

General Chemistry and Laboratory I

Chemistry 121

Section: D100

Term: 2000 Spring

Instructor: Lecturer: Dr. R. H. Hill. Office: SSB-8106.

Website: <http://www.sfu.ca/chem121>.

Lab Instructor: Dr. D. Sharma. Office: SSB-8105.

Discussion Topics: Atomic structure and chemical bonding; gases, liquids, solids, and solutions; thermochemistry; chemical reactions; periodic properties; stoichiometry.

3 lecture hours/week; 4 laboratory hours/2 weeks; open tutorials.

Lecture Topics:

1 Lecture. Introduction.

2 Lectures. Atoms, Molecules and Ions. Ch. 2.

2 Lectures. Stoichiometry. Ch. 3.

3 Lectures. Chemical Reactions. Ch. 4/18*.

4 Lectures. Gases. Ch. 5.

3 Lectures. Thermochemistry. Ch. 9.

EXAM I.

3 Lectures. Atomic Theory. Ch. 12.

2 Lectures. Periodic Properties. Ch. 12.

4 Lectures. Bonding Concepts. Ch. 13.

4 Lectures. Covalent Bonding Orbitals. Ch. 14.

EXAM II.

3 Lectures. Liquids and Solids. Ch. 16.

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3 Lectures. Solutions. Ch. 17.

2 Lectures. Nuclear Chemistry. Ch. 21*. (* Selected Sections)

Laboratory Experiments:

Exp. 1. Introduction (all students attend)

Exp. 2. Chemical Reactions and Equations.

Exp. 3. Sequence of Copper Reactions.

Exp. 4. Molar Mass of a Gas.

Exp. 5. Synthesis and Analysis of a Complex Salt of Iron.

Exp. 6. Spectrophotometric Analysis of Nickel(II) Ions in Solution.

Exp. 7. Colligative Properties.

Grading: 30% Midterm Exams (2); 10% CAPA Problem Sets; 20% Laboratory; 40% Final Exam.

Required Texts: Steven S. Zumdahl, "Chemical Principles". 3rd Edition. 1998. Houghton Mifflin Co.

A Lab Manual will be distributed at the first laboratory lecture.

Recommended Texts: None

Materials/Supplies: Scientific calculator, safety glasses(or prescription glasses), millimeter graph paper.

Prerequisite/Corequisite: Prerequisite: B.C. High School Chemistry 12 or CHEM 111(or 101 & 106).

Corequisite: MATH 151(or 154) and PHYS 120(or 101) are recommended.

Students may not count both CHEM 120 and 121 for credit. Students may not count both CHEM 1

Notes: A passing grade in the laboratory section must be achieved for a passing grade in Chemistry 121.

This outline is derived from a course outline repository database that was maintained by SFU Student Services and the University's IT Services Department. The database was retired in 2014 and the data migrated to SFU Archives in 2015.