
GRANDE PRAIRIE REGIONAL COLLEGE
DEPARTMENT OF SCIENCE AND TECHNOLOGY
2002/2003

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, 2002/2003
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	12%
Laboratory Exam	8%

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	Chapter 15	Pages 757–781
A.1 Slightly soluble salts		
A.2 Complex ion equilibria		
B: Thermochemistry	Chapter 6	Pages 241–281
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		
C: Thermodynamics	Chapter 16	Pages 791–828
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		
D: Electrochemistry	Chapter 17	Pages 837–801
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		
E: Chemical Kinetics	Chapter 12	Pages 559–601
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		
F: State of Matter	Chapter 10	Pages 451–502
F.1 Intermolecular forces		
F.2 Liquids		
F.3 Solids		
F.4 Gases		
G: Solutions	Chapter 11	Pages 513–552
G.1 Solution composition		
H: Transition Elements and Coordination Compounds	Chapter 20	Pages 963–998
H.1 Properties of the transition metals		
H.2 Coordination compounds		
H.3 Structure of coordination compounds		
H.4 Crystal field theory		