

CHEM 625 – Advanced Analytical Chemistry
A Survey Course of Current Approaches in Chemical Analysis
Syllabus for Fall Semester 2007

Instructors: Frank P. Zamborini, Aleeta M. Powe,
Richard P. Baldwin and Richard Higashi

Meeting Time: Tuesdays and Thursdays (4:00 – 5:15 p.m.)

Meeting Place: Room B16, Chemistry Building

Textbook: Principle of Instrumental Analysis 6th Edition (Skoog)
Literature Handouts

<i>Grading:</i>	4 Assignments (50 points each)	200 points
	<u>4 Exams (150 points each)</u>	<u>600 points</u>
	Total	800 points

A	90 – 100 %	(800-720 points)
B	80 – 89 %	(640-719 points)
C	70 – 79 %	(560-639 points)
D	60 – 69 %	(480-559 points)
F	<60 %	<480 points

Lectures: Fundamental concepts in surface analysis, separations, electrochemistry, and mass spectrometry. Besides the material covered in the textbook, handouts will be given to discuss current research in these areas.

Assignments: Assignments may be take-home exercises, written papers related to the current literature, or in-class presentations.

Exams: Exams will be based on lectures and assignments.

Withdrawal: The last day to withdraw from this course is October 11, 2006.

Academic Dishonesty

The **Code of Students Rights and Responsibilities** for students at University of Louisville, defines “academic dishonesty” as “obtaining or seeking to obtain an unfair academic advantage for oneself or for any other student. It includes lying, cheating, stealing, or engaging in otherwise dishonest conduct in the course of or related to any academic exercise.” (See <http://www.louisville.edu/edu/handbook/studentcode.html>).

The policies of the University of Louisville on Academic Dishonesty are available at <http://www.louisville.edu/edu/handbook/integrity.html>.

Failure to follow this policy will result in a “F” for the course or dismissal from the Graduate Program.

Tentative Lecture Schedule

<u>DATE</u>	<u>INSTRUCTOR</u>	<u>TOPIC</u>
T 8/21	Zamborini	Microscopy (STM)
Th 8/23	Zamborini	Microscopy (AFM/SECM)
T 8/28	Zamborini	Bio-Applications of Microscopy
Th 8/30	Zamborini	Analysis of Surfaces with Electron Beams
T 9/04	Zamborini	Analysis of Surfaces with Electron Beams
Th 9/06	Zamborini	Bio-Applicatons of Electron Spectroscopy
T 9/11	Zamborini	Exam 1 (Assignment 1 Due)
Th 9/13	Higashi	Sample Preparation
T 9/18	Higashi	Sample Preparation
Th 9/20	Higashi	Mass Spectrometry
T 9/25	Higashi	Mass Spectrometry
Th 9/27	Higashi	Mass Spectrometry
T 10/02	Higashi	Mass Spectrometry
Th 10/04	Higashi	Exam 2 (Assignment 2 Due)
T 10/09	NO CLASS	--Fall Break--
Th 10/11	Baldwin	Electrochemistry
T 10/16	Baldwin	Electrochemistry
Th 10/18	Baldwin	Electrochemistry
T 10/23	Baldwin	Electrochemistry
Th 10/25	Baldwin	Electrochemistry
T 10/30	Baldwin	Electrochemistry
Th 11/01	Baldwin	Exam 3 (Assignment 3 Due)
T 11/06	Powe	Separations
Th 11/08	Powe	Separations
T 11/13	Powe	Separations
Th 11/15	Powe	Separations
T 11/20	Powe	Separations
Th 11/22	NO CLASS	--Thanksgiving--
T 11/27	Powe	Separations
Th 11/29	Powe	Separations (or Exam 4)
T 12/04	Reading Day	Reading Day
T 12/11	Powe	Exam 4 (Assignment 4 Due) 5:30 – 8:00 p.m.