

Chem 274 – Spring 2013

Principles of Analytical Chemistry

Instructor: Seol Kim (Ph.D.) (Office: Bilger 247A) – Email: yongskim@hawaii.edu)

Textbook: "Quantitative Chemical Analysis", Daniel C Harris, 8th edition, Freeman (2010) and "Solutions Manual"

Ebook: www.whfreeman.com/qca8e

Prerequisites: Chem 162 or 181; Math 215 or Math 241 or Math 251A, or equivalent

Exams: Three 1 hour mid semester exams (20 pts each) and a 2 hour cumulative Final (40 pts). There will be no makeup exams so please note carefully the date for the exams on the next page. If you do miss an exam, email me as soon as possible (within 24 hrs of the time of the test) to explain why you missed the exam. Missing an exam due to illness will usually be an acceptable excuse as long as a valid Doctor's note is provided.

Homework: Practice problem sets will be suggested but will **not** be collected or graded. Obviously your performance in this class will be highly dependent on how much time you devote to studying the material. Most of the concepts covered in this class will be best understood by doing the practice problems.

Course Grade: Will be based on the scores you obtain on the exams (100 pts).

Informed Chemist with Quantitative Chemical Skills

- Perform error analysis and statistics on experimental measurements.
- Master the concept of chemical equilibria on acid-base and redox titrations.
- Explore light and matter interaction and applications to spectroscopy.

Course Schedule – Chem 274 – Spring 2013

A. Chemical Measurements (Chapter 1)

B. Experimental Error (Chapter 3)

C. Statistics (Chapters 4 and 5)

Exam I – Thursday, January 31 (10:30 – 11:45, Bil 335)

D. Chemical Equilibrium (Chapters 6 and 7)

E. Acid and Base Titrations (Chapters 8, 9, and 10)

Exam II – Thursday, February 28 (10:30 – 11:45, Bil 335)

F. Complexometric Titrations (Chapters 11 and 12)

G. Electrochemistry (Chapters 13 and 14)

H. Redox Titrations (Chapter 15)

Exam III – Thursday, April 4 (10:30 – 11:45, Bil 335)

I. Light and Matter Interaction (Chapter 17)

J. Spectroscopic Applications (Chapters 18 and 19)

Final – Thursday, May 9 (9:45 – 11:45, Bil 335)