

Quantitative Analysis

Chemistry 320

Summer 2007

Instructor: Dr. Kevin Cantrell
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Office Hours: Tuesday and Wednesday from 2:30 to 3:00 and 4:15 to 4:45
Text: Quantitative Chemical Analysis by Harris 7th Edition
Times: MTWR from 3:00 to 4:15
Location: Science Building 1 room 304

Objectives:

The primary objective of this course is to become familiar with the theory and technique involved in making and interpreting chemical measurements. Toward this goal you will become familiar with wet chemical techniques, electrochemistry, spectroscopy, and chromatography. Other topics will include statistics, communication of scientific data, and the use of spreadsheets. By the end of the course you will be capable of selecting an analytical method, acquiring and interpreting relevant data, and communicating the results of your endeavor.

Evaluation:

Your grade in 320 will depend on your performance in the following areas:

5 Quizzes	(drop lowest from 6)	12 pts. each x 5	60 pts.
5 Homeworks	(drop lowest from 6)	4 pts. each x 5	20 pts.
Final Exam			20 pts.

These scores correspond to letter grades in the course as follows:

93 to 100 pts.	A	Quiz #1		Homework #1	
90 to 92 pts.	A-	Quiz #2		Homework #2	
87 to 89 pts.	B+	Quiz #3		Homework #3	
83 to 86 pts.	B	Quiz #4		Homework #4	
80 to 82 pts.	B-	Quiz #5		Homework #5	
76 to 79 pts.	C+	Quiz #6		Homework #6	
69 to 75 pts.	C	Quiz Total		Homework Total	
65 to 68 pts.	C-	(discard lowest score)		(discard lowest score)	
61 to 64 pts.	D+				
54 to 60 pts.	D	Final Exam		Course Total	
50 to 53 pts.	D-	out of 20 points		Sum of Quiz, HW, Final	
<50 pts.	F				

6/25 Chapters 3, 4 Experimental Error, Statistics	6/26 Chapter 5 QA, Calibration	6/27 Chapter 6 Equilibrium	6/28 Quiz #1 Catch up (4 Ch., 82 pg.) Questions
7/2 Homework #1 Chapters 7, 9 Titration, Acid-base	7/3 Chapters 10, 11 Acid-base titration	7/4 Independence Day (Reading Day)	7/5 Quiz #2 Catch up (4 Ch., 90 pg.) Questions
7/9 Homework #2 Chapter 14 Electrochemistry	7/10 Chapter 15 Potentiometry	7/11 Chapter 16 Redox titration	7/12 Quiz #3 Catch up (3 Ch., 78 pg.) Questions
7/16 Homework #3 Chapter 17 Electroanalysis	7/17 Chapter 18 Spectrophotometry	7/18 Chapter 19 Spectrophotometric Applications	7/19 Quiz #4 Catch up (3 Ch., 76 pg.) Questions
7/23 Homework #4 Chapter 20 Spectrophotometers	7/24 Chapter 21 Atomic Spectroscopy	7/25 Chapter 22 Mass Spectrometry	7/26 Quiz #5 Catch up (3 Ch., 77 pg.) Questions
7/30 Homework #5 Chapter 23 Separations	7/31 Chapter 24 Gas Chromatography	8/1 Chapter 25 HPLC	8/2 Quiz #6 Catch up (3 Ch., 87 pg.) Questions
8/6 Homework #6 Chapter 26 Methods. Electrophoresis	8/7 Chapter 28 Sample Preparation	8/8 Review	8/9 Final Exam