CAMOSUN COLLEGE	***SCHOOL OF ARTS & SCIENCE*** ***CHEMISTRY AND GEOSCIENCE DEPARTMENT*** **CHEM 110-02** **General College Chemistry 1** **2010 Fall**

COURSE OUTLINE

The Approved Course Description is available on the web @camosun.bc.ca
Please note: this outline will be electronically stored for five (5) years only.

1. Instructor Information

Instructor:	John Lee
Office Hours:	Monday 2pm -4pm and by appointment
Location:	F348A
Phone:	Please email *
Email:	leejohn@camosun.bc.ca
Website:	http://camosun.ca/learn/programs/chem.html

*As the office is shared by 3 instructors I work from home when possible and rarely collect phone messages. Please email for appointments outside of scheduled office hours.
I check my email multiple times daily.

Students may use recording devices in the classroom with the prior permission of the instructor. However, the instructor's permission is not required when the use of a recording device is sanctioned by the College's Resource Centre for Students with Disabilities in order to accommodate a student's disability and when the instructor has been provided with an instructor notification letter which specifies the use of a recording device. Recordings made in the classroom are for the student's personal use only, and distribution of recorded material is prohibited.

Classrooms: Mondays F214, Wednesdays F354 (Lab)

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. Identify, describe and account for the general characteristics of gases, liquids and solids - interionic and intermolecular forces; vaporization and condensation; melting and freezing; specific characteristics of water.
2. Utilize solution terminology, account for and compare the solubilities of ionic and molecular compounds, and describe the impact of temperature and pressure on solubility.

3. Describe the characteristics of solubility equilibria and use mathematical techniques employed in dealing with this phenomenon.
4. Describe and account for the colligative and osmotic properties of aqueous solutions.
5. Account for differences in the rates of chemical reactions, apply Le Chatelier's Principle to equilibrium processes, and explain how catalysts influence reaction rates.
6. Apply mathematics and equilibrium constant expressions to descriptions of reversible reactions and chemical equilibria.
7. Identify Arrhenius, Bronsted and Lewis acids and bases, and describe the chemical properties of each type of substance.
8. Describe the ionization of water, the pH scale, weak and strong acids and bases, neutralization and the actions of buffer solutions.
9. Perform mathematical calculations involving pH, hydronium ion concentrations and acid-base titrations.
10. Define oxidation and reduction and assign oxidation numbers to the elements of substances involved in oxidation-reduction reactions. Demonstrate the ability to use oxidation numbers in balancing redox reactions.
11. Demonstrate an understanding of electrochemistry and account for the characteristics and uses of the standard hydrogen electrode, standard reduction potentials, electrolytic and voltaic cells.

3. Required Materials

Texts	Optional—to be used for reading and additional questions. ♦ "Chemistry, The Central Science" by Brown, LeMay, & Bursten (a.k.a. B-L-B), Australian editions 1st or 2nd edition. (This text is Required for Chem 120 & 121) The US. 10th and 11th editions are also acceptable.
Other	♦Chem 060 Camosun College Lecture Notes are a good revision source. ♦Chem 110 Lab Manual (Safety glasses & lab coat are both mandatory!)

4. Course Content and Schedule

Lecture Plan:

Unit	Topic (approx. # of lecture hours)	B-L-B Aus. 2nd ed.	B-L-B Aus. 1st ed.
1	Thermochemistry (6)	pp. 125-129, 133-141, 145-149, 153-154, 162-163, 165-166	pp 135-139, 144,147-152, 661-663, 667-668, 671-673,675-676
2	Chemical Kinetics (5)	pp 448-459, 465-467, 478-480	pp 46-474, 493-496
3	Chemical Equilibrium (5)	pp 501-502, 506-508, 510, 512-518	pp 509-515,517,520-524, 526-535
4	Solution & Solubility (3)	pp 412-414, 88-100, 109-117	pp 423-424, 93-105, 113-122
5	Acid-Base Equilibria (5)	pp 526-551 & 558 pp 569-572, 578-584 (expt.6), 584-591	pp 543-568, 575-576 pp589-591, 598-604 (expt.6), 604-612
6	Aqueous Equilibria (5)		
7-I	Oxidation & Reduction (3)	pp 103-105 &107	pp 108-110
7-II	Electrochemistry (3)	pp 607-624	Pp 701-719

5. Basis of Student Assessment (Weighting)

Labs (up to 9 experiments)	25%
Test I	18%
Test II	18%
Final Exam (comprehensive)	39%

* Test dates to be confirmed during the first week of classes in September.

Notes:

(1) Students **must pass** the lab portion of the course to obtain credit for Chem 110.

(2) Students are encouraged to attempt both tests. A Test score that is not as high as that of the final exam will be dropped and its weight redistributed to the final exam. However, anyone who is caught cheating will receive zero for that test which will not be redistributed. For anyone who misses both tests, your final exam will then be 75% of the course grade, so it is advantageous to keep up with the material.

(3) Student must write each test as scheduled for his/her section. Early exam is at full discretion of the instructor.

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** 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, 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 3rd course attempt or at the point of course completion.)*
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.

7. Important Dates

Week
VI October 11 (Mon): Thanksgiving College closed
VI October 12 (Tues): Fee deadline
VII October 20 (Wed): **Test I in TBA from 6.30 pm to 8:20 pm**
X November 9 (Tues): Last Day to Withdraw or Change to Audit…
XII November 24 (Wed): **Test II in TBA from 6.30 pm to 8:20 pm**
XIV December 13-17: Exam Period for Fall 2010*

*Instructor away from 18th to 25th December

8. Recommended Materials or Services to Assist Students to Succeed Throughout the Course

Articles in the Library Reserve Room for Chem 110, 120, & 121:
(at least one copy of each of the followings)

- "Chemistry, The Central Science" by Brown, LeMay, & Bursten, 9th, 10th, & Australian editions. Solutions Manual, Student's Guide & "Math Review Toolkit" are also available.

Online resource tool for the Australian B-L-B: www.pearsoned.com.au/brown.

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.