CAMOSUN COLLEGE CHEMISTRY DEPARTMENT
CHEMISTRY 060: SECTION 02 (FALL, 2004)

CLASS HOURS:	LECTURE -	Monday:	6:60 - 9:20 , Room F334
		Thursday:	6:30 - 7:20, Room F334
	LAB -	Thursday::	7:30 - 9:20, Room F300

INSTRUCTOR: Blair Surridge
OFFICE: Fisher 348D
OFFICE HOURS: Monday, 5.00 pm to 6.30 pm; Thursday, 5.00 pm to 6.30 pm
OFFICE PHONE (CAMOSUN): 370-3463 E-mail: bsurridge@shaw.ca

LECTURE TEXT: Waye, Les. 2004. Chemistry 060 Notes. Camosun College, Victoria, B.C.
LAB TEXT: Waye, Les. 1999. Chemistry 060 Laboratory Manual. Camosun College, Victoria, B.C.

COURSE EVALUATION:	Bi-weekly quizzes (5)	- 25%
	Mid-term exam (2 hours)	- 20%
	Final exam (3 hours)	- 35%
	Laboratory reports	- 20%

PLEASE NOTE:

1. Attendance in the laboratory is compulsory. Students who fail to attend a lab may be given a mark of zero for that lab unless arrangements are made prior to the laboratory date. Students who fail to achieve a mark of 50% in the lab will not receive a passing grade in the course.
2. Safety glasses are **absolutely required** - there will be no admittance into the lab without them. Lab coats, or equivalent covering, **are also required** as a protection from spills, etc. A basic calculator will be needed for both labs and lectures.
3. The midterm and final exam must be written at the scheduled times. In case of illness, the instructor must be notified prior to the time the exam is to be written.

GRADING SYSTEM:

The correlation between your final percent score and a letter grade is approximately as follows:

A+	95-100%	B-	70-74%
A	90-94%	C+	65-69%
A-	85-89%	C	60-64%
B+	80-84%	D	50-59%
B	75-79%	F	<50%

LATE LAB ASSIGNMENTS: Lab assignments are due at class time on the Thursday of the following week. Late assignments will be accepted on the following class date but a penalty of 20% of the lab mark will be deducted from the grade. Labs will not be accepted after that time and a mark of "0" will be given. Students are advised that written notification may be required if they are absent from a lab.

Course Description

This course introduces chemical concepts for understanding life and the environment. Topics include atomic structure, the periodic table of elements, molecules and chemical bonding, chemical formulas and reactions, stoichiometry, gases, liquids, solutions, and organic chemistry. Non-science students will also find this course interesting.

Intended Learning Outcomes:

At the end of this course, students will be able to:

- Utilize the specialized vocabulary and nomenclature of chemistry.
- Use metric and SI units in performing chemical calculations.
- Describe the experimental discovery of subatomic particles, summarize the characteristics of electrons, protons and neutrons, and identify their roles as components of atoms.
- 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.
- Describe and account for the periodic table trends concerning atomic number, atomic radius, ionization energy and electronegativity.
- Demonstrate an ability to name chemical compounds, and identify and construct chemical formulas.
- Compare the formation and characteristics of ionic and molecular compounds.
- Demonstrate an ability to perform mathematical calculations involving chemical formulas, molecular weights, moles, Avogadro's number and molarity.
- Balance chemical equations, demonstrate an understanding of the information they provide chemists and solve stoichiometry problems.
- 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.

WEEK		COURSE MATERIAL
1		Unit 1. Introduction; Measurement and Calculation
2		Unit 2. Introductory Terminology; Unit 3. Chemical Formulas and Names.
3		Unit 3, continued. Chemical Formulas and Names **Quiz No. 1 (Units 1 and 2)**
4		Unit 4. Calculations Based on Formulas.
5		Unit 5. Stoichiometry **Quiz No. 2 (Units 3 and 4)**
6		Unit 5, continued. Stoichiometry.
7		Unit 6. Periodic Table and Electron Distributions. **Quiz No. 3 (Unit 5 only.)**
8		Unit 6, cont. Periodic Table and Electron Distributions.+ start Unit 7, Chemical Bonding **Mid-term exam (Units 1-5, inclusive).**
9		Unit 7. Chemical Bonding
10		Unit 8. Gases
11		Unit 8, continued. Gases. **Quiz No. 4 (Units 6 and 7).**
12		Unit 9. Liquids and Solutions.
13		Unit 9, continued. Liquids and Solutions. **Quiz #5. (Units 8 and 9).**
14	9	Unit 10. Organic Chemistry. Review.
15/16		Final exam period (Units 1-10). Date to be announced.

Quizes will be given on Wednesdays from 6:30 - 7:20.

Laboratory Outline

Although an outline of laboratory experiments is presented in the *Chemistry 060 Laboratory Manual*, 1999 Edition, all experiments described in the lab manual will not be conducted due to time constraints. A schedule of experiments to be conducted in a given week is provided below.

Laboratory reports are due in the following experimental lab period. The lab manual has been revised to allow students to hand in the completed pages taken directly from the lab manual. Each lab partner must hand in a separate report even if each person shared equally in the work. There will not necessarily be a report required for each laboratory session. On some occasions a formal laboratory report will be required. Instruction in the preparation of formal reports will be provided.

The class will be split approximately in half, with each section of the class attending the laboratory experiments on alternate weeks. Everyone attends the Midterm Exam in the same period unless justification for absence is presented in writing.