Tenantive Syllabus for Chem 212, Quantitative Analysis
Summer Semester 2012

Quantitative Analysis, 3 credit hours;
Prerequisite: Chem 106 or 102 and 112 and Chem 222 or Chem 224 and Chem 226 or permission of the instructor .

Instructor: Dr. Conrad Naleway,
Flanner Hall 103, Phone 508-3115
E-mail: cnalewa@luc.edu.
Office hours: Immediately after Lecture and TWTh 1-2:30 PM, or by appointment.

Textbook: "Exploring Chemical Analysis" (4th or 5th edition), by Daniel C. Harris,
ISBN 1-4292-1004-4

Other Materials: You will need an inexpensive calculator having logarithmic (base 10 and base e), exponential, and trigonometric functions. Be sure you are familiar with your calculator and that it is in user-ready condition for quizzes and exams. Calculators cannot be shared during exams

Objectives

1) To teach fundamental aspects of acid/base chemistry, redox, chemistry, electrochemistry, and ionic equilibria.
2) To acquaint the student with some of the fundamental techniques and state-of-the-art applications of chemical quantitative analysis used in biomedical, forensic, and environmental chemistry.

Grading:

There will be **3 Hourly exams** at the beginning of alternate Friday class period (3 x 25%) **= 75%**
There will be **3 Quizes** at the end of the other Friday class periods (3x 5%) = **15%**
Class Participation during Lecture (2%) and Discussion (3%+ 5%) {at end of each class**} (Total=10%)**

Final Grading Scale:

A 100-93;	**B-** 80-77;	**D** 64-55;
A- 92-89;	**C+** 76-73;	**F** <55.
B+ 88-85;	**C** 72-69;	
B 84-81;	**C-** 68-65;	

Homework: Supplemental homework problems will be identified throughout term, which will assist student in mastering class materials. There will be no specific credit but STRONGLY encouraged to help prepare for quizzes and exams. *That is, often homework problems will show on exams and quizzes!*

12 discussions: class will be divided into 6 Groups of 5-6 students each. (***Each Student MUST present at least twice****) (5 pts)* I will assign 6 Problems per Discussion Period; One Per Group.

NOTE: Quiz and Exam Problems will be largely variants of problems done in class or problems done in discussion period! Plus there also may be a few conceptual questions on each Exam/Quiz

All exams must be signed in the front, upper right hand corner. This signature will be taken as a statement of honest and completely independent work. Instances of academic dishonesty will warrant immediate failure of the course plus referral to the Dean's office. For more information on university policy, please read:

http://www.luc.edu/academics/catalog/undergrad/reg_academicintegrity.shtml

Class Schedule			General Order of Topics	Chapter(s)
1	Monday, May 21, 2012		Stoichiometry Review, Math Tools	1,2
2	Wednesday, May 23, 2012		Sampling Error & Statistics(A)	3,4
3	Friday, May 25, 2012	Quiz 1	Statistics(B) & Quality Assurance	4 & 5
	Monday, May 28, 2012	Memorial Holiday		
4	Wednesday, May 30, 2012		Titrations & Acid/Base	6,8
5	Friday, June 01, 2012	Exam 1	Buffers	9
6	Monday, June 04, 2012		Acid Base Titrations	10
7	Wednesday, June 06, 2012		PolyProtonic Acid/Bases	11
8	Friday, June 8, 2012	Quiz 2	Gravimetric	7
9	Monday, June 11, 2012		Complexation (EDTA)	13
10	Wednesday, June 13, 2012		Redox Titrations	16
11	Friday, June 15, 2012	Exam 2	Ionic Strength & Activity	12
12	Monday, June 18, 2012		Electrode Potential	14
13	Wednesday, June 20, 2012		Spectroscopy	18,19
14	Friday, June 22, 2012	Quiz 3	Atomic Absorption	20
15	Monday, June 25, 2012		Chromatography	21,22
16	Wednesday, June 27, 2012		GC/MS	Notes
17	Friday, June 29, 2012	Exam 3		