
GRANDE PRAIRIE REGIONAL COLLEGE
DEPARTMENT OF SCIENCE AND TECHNOLOGY
2001/2002

CHEMISTRY 1020: Introductory University Chemistry II

PREREQUISITE: CH1010 or equivalent

INSTRUCTOR: Les Rawluk Office J214 Phone 539-2738

TEXT BOOK: *CHEMISTRY 5th Edition*
 Steven S. Zumdahl and Susan A. Zumdahl
 Houghton Mifflin Company ©2000

LABORATORY: Chemistry 102 Experiments, University of Alberta, 2001/2002
Lab coats and safety glasses are compulsory, and are available at the Bookstore.
 A Laboratory Breakage Deposit of \$30 per Chemistry course must be paid to the Cashier (Room C315), and the receipt must be shown to the Laboratory Technician (Mrs. Omana Pillay) during the first Laboratory class.

SEMINAR: Seminars consist of problem solving, discussion of weekly problem sets, a brief introduction to the upcoming Laboratory experiment, and a quiz on relevant course material.

COURSE EVALUATION

February Midterm	20%
March Midterm	20%
April Exam	38%
Quizzes	2%
Laboratory Reports	10%
Laboratory Exam	10%

Assignments will be distributed on a weekly basis. These assignments will not be graded, but answers and complete solutions will be available for the student. Completion of assignments is strongly recommended to succeed in the course.

Attendance to all lectures and seminars is strongly recommended. Laboratory attendance to each specific experiment is compulsory; a passing grade in the laboratory component is required to pass the course. A doctor's medical note is required for **all** excused absences!

Students are required to maintain an overall average of 50% or better to pass the course.

CH1020 COURSE CONTENT

A: Solubility Equilibria A.1 Slightly soluble salts A.2 Complex ion equilibria	Chapter 15 Pages 757-781
B: Thermochemistry B.1 Types of energy; work and heat; First Law of Thermodynamics B.2 Enthalpy—endothermic and exothermic processes B.3 Calorimetry B.4 Hess's Law B.5 Standard enthalpy of formation	Chapter 6 Pages 241-281
C: Thermodynamics C.1 Entropy and the Second Law of Thermodynamics C.2 Entropy of the system and the surroundings C.3 Free energy C.4 Free energy and equilibrium	Chapter 16 Pages 791-828
D: Electrochemistry D.1 Redox reactions and standard electrode potentials D.2 Galvanic cells and spontaneous redox reactions D.3 Cell potential, electrical work, and free energy D.4 Dependence on concentration—the Nernst equation D.5 Electrolytic cells	Chapter 17 Pages 837-801
E: Chemical Kinetics E.1 Reaction rates E.2 Rate laws E.3 Determining rate law form E.4 Integrated rate law E.5 Arrhenius equation E.6 Reaction mechanisms E.7 Catalysis	Chapter 12 Pages 559-601
F: State of Matter F.1 Intermolecular forces F.2 Gases F.3 Liquids F.4 Solids F.5 Phase equilibrium	Chapter 10 Pages 451-502
G: Solutions G.1 Solution composition G.2 Factors affecting solubility G.3 Vapor pressure of solutions G.4 Colligative properties	Chapter 11 Pages 513-552
H: Transition Elements and Coordination Compounds H.1 Properties of the transition metals H.2 Coordination compounds H.3 Structure of coordination compounds H.4 Crystal field theory	Chapter 20 Pages 963-995