Course Outline

Course: CHMB16 Techniques in Analytical Chemistry
Prerequisites: CHMA10H and CHMA11H
Term: Fall 2009

Lectures:
Monday 9:00 am -11:00 am (SW128)
Thursday 8:00 am – 9:00 am (SW128)

Labs:
Tuesday: 9:00 am – 1:00 pm (SW 159) (PRA0001/PRA0002)
Wednesday: 1:00 pm – 5:00 pm (SW159) (PRA0003/PRA0004)
Thursday: 9:00 am – 1:00 pm (SW159) (PRA0005/PRA0006)

Instructors: Dr. Andrew Baer (Lectures), Dr. Effiete Sauer (Labs)

Contact Information:
Dr. Andrew Baer:
Office: PO103-room 103
Office hours: Monday 11:00 am – 12:30 am
Thursday 9:00 am – 10:30 am
Email: abaer@utsc.utoronto.ca

Dr. Effiete Sauer:
Office: SW-506E
Office hours: Tuesday 2:00 pm – 3:00 pm (SW-506E)
Wednesday 2:30 pm – 3:30 pm (S155B)
Thursday 10:30 am – 11:30 am (S155B)
Email: esauer@utsc.utoronto.ca

Course Overview:

Analytical chemistry is a sub-discipline of chemistry focused on the identification and accurate determination of the components contained within a sample. In this course we will introduce classical methods of analytical chemistry including volumetric analysis, sampling techniques, statistical handling of data, chemical equilibria, electrochemistry and an introduction to basic Spectrophotometry. The course contains a weekly four hour lab where students will obtain practical experience in these and other basic analytical laboratory techniques.

Required Texts:
Daniel C. Harris, Quantitative Chemical Analysis 7th Edition, W.H. Freeman and Company, 2007
2009 Laboratory Manual

Evaluation:
Laboratory Mark: 35%
Midterm Test: 25%
Final Exam: 40%

Schedule:

Week	Topic	Notes	Room
Sept 7th	Introduction to Analytical Chemistry		SW 128
Sept 14th	Experimental Error and Statistics		SW 128
Sept 21st	Quality Assurance and Calibration Methods		SW 128
Sept 28th	Fundamentals of Spectrophotometry		SW 128
Oct 5th	Fundamentals of Spectrophotometry/Chemical Equilibrium		SW 128
Oct 12th	Chemical Equilibrium	No class on Monday Oct 12th (Thanksgiving)	SW 128
Oct 19th	Titrations		SW 128
TBA	Mid-Term Quiz		TBA
Oct 26th Nov 2rd	Activity and Equilibrium		SW 128