THE COLLEGE OF THE BAHAMAS SCHOOL OF NATURAL SCIENCES & ENVIRONMENTAL STUDIES CHEMISTRY DEPARTMENT

CHEMISTRY 325: ANALYTICAL CHEMISTRY LABORATORY

COURSE DESCRIPTION:

This course presents experiments covering gravimetric, potentiometic, spectrophotometric and chromatographic techniques. Experimental data will be subjected to critical analysis.

OBJECTIVES:

Upon successful completion of Chemistry 325 students will be able to:

- 1. Conduct Titrimetric Analysis
- 2. Conduct Spectrophotometic Analysis
- 3. Conduct Precipitation analysis
- 4. Apply the principles of Gravimetric Analysis to investigate an unknown sample
- 5. Calibrate a scientific instrument
- 6. Evaluate experimental data using statistical methods
- 7. Record and report laboratory activities and data.

CONTENT:

Experiment	<u>Title of Experiments</u>
1	Calibration of a (2 ml) pipet. Statistical analysis of experimental data (Similar to that analysis of remits done in experiment No. 4 of
	Chemistry 135 lab).
2 & 3	Acid-Base Equilibrium: Titrimetric analysis of strong acids and bases, weak acids and bases, determination of pka and pkb values, buffer solutions, indicators and potentiometic methods.
4	Titration curves of Polyprotic acids: determination of dissociation contents.
5 & 6	Gravimetric Methods: determination of Soluble Chloride.
7	Complexometric Titration Methods: determination of Ac, Mg and Zn. Hardness of water.
8	Redox Titration Methods: potentiometic titrations, determination of purity of Fe salt, determination of purity of Fe salt.
9 & 10	Spectrophotometic, Analysis: Determination of Spectra, choice of analysis.
11	Chomatographic techniques.

ASSESSMENTS:

10 lab tests at 10% each 100%

TEXTBOOK:

Skoog, West and Holler, <u>Fundamentals of Analytical Chemistry</u>, 7th Edition, Saunders Publishers 1996

Journals:

^{**}Scientific American; Scientific American Inc. 1995-1999: ISSN 0036-8733

^{**}Education in Chemistry; The Royal Society of Chemistry 1999; ISSN 0013-7613

^{**}Journal of Research in Science Teaching; John Wiley and Sons Inc. 1999; ISSN 0022-4308

^{**} In The College of The Bahamas Library