

Camosun College Chemistry 150B

Quarter 3 - April to June, 2003

Instructor: Blair Humphrey, CBA 146, Telephone 370-4447 e-mail: humphreb@camosun.bc.ca
web: <http://www.camosun.bc.ca/~humphreb> Office hours: Wednesday 1030-1220

Text: Brown, Lemay and Bursten, Chemistry: The Central Science 9th ed. Solution guide optional but recommended.

Lab. Manual: Instructions provided on web (you already have this)

Evaluation Grading as in calendar (2003; page 38)

Laboratory (5)	14%	
Quizzes (4)	16%	
Midterm	20%	
Final	50% Must pass	
Total	100%	

Quizzes will be held at the start of a Wednesday afternoon session, and will be on topics of the previous week only.

Intended learning outcomes: the student will be able to

- Calculate physical properties of solutions.
- Determine rate constants, order of reaction and activation energy for simple chemical reactions.
- Determine concentrations of participating molecules in chemical equilibria, in particular, aqueous equilibria. Determine the pH of dilute aqueous solutions of acids and bases.
- Explain the importance of total energy, enthalpy, entropy and free energy in chemical processes.
- Balance redox reactions. Determine the voltages of simple electrochemical cells. Describe the role of electrochemistry in corrosion and corrosion control.
- Use orbital theory to describe the properties of metals and semiconductors.

Course Outline

Week	Tuesday	Wednesday	Thursday
April 8-10	Liquids, vapour pressure, mixtures,	Liquids, solids, structure and bonding	Lab 6: Distillation Group 1

	phase diagrams		
April 15-17	Polymers Ceramics	Quiz 1 Solutions	Lab 6: Distillation Group 2
April 22-24	Solutions	Kinetics	Lab 7: Gravimetric determination of chloride. Group 1
April 29-May 1	Kinetics	Quiz 2 Equilibrium	Lab 7: Gravimetric determination of chloride. Group 2
May 6-8	Equilibrium	Acid base equilibria	Lab 8: Bromination of acetone Group 1
May 13-15	Acid base equilibria	Midterm Aqueous equilibria	Lab 8: Bromination of acetone Group 2
May 20-22	Aqueous equilibria	Aqueous equilibria	Lab 9: pK_a of acetic acid Group 1
May 27-29	Aqueous equilibria	Quiz 3 Thermodynamics	Lab 9: pK_a of acetic acid Group 2
Jun 3-5	Thermodynamics	Thermodynamics	Lab 10: TBA
June 10-12	Electrochemistry	Quiz 4 Electrochemistry	Lab 10: TBA
June 18-20	Electrochemistry	Metals	Review
June 23-27	Exam week		