

General Chemistry and Laboratory I

Chemistry 121

Section: D300

Term: 2005 Fall

Instructor: Lecture & Lab: Dr. G. Mund. Office: C9037 (Burnaby). Phone: 604-291-4888

Discussion Topics: Atomic structure and chemical bonding; gases, liquids, solids, and solutions;

thermochemistry; chemical reactions; periodic properties; chiometry.

3 lecture hours/week; 4 laboratory hours/2 weeks; one hour 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.

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3 Lectures. Liquids and Solids. Ch. 16.

3 Lectures. Solutions. Ch. 17.

2 Lectures. Nuclear Chemistry. Ch. 21.*

* Selected section.

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". 5th Edition. 2005. 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.

General Chemistry and Laboratory I

Students may not count both CH

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

CHEM 121 Laboratory sessions begin in the first week of classes.

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.