GRANDE PRAIRIE REGIONAL COLLEGE
DEPARTMENT OF SCIENCE
DIVISION OF CHEMISTRY
FALL 2003
CHEMISTRY 2110

Instructor	Barry Ramaswamy
Office	J218
Phone:	Office 539 – 2072 Home; 539 6239
Prerequisite	CH1010 and CH1020 or equivalent
Transfer credits	U of A CH211 3 Credits 3 Credits to a Quantitative Chemistry Course
Lectures	
Textbook	Quantitative Chemical Analysis, 6th edition Daniel C. Brown, W.H.Freeman and Co. 2002
Laboratory	Chemistry 211, Quantitative Analysis B. Kratochvil and W.E. Harris University of Alberta, 2003

COURSE EVALUATION

Quizzes	15%
Lab Work	40%
Midterm	15%
Final Examination	30%
Total	100%

Note: There will be a quiz for 15 to 20 minutes each week. Attendance to the quiz and the lab are compulsory. If you cannot make it for a lab or a quiz get permission and make alternate arrangements. Absence from a lab or a quiz without a doctors permission will not be tolerated.

The first quiz will be during the week of September 22.

FALL 2003

SYLLABUS

1. ANALYTICAL PROCESS

Chapter 0, 1, 2, 3, 4, 5

Measurements
- SI Units
- Solutions
- Glassware
- Analytical Balance
- Simple Calculations and Excel

Experimental Error
- Significant Figures and Graphs
- Types of Error
- Uncertainty
- Excel

Statistics and Spreadsheets
- Gaussian Distribution
- Confidence Intervals
- Comparison of Means and Student's t
- T tests and Spreadsheets
- Q Test and Bad Data
- Calibration Methods
- Least Squares etc

2. LABORATORY METHODS

- Labs will be discussed
- Simple methods of lab Analysis will be discussed

3. CHEMICAL EQUILIBRIUM

Chapters 6, 7
- The equilibrium Constant
- Equilibrium and Thermodynamics
- Solubility Products
- Common Ion Effects
- Titrations

4. Systematic treatment of Equilibrium

Chapters 9, 10, 11, 12
- Charge and mass balances

Monoprotic Acid Base equilibria
Polyprotic Acid Base equilibria
Acid Base Titrations

5. EDTA TITRATIONS

Chapter 13
Metal Chelate Complexes
EDTA
EDTA Titrations
EDTA Titrations with Ammonia
EDTA Titrations and the Chemical Analysis