

KWANTLEN UNIVERSITY COLLEGE

CHEMISTRY 1110: THE STUDY OF MATTER

SPRING 2005

INSTRUCTOR: Paul Kaushal (Off: 3355; Ph: 599-2553; VM: 9181)
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OFFICE HOURS: See timetable posted on the office door

PREREQUISITE: CHEM 1105 or CHEM 12 with C+ and MATH 12

TRANSFERABLE: UBC, SFU, UVic

INSTRUCTION FORMAT: Lectures (4 hr/week) and Labs (3 hr/week)

REQUIRED MATERIALS: General Chemistry (8thed). Petrucci,Harwood,and
Herring
CHEMISTRY 1110 Lab Manual- KUC
Lab Coat

NO CONTACT LENSES ALLOWED IN THE LABORATORY

MISSED EXAMS AND LABS

Students will not be allowed to make up a missed exam. However, a doctor's note is required to avoid getting a score of zero for the missed exam. If an exam is missed because of sickness or a valid excuse then the weight of the missed exam will be added to the exams remaining. Students who are repeating the course must meet with the instructor to determine whether they will be exempt from the lab experiments.

ANSWERS TO EXAMS AND PROBLEM SETS

Answers to exams and problem sets will be posted on the bulletin board outside my office. For sample final exams and supplementary lab materials, go to <http://www.kwantlen.ca/~sci/chem/kaushal/1110/>

CHEMISTRY-1110 COURSE OUTLINE

TEXT: GENERAL CHEMISTRY, 8th EDITION BY PETRUCCI, HARWOOD, and HERRING

INTRODUCTION AND REVIEW OF STOICHIOMETRY (Chapters 1 to 5)

Significant figures, nomenclature, balancing reactions, empirical and molecular formulas, limiting reagent, molarity, simultaneous reactions and back-titrations.

GASES (Chapter 6)

The simple gas laws, the ideal gas equation, Dalton's law of partial pressures, Graham's law of effusion, gas stoichiometry, kinetic-molecular theory of gases, non-ideal gases.

ORGANIC CHEMISTRY (Chapter 27)

Nomenclature (IUPAC and common) and reactions of saturated, unsaturated, aromatics, alcohols, ethers, aldehydes, ketones, carboxylic acids, esters, amines, amides, and anhydrides. Isomerism (skeletal, positional, functional, geometric or cis-trans, and optical)

ELECTRONS IN ATOMS AND PERIODIC PROPERTIES (Chapters 9 and 10)

Electromagnetic radiation, atomic spectra, Bohr atom, quantum theory, photoelectric effect, Heisenberg's uncertainty principle, quantum numbers, atomic and ionic sizes, ionization energy, electron affinity, magnetic properties.

CHEMICAL BONDING (Chapters 11 and 12)

Lewis theory of ionic and covalent bonding, resonance, VSEPR theory and molecular shapes, bond energies, valence-bond model, hybridization of atomic orbitals, multiple-covalent bonding, molecular orbital theory of simple diatomic species, delocalized electrons in benzene.

INTERMOLECULAR FORCES(Chapter 13)

Intermolecular forces (dipole-dipole, London, and H-bonding) and their effects on properties of liquids(boiling and melting points and solubility).

NUCLEAR CHEMISTRY(Chapter26)

Nuclear reactions, nuclear stability, nuclear fusion and fission

CHEM 1110 SPRING 2005

EVALUATION

<u>Lecture course</u>	a) Three in-class exams	40%
	b) Final exam (comprehensive)	30%
<u>Lab component</u>	a) Lab reports and unknowns	20%
	b) Lab exams	10%

CHEMISTRY GRADE GUIDELINES

The following are the grade guidelines which are used to determine a grade in this Chemistry course. Satisfactory completion of the laboratory component (i.e. >60%) of this course is a requirement for a grade of **C** or better.

<u>GRADE</u>	<u>PERCENT</u>	<u>REQUIREMENTS</u>
A+	90-100	Minimum of 80% on final
A	85-89	Minimum of 70% on final
A-	80-84	Minimum of 65% on final
B+	76-79	Minimum of 60% on final
B	72-75	Minimum of 60% on final
B-	68-71	Minimum of 55% on final
C+	64-67	Minimum of 50% on final
C	60-63	Minimum of 40% on final
C-	56-59	Minimum of 40% on final
D	50-55	Some incomplete work
F	<50	

IMPORTANT DATES

Jan 31	Test # 1
Feb 26	Last day to officially withdraw
Feb 28	Test # 2
Mar 25	Test # 3

FINAL EXAM Apr 20, from 8AM-11AM

PLAGIARISM AND CHEATING POLICY

Introduction

1. DEFINITIONS

Cheating, which includes plagiarism, occurs when a student or group of students uses or attempts to use unauthorized aids, assistance, materials or methods. Cheating is a serious educational offense.

Plagiarism occurs when a student represents the work or ideas of another person as his or her own.

Policy

Kwantlen University College condemns all forms of cheating.

If it is determined that a student has cheated, the University College will proceed with discipline in the following manner:

1. for most first offences, a grade of zero will be awarded for the affected assignment, test, paper, analysis, etc.;
2. for most second offenses, a failing grade will be assigned in the affected course;
3. depending upon the circumstances surrounding a first or second offense, a more severe level of discipline may be imposed by the University College;
4. Where deemed appropriate in the circumstances, for any third offence, the matter *must* be referred to the University College President under Policy No. C21 Student Conduct for the assignment of discipline, which may include suspension or expulsion from the University College.
5. Any student who contributes to an act of academic dishonesty by another student may face disciplinary action.

This policy must be communicated in all course presentations.

Procedural Guidelines

1. When an invigilator, instructor, or Dean's designate, after obtaining the student's explanation, determines that a student has cheated, he or she will immediately gather the available evidence, assign a grade of zero to the affected assignment, test, paper, etc., and report the incident, with documentation, to the Dean under whose jurisdiction the course falls.
2. The Dean will assign any additional disciplinary action which may be in order under the policy described above, and will inform the Registrar.
3. The Registrar will maintain a record of each offense in the student's file.
4. The affected student has the right at any time to consult with a University College counsellor and/or the student ombudsperson.
5. Except in circumstances where the matter has been referred to the President under Policy No. C.21 Student Conduct, a student may appeal a decision or penalty under this policy to the Kwantlen University College Appeals Committee (C.5 Appeals of Academic or Admissions Decisions).