CAMOSUN COLLEGE - Department of Chemistry and Geoscience
CHEMISTRY 120 - 01 - Winter Term 2004
Instructor: Dr. Tark S. Hamilton Office Fisher 344-A
Phone 370-3331 Email: hamilta@camosun.bc.ca
Office Hours: as posted M,T,F 10:30-5:20, T 1:30-2:20 or by appointment
Lecture (F334): M,T,Th - (12:30 - 1:20) Lab (F356): Fri- (12:30 - 3:20)

Text: Chemistry: The Central Science, T.L. Brown, H.E. LeMay and B.E. Bursten, 9th edition. Prentice Hall, New Jersey, 2002.

Student Study Guide available as a package deal for -$30 at the bookstore. You will need this for homework problem key/support material. It is best to buy this as a single wrapped package to receive the bookstore discount.

Lab Book: Chemistry 120 Lab Manual current edition required.

Lab Glasses or goggles required by second week to attend the first lab - No glasses - No lab (no contact lenses to be worn in lab for eye safety even if you have goggles over the top). 1st Lab: lab acquaintance and safety discussion including videos, attendance required.

Grading:

9 labs	25% plus a ***minimum lab mark of 50% to pass the course***.
Midterm Exam 1	15% review 1-4, gases 10: (Tues Oct 14 in lab)
Midterm Exam 2	25% electrons 6, periodic properties 7, bonding 8, 9 (Tues Nov 4 or 11)
Final Exam	35% IMF 11, solutions 13 & envir.18 plus selected materials from earlier ch's. This is comprehensive and ***to pass you must get at least 50% on the final.*** If you do better on MT#2 or Final I will use that score to replace an earlier test. Final Exams as per College assigned schedule. Don't leave before exam period!

Marking Scheme:

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

There are no stupid questions. Ask for help at any time. It is easier to get help than to flounder. Ask first!

Topics:	**Chapters:**	**# Lecture Hours**	
Review	1-4	5-6	
Gases	10	3-4	***Midterm1***
Electronic Structure of Matter	6	4	
Periodic Properties of the Elements	7	4	
Introduction to Chemical Bonding	8	4-5	
Molecular Geometry - Bonding Theories	9	4-5	***Midterm 2***
Intermolecular Forces in Liquids and Solids	11	6	
Solutions	13	4	
Chemistry of the Environment	18	3	***Final***

Labs:

0. Lab safety is paramount. Learn safe procedures or ask for help. Bold chemists die young!
1. Prelab assignments for current week are due on my desk when you walk into the lab**. (10% of lab)**
2. There will be a lab most weeks. There will be periodic lab quizzes at the beginning of lab period.
3. The lab report is due one week later at the beginning of the lab. Hand in only the lab for that week, not you entire collection of labs! Content counts. Neatness counts. The boss wants the right answer. The client has to be able to read it and make sense of your work. Pretend it has to stand up in court both as analytical work and a document.
4. Read each new lab thoroughly before you come to lab. Pay attention to additional instructions on theory, objectives, methods, materials, concentrations, volumes, weights, significant figures, procedure, data, sample calculations, units, reporting, interpretation, error analysis.
5. Lab will start with an explanation of the set up, technique, safety and disposal instructions.
6. You will get a data page for each lab that must be ***initialled by Tark*** in lab before you leave, every time. Real labs are no different, there must be accountability. Keep all your work for review and proof.
7**.** Let me know if you need to miss a lab to arrange for you to make it up in another section. Some labs require 2 weeks to complete and if you miss 1 you can't complete it.
8. If you do not attend a lab, do not hand in a report. This is your own data and your own work, not your partner's.
9. All reports are to be in ink or typed, concise, organized and self explanatory. Some labs have the calculations set out on a special sheet or on the computers in the student computer lab.
10. Every lab has: a title and number, a date, **your partner's name(s)**. This is important because I grade both reports together and assign the highest mark to each pair or group. Late labs get docked for marks and do not benefit from the group best mark. Write ***an objective in your own words for each experiment or analysis not just a reiteration of the lab manual. eg. The lab was to calibrate the response of the spectrometers to a standard solution and to determine the preferred wavelength for analysing Cu.*** Give a brief description of the procedure in your own words and a reference to a page in the lab manual, eg. we oxidized Cu wire with molten Sulfur and determined the stoichiomentry of the resulting compound gravimetrically. Provide a data table presenting all measurements and background data as an appendix. This is your rough lab sheet and a signed document. Give a sample calculations of each type, including an explanation of what the calculation accomplishes along with a sample calculation for each part but not all the data. This is a written portion. Show a table of all reduced and calculated data with an error analysis as to how good the numbers are compared to accuracies used and theoretical proportions. Provide a discussion, and a short conclusion: eg. Unknown #36 had 1679.33 ppm Ca and the water was unfit for horses to drink. A typical marking scheme is: 1 mark prelab problems, 1 mark objective, 1 mark for procedure, 2 marks for theory drawings or equations describing reaction or analysis, 1 mark for data, 2 mark for calculations, 1 mark for purity, yield or low % error, 1 mark for conclusions, 2 week duration labs marks are doubled for the single report.

Ask for help in understanding at any time from me or any of the other faculty. Get help early on from the student learning centre as needed. Also seek help from other faculty, or upperclassmen in the Chemistry computer room on the third floor of Fisher.