term tests that will contribute a total of 45 % to the final grade. I will count the three best term tests only so each of them contributes 15 %. Term Test 1 will cover the material of the first two weeks. Term Test 2 will cover the material of week three. Term test 3 will cover the material of week four and week five and term test 4 will cover the material of week six. These are approximate guidelines only and specification of the topics that will or will not be on the term test will be announced in class prior to the exams. A missed exam counts as ZERO. If any quiz or test is missed due to illness or any other justifiable reason (in writing), a student may either take a substitute test scheduled at a mutually agreeable time, or choose to add the percentage value of that test that of the final exam.

(d) Final Exam

The final exam is a comprehensive exam that will cover all of the material presented in the lecture portion of the course.

The value this exam contributes to the final grade is 35 %. If it is advantageous to the student I will calculate the theory mark from the final alone.

The time and location of the Chem 060 final exam will be published by the College during the Spring Semester. Attendance at the final exam is mandatory. Appropriate documentation must accompany an explanation for absence. You must pass both, the lecture and the lab portion of the course separately.

6. Grading System

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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 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. <i>(For these courses a final grade will be assigned to either the 3rd course attempt or at the point of course completion.)</i>
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.

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.

Students will find that the *Chemistry 060 Study Notes* is very well designed to mirror the lecture content of this course. Importantly, this book provides very many practice questions and their answers, as does the newly written *Chemistry 060 Supplemental Questions*. These practice questions are very representative of those that will appear on the term tests and the final exam.