Camosun College
Department of Chemistry & Geoscience
Chemistry 120-01 & 03
Fall 2002

Instructor: Diana Li
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Office Hours: Mon 13:00-14:00, Tue after 11:30*, Wed 13:30-14:30, Fri after 12:30*
(*Di will confirm how long she will stay till. Thursdays are Faculty Development days for Di.)

Prerequisite: Chemistry 080 or Grade 12 Chemistry

Course Materials:

"Chemistry-The Central Science" by Brown, LeMay, & Bursten, 9th Ed., 2003.
(Textbook, a.k.a. B-L-B, for $ 108.95 + tax; textbook with solutions manual & organic supplement for $ 149.95 + tax)

Chemistry 120 Lecture Notes Supplement & Appendix by Diana Li, 2002 edition.
($ 16.75 + tax) This supplement goes with both 8th & 9th Editions of B-L-B, allowing you to use either the old or new text for Di's Chem 120 & 121.

Chemistry 120 Lab Manual, Camosun College ($ 7.75 + tax)
[Safety glasses mandatory and lab coat recommended]

Lecture Plan:

Ch.	(#Lec)	
1-4	(7) + lab lec	Review of Selected Topics
10	(3)	Gases
6	(7)	Electronic Structure of Atoms
7	(3)	Periodic Properties of the Elements
8	(3)	Basic Concepts of Chemical Bonding
9	(3) + lab lec	Molecular Geometry and Bonding Theories
11	(3)	Intermolecular Forces, Liquids, & Solids
13	(3)	Solutions
18	(3)	Chemistry of the Environment

Evaluation:

Lab (up to 9 Experiments)	20%	
Test I (Review & Gases)	15%	(Mon, Oct 7, 2.5 hours in lab)*
Test II (Ch. 6, 7, & 8)	20%	(Mon, Nov 18, 2.5 hours in lab)*
Final Exam (comprehensive)	45%	(TBA ~ Week V, 3 h. in Dec)

notes:
(1) Student must pass the lab portion of the course to obtain credit for Chem 120.
(2) Student is encouraged to attempt both tests. Test score that is not as high as that of the December final exam will be dropped automatically and its weight redistributed to the final exam. You may choose not to write one or both tests and have each weight redistributed to the final exam. For the gambler who misses both tests, your final exam will then be 80% of your course grade. YIKES!!
(3) Student must write each test as scheduled. No one is allowed to write late and there will be no make-up test. No exceptions.

* TEST DATES & LAB SCHEDULE TO BE CONFIRMED DURING THE FIRST WEEK OF CLASSES.

Grading Scale:

A+	>95 %
A	90-94 %
A-	85-89 %
B+	80-84 %
B	75-79 %
B-	70-74 %
C+	65-69 %
C	60-64 %
D	50-59 %
F	<49 %

Important Dates:

Week VI	Test I on Mon, Oct 7 (2.5 hours in Lab)
Week VII	Mon, Oct 14, Thanksgiving Day
Week X	Tue, Nov 5, Last Day to Withdraw.....
Week XI	Mon, Nov 11, Remembrance Day
Week XII	Test II on Mon, Nov 18 (2.5 hours in Lab)
	Dec 9-17, Exam Period for Fall 2002

Chemistry 120 Fall 2002 Preliminary Lab Schedule:

Week	Date	Activity
I	Sept 2	Labor Day
II	Sept 9	Lab Orientation & Expt. 2 Densities of Solids & Liquids
III	Sept 16	Expt. 3 Stoichiometry of Chemical Compounds
IV	Sept 23	Expt. 4 Spectroscopic Determination of Nickel
V	Sept 30	Expt. 5 Colorimetric Determination of Iron
VI	Oct 7	Test I in Lab (2.5 hours)
VII	Oct 14	Thanksgiving Day
VIII	Oct 21	Expt. 6 Determination of Copper Using A.A. Spec.
IX	Oct 28	Expt. 7 Determination of the Total Hardness of Water…
X	Nov 4	Expt. 8 Molecular Shapes & VSEPR Theory
XI	Nov 11	Remembrance Day
XII	Nov 18	Test II in Lab (2.5 hours)
XIII	Nov 25	Expt. 9 Preparation of $K_3[Fe(ox)_3]$
XIV	Dec 2	Expt. 10 or 11

(1) All prelabs due beginning of lab period.
(2) Your report should be neat and tidy, written in ink or typed on one side of paper only. Calculations may be done in pencil. The original raw data bearing Di's initial must be attached to the back of the report. You may redo or reorganize your experimental data as part of your report if you wish. All reports due on due date and time indicated on day of the experiment.

Minus 10% per day late (or part of) and maximum of 2 days late. No exceptions!
(3) Absent from an experiment: You may be asked to make it up and lab report must be submitted by the due date (same penalty for late report). Otherwise, an "I" grade will be given for your lab work which leads to an "I" grade for the course!
(4) Perfect Lab Attendance: A bonus of 1% will be added to your final course grade.
(5) The grading of each lab includes evaluation of lab techniques and at least one mark of the lab report score is assigned to the experimental results obtained.

<u>Grading of Your Lab Work</u>:

Expt.	Prelab	Report	Total /90
2, Densities	nil	/8 (due Week III)	/8
3, Stoichio	/1.5	/10.5 (due Week IV)	/12
4, Nickel	/2	/10 (due Week V)	/12
5, Iron	/1.5	/10.5 (due Week VII)	/12
6, Copper	/2	/10 (due Week IX)	/12
7, Hard H_2O	/2	/10 (due Week X)	/12
8, VSEPR	/5	nil	/6
9, Prep. of $K_3[Fe(ox)_3]$		/10 (due Week XIV)	/10
10, Anal. of $K_3[Fe(ox)_3]$	pending (results due end of lab)		
or			
11, MM & f.p.	pending (results due end of lab)		/6

Basic Lab Report Format:

Name: _____
Lab Day: _____
Date of Expt.: _____
Partner: _____

"Full Title of the Experiment"

I. Objective / Theory:

States what is to be done and how it will be done.
(2 to 4 sentences, be brief and concise, include chemical equation(s) and/or mathematical expressions. You will be writing more for theory as instructed.)

II. Procedure:

give reference
i.e. Chemistry 120 Laboratory Manual, Camosun College, Victoria, year, pages.

III. Data:

raw data recorded in class requires Di's initial on it.
(Data sheets are provided for a number of experiments; otherwise, you will be instructed to set up tables to organize your data--remember title, units....)
You may need metric graph paper with small divisions for graphing data...

IV. Calculations: may be done in pencil

show all steps
Data ----------> Results

1. Watch units and significant figures. Always use scientific notation.
2. If two sets of data collected, average duplicate values as instructed and show one set of calculations.

V. Conclusion:

generally this would be your "answer" to the objective;
a brief statement of your results.
(Do include "unknown identity" when an unknown is assigned to you.)

note: only do DISCUSSION / SOURCES OF ERROR / QUESTIONS when instructed.