

**QUANTITATIVE CHEMICAL ANALYSIS**  
**Chemistry 211 Autumn Quarter, 2011**  
**Lecture Syllabus**

**Lecturer:** Dr. Anne Co  
**Office:** 3033E McPherson Laboratory  
**E-mail:** [co@chemistry.ohio-state.edu](mailto:co@chemistry.ohio-state.edu)

**Lecture:** MWF 9:30 – 10:18 AM  
0100 Mendenhall Laboratory  
**Office Hours:** W, 10:30 - 12

**Laboratory Supervisor:** Dr. J. Clay Harris – Analytical Labs Supervisor  
**Office:** 2029 McPherson Laboratory  
**E-mail:** [jharris@chemistry.ohio-state.edu](mailto:jharris@chemistry.ohio-state.edu)

**Grading:** Final grades for the course will be determined as follows

Homework	10%
Midterm Exams	30%
Final Exam	25% (Tues, Dec 6, 9:30-11:18 AM (0100 ML)
Laboratory	35%

**Required Text:** "Quantitative Chemical Analysis", Daniel C. Harris, Seventh Edition"

**Course homepage:** <https://carmen.osu.edu/>

**Practice questions/Homework assignments:** <http://www.saplinglearning.com/>

**Exam Regrading:** To have an exam question regraded, turn in a written description of your concern no later than **one class period** after the exam was returned to you. Each exam in question will be regraded in its entirety.

**Any student who does not attend the laboratory, does not turn in ALL the laboratory reports, or does not obtain at least 50% of the laboratory component will fail the course.**

**Any student who does not obtain at least 50% of the lecture components (homework/quizzes, midterm and finals) will fail the course.**

**All Academic Misconduct cases will be pursued as per University rules.**

This course meets the following GEC Requirement:

**Goals:**

Courses in Quantitative and Logical Skills develop students' quantitative literacy and logical reasoning, including the ability to identify valid arguments, use mathematical models, and draw conclusions and critically evaluate results based on data.

**Expected Learning Outcomes:**

1. Basic Computational Skills: Students demonstrate computational skills and familiarity with algebra and geometry, and apply these skills to practical problems.
2. Mathematical and Logical Analysis: Students comprehend mathematical concepts and methods adequate to construct valid arguments, understand inductive and deductive reasoning, and increase their general problem solving skills.
3. Data Analysis: Students understand basic concepts of statistics and probability, comprehend methods needed to analyze and critically evaluate statistical arguments, and recognize the importance of statistical ideas.

### Approximate Course Schedule for Chemistry 221

Class #	Week	Date		Topic	Chapter
1	week 1	September 21, 2011	W	Syllabus/ Intro/ Analytical Process	0
2		September 23, 2011	F	Units/ Solutions/ Dilutions	1
3	week 2	September 26, 2011	M	Sig Figs/ Error/ Uncertainty	2
4		September 28, 2011	W	Sig Figs/ Error/ Uncertainty	3
5		September 30, 2011	F	Stats	4
6	week 3	October 3, 2011	M	Stats/ Equilibrium	4, 6
7		October 5, 2011	W	Solubility/Activity	6, 8
8		October 7, 2011	F	Activity	8
9	week 4	October 10, 2011	M	Monoprotic Acids	9
10		October 12, 2011	W	Monoprotic Buffers	9
<b>Approximate Exam 1 Cutoff</b>					
11		October 14, 2011	F	Monoprotic Titrations	11
12	week 5	October 17, 2011	M	Polyprotic Acids	10
13		October 19, 2011	W	Polyprotic Buffers	10
14		October 21, 2011	F	Polyprotic Titrations	10, 11
15	week 6	October 24, 2011	M	Polyprotic Titrations	11
16		October 26, 2011	W	Alpha Fractions and Indicators	11
17		October 28, 2011	F	Electrochemistry	14
18	week 7	October 31, 2011	M	Electrochemistry	14
19		November 2, 2011	W	Potentiometry	15
20		November 4, 2011	F	Potentiometry	15
<b>Approximate Exam 2 Cutoff</b>					
21	week 8	November 7, 2011	M	Redox Titrations	16
22		November 9, 2011	W	Redox Titrations	16
		<b>November 11, 2011</b>	<b>F</b>	<b>NO CLASSES Veteran's Day</b>	
23	week 9	November 14, 2011	M	Spectroscopy	18
24		November 16, 2011	W	Spectroscopy	18
25		November 18, 2011	F	Spectroscopy	19, 20
26	week 10	November 21, 2011	M	Separations	23
27		November 23, 2011	W	Separations	23
		<b>November 25, 2011</b>	<b>F</b>	<b>NO CLASSES Thanksgiving/Columbus Day</b>	
28	week 11	November 28, 2011	M	Chromatography	25
29		November 30, 2011	W	Chromatography	25
30		December 2, 2011	F	Chromatography	25
		<b>December 6, 2011</b>	<b>T</b>	<b>FINAL EXAM 9:30 - 11:18 0100 Mendenhall Lab</b>	

#### Disability Services:

Disability Services (ODS): All students with documented disabilities, who need accommodations, should see the instructor privately. If your disability requires materials in alternative formats, please contact the Office for Disability Services (ODS), 1760 Pomerene Hall 292-3307.