GRANDE PRAIRIE REGIONAL COLLEGE

DEPARTMENT OF SCIENCE   Fall 93

CHEMISTRY 1000

Instructor	Dr. Barry Ramaswamy
	Room J218

Telephone	Office	539 2072
	Residence	539 6239

Prerequisites	CHEM 30	MATH 30

Transfer Credits			
	University of Alberta	CHEM 100	6 Credits
	University of Calgary	CHEM 201/203	6 Credits
	University of Lethbridge	CHEM 1000/2000	6 Credits

Text Book	CHEMISTRY, 3rd Edition
Author	Stephen, S. Zumdahl
	D. C. Heath and Company
	Lexington, Mass.

Laboratory Manual   University of Alberta Chemistry 100/104 Experiments.

One hard covered Laboratory Note Books is required for maintaining Laboratory Results.

Lab Coats are compulsory and available at the Book Store.

Safety Glasses are compulsory and available at the book store. You cannot attend a Laboratory session without safety glasses.

A Laboratory Breakage Deposit of $30.00 has to be paid to the Cashier. Show the Receipt during the first Laboratory Class for Admittance.

COURSE EVALUATION

First Midterm	Week of Oct 18 - 22	10 Marks
Christmas Exam		20 Marks
Second Midterm	Week of 14 - 18	10 Marks
Assignments		5 Marks
Quizzes		5 Marks
Final	April 1994	30 Marks
Laboratory		20 Marks
Total		100 Marks

The midterm examinations will be of 2 hour duration. The Christmas examination will be three hours.

Assignments will be handed out every week and are due the following Friday. Late Assignments will not be accepted. Quizzes will be given as necessary during the Seminar and Class Hours. The Marks for the Quizzes and Assignments will be 10 Marks. You have to attend every Quiz to obtain full Marks.

Attendance to Classes and Seminars are strongly recommended.

Laboratory Attendance is Compulsory. A passing Grade in the Lab is required to pass the course.

A student is required to obtain an average of 50% to pass the course.

SYLLABUS

Fall Semester.   Sept 7 - December 10, 1993

1.0   REVIEW

[A]   CHEMICAL FOUNDATIONS

(i)   Scientific Method
(ii)   Units of Measurement.
(iii)   Significant Figures and Calculations
(iv)   Dimension Analysis
(v)   Temperature, Density , etc
             Chapter 1   Pages   1 - 32

[B]   STOICHIOMETRY

(i)   Atomic Masses, The Mole
(ii)   Molecular Weight/ Molar Mass, Percent Composition of
             Compounds.
(iii)   Determining the Formula of a Compound
(iv)   Stoichiometric Calculations
(v)   Calculations involving Limiting Reagents.
             CHAPTER 2, 3   Pages   41 - 115

[C]   SOLUTION STOICHIOMETRY

(i)   The Nature of Aqueous Solutions.
(ii)   The Concept of Molarity
(iii)   Precipitation Reactions
(iv)   Limiting Reagents in Aqueous Solutions.
(v)   Simple Acid Base Reactions Involving Stoichiometry.
             CHAPTER 4   Pages   127 - 173

WINTER SEMESTER

CHEMISTRY 1020   January 5, 1993 to April 16, 1992

6.0   CHEMICAL EQUILIBRIUM

    (i)   The Equilibrium Condition
    (ii)   The Equilibrium Constant
    (iii)   Equilibrium Expression involving Pressures
    (iv)   Heterogeneous equilibria
    (v)   Le Chateliers Theorem and Principle
    (vi)   Solving Equilibrium Problems and Applications of the
        Equilibrium Constant
        CHAPTER 13   Pages   595 - 629

7.0   ACID BASE EQUILIBRIA

    A   ACIDS AND BASES

    (i)   Acids and Bases: Introduction
    (ii)   Acidity and pH Scale
    (iii)   Calculation of pH of Strong and Weak Acids and Bases
    (iv)   Bases and Concept of pOH
    (v)   Polyprotic Acids
    (vi)   Acids Base properties of Salts
    (vii)   Solution of Acids and Bases containing a Common Ion.
        The Common Ion Effect
    (viii)   Buffers and Buffer Capacities
    (ix)   Calculation Involving Buffers
    (x)   Acid Base Titration and pH Curves
    (xi)   Problems involving Titration
    (xii)   Acid Base Indicators
        Chapter 14   Pages   637 - 687
        Chapter 15   Pages   697 - 735