



**School of Arts & Science**  
**CHEMISTRY AND GEOSCIENCE DEPARTMENT**  
**CHEM 060-002**  
**Introduction to Chemistry**  
**Semester/Year, F2008**

## COURSE OUTLINE

The Approved Course Description is available on the web @  
<http://www.camosun.bc.ca/calendar/chem.php#060>

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 Donneck                   |                    |  |
| (b) | Office Hours: | Tu 13:30 -14:15, Wed 11:30 -1:20 |                    |  |
| (c) | Location:     | F346C                            |                    |  |
| (d) | Phone:        |                                  | Alternative Phone: |  |
| (e) | Email:        | donneckd@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) Chemistry 060 Study Notes, Supplementary Problems & Laboratory Manual 2007 Edition
- (b) safety glasses, lab coat, scientific calculator

### 4. Course Content and Schedule

Credits            4 credits

                      In-class workload    4 h of lectures per week.

                      Experiments are conducted according to the schedule below.

                      Out-of-class workload 5-6 hours per week

                      Number of weeks    14 weeks

                      Pre-requisite    Math 10 or assessment

#### Course Times and Locations

|          |                           |
|----------|---------------------------|
| Lectures | Tuesdays                  |
|          | 11:30 to 13:20            |
|          | Fisher Building, Room 212 |
|          | Thursdays                 |
|          | 12:30 to 14:20            |
|          | Ewing Building, Room 348  |

|                    |                           |
|--------------------|---------------------------|
| Laboratory Periods | Wednesdays                |
|                    | 13:30 to 15:20 PM         |
|                    | Fisher Building, Room 300 |

### Laboratory & Exam Schedule

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

|                                   |   |
|-----------------------------------|---|
| Wednesday, Sept. 3 <sup>rd</sup>  | <b>Safety Orientation <u>and</u> Experiment 1. Density</b>          |
| Wednesday, Sept. 10 <sup>th</sup> | <b>Experiment 4. Heat of Combustion (Group A)</b>                   |
| Wednesday, Sept. 17 <sup>th</sup> | <b>Experiment 4. Heat of Combustion (Group B)</b>                   |
| Tuesday, Sept. 23 <sup>rd</sup>   | <b><u>Term Test 1</u></b>   |
| Wednesday, Sept. 24 <sup>th</sup> | <b>Experiment 3. Separating Mixtures (Group A, Start Exp. 5)</b>    |
| Wednesday, Oct. 1 <sup>th</sup>   | <b>Experiment 3. Separating Mixtures (Group B, Start Exp. 5)</b>    |
| Wednesday, Oct. 8 <sup>th</sup>   | <b>Experiment 5. Recycling Copper (Group A)</b>                     |
| Wednesday, Oct. 15 <sup>th</sup>  | <b>Experiment 5. Recycling Copper (Group B)</b>                     |
| Thursday, Oct. 16 <sup>th</sup>   | <b><u>Term Test 2</u></b>   |
| Wednesday, Oct. 22 <sup>nd</sup>  | <b>Experiment 6. Iron - Copper Sulfate Reaction (Group A)</b>       |
| Wednesday, Oct. 29 <sup>th</sup>  | <b>Experiment 6. Iron - Copper Sulfate Reaction (Group B)</b>       |
| Wednesday, Nov. 5 <sup>th</sup>   | <b>Experiment 9. Chemical Reactivity (Group A)</b>                  |
| Thursday, Nov. 6 <sup>th</sup>    | <b><u>Term Test 3</u></b>   |
| Wednesday, Nov. 12 <sup>th</sup>  | <b>Experiment 9. Chemical Reactivity (Group B)</b>                  |
| Wednesday, Nov. 19 <sup>th</sup>  | <b>Experiment 11. The Mg - Hydrochloric acid reaction (Group A)</b> |
| Wednesday, Nov. 26 <sup>th</sup>  | <b>Experiment 11. The Mg - Hydrochloric acid reaction (Group B)</b> |
| Thursday, Nov. 27 <sup>th</sup>   | <b><u>Term Test 3</u></b>   |
| Wednesday, Dec. 3 <sup>rd</sup>   | <b>Experiment 12. Neutralization (entire class)</b>                 |

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

- (a) four Term Tests, the three best contribute 15% each
- (b) Lab contributes 20 %
- (c) Final Exam contributes 35 %

## 6. Grading System

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

### 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  |
|-----------------|--|
| <b>I</b>        | <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.  |
| <b>IP</b>       | <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 3<sup>rd</sup> course attempt or at the point of course completion.)</i> |
| <b>CW</b>       | <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](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.

ADDITIONAL COMMENTS AS APPROPRIATE OR AS REQUIRED