

Analytical Chemistry II

Chemistry 426 (526)

Spring 2017

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Course Description: Analytical Chemistry II

<u>Lectures:</u>	426, 526	M,W,F	9:00-9:50	PA 307
<u>Labs:</u>	426-1	T	1:00-4:50	SL 364
<u>Texts:</u>	"Quantitative Chemical Analysis." Harris, 9 th Ed; Bound laboratory notebook with duplicate pages.			

Course Details and Requirements:

In order to do well or pass the course, the student is expected to attend and participate in the lecture-discussion periods, complete and turn in the assigned laboratory studies, read the assigned chapters, work assigned problems, and pass quizzes and exams. **No make-up exams, quizzes, homework or in-class assignments will be given without prior approval or an "officially excused absence"**. Read "[Academic Integrity Policy](#)" on page 27 of the 2010-2012 catalog. Academic integrity is expected and will be enforced.

Guaranteed Grade Assignment Scale

90 %	A
75 %	B
60 %	C
50 %	D

Marking Distribution

Lab	30 %
Packets	20 %
Exams (4)(10% each)	40 %
Final Exam	10 % (Cumulative)

Laboratory:

- Laboratory attendance is mandatory. Missing two or more laboratory sessions will result in failure of the class. Laboratory will count toward **30 % of your overall score**.
- All laboratory information is on the class web page.
- A group lab report for each experiment will be scored on a pass/fail basis and will be due before beginning the next experiment. The pass/fail determination is based on the quantitative results of the experiment. The reporters must meet precision and accuracy standards for the particular experiment. Experiments can be repeated to meet required standards.
- Each student will be required to write a full ACS style report. After completion of all experiments each student will be assigned one of the experiments for which they will write a formal report. It will be critical that full and accurate notebook accounts of all experiments be kept. You will need to use and turn in your notes with the formal report.
- Your laboratory instructor will provide you with additional detailed instruction as to what will be expected.

Safety Goggles are Mandatory in the Laboratory!

Class work

Class attendance is of the utmost importance. **Two or more unexcused absences will result in failure of the class**. Class time will be spent working problems to a great extent. You will need your laptop on many occasions in addition to a calculator so bring both. Bringing your text book would be helpful but not mandatory. Class work time means working on analytical chemistry, so coming to class and working on something else will count as an unexcused absence.

Packets

Study packets will be provided for all the major topics. Completion of these packets will count toward **20%** of your overall score. Information in these packets, along with assigned chapter problems and PowerPoints, will be the basis for exam questions and problems.

Exams

Four semester exams and a final exam will be given. An approximate date for each exam is listed in the schedule. The final is cumulative. **Exams account for 50% of your overall score**. The final exam is cumulative.

Chemistry 526

In addition to the requirements for Chemistry 426 you will be required to write a formal report following the ACS format. The report will be based on a literature review of a topic agreed upon by both student and professor.

<i>Chemistry 426 Class Schedule</i>				<i>Exam Schedule</i>
<i>Week</i>	<i>Week of</i>	<i>Topic</i>	<i>Chapter(s)</i>	<i>Tentative!</i>
1	1/09	Chemical Analysis, Instrumental Methods, Calibration of Instrumental Methods	5	
2	1/16	Electrical Components and Circuits		
3	1/23	Operational Amplifiers, Digital Electronics and Computers, Signals and Noise		Exam I
4	1/30	Introduction to Optical Spectroscopy	18	
5	2/06	Components of Optical Instruments	20	
6	2/13	Introduction to Optical Atomic Spectroscopy	21	
7	2/20	Atomic Absorption Spectroscopy (AAS)		
8	2/27	Atomic Emission Spectroscopy (AES)		Exam II
	3/06	Spring Break		
9	3/13	Introduction to UV-Vis Molecular Absorption Spectrometry		
10	3/20	Applications of UV-Vis Molecular Absorption		
11	3/27	Molecular Luminescence Spectrometry		Exam III
12	4/3	Mass Spectrometry	22	
13	4/10	Mass Spectrometry		
14	4/17	Introduction to Chromatography	23	
15	4/24	Gas and Liquid Chromatography	24	Exam IV
16	5/1	Finals Week		Final Exam