

Grading:	9 Quizzes (10 points each – drop 3):	60
	3 Exams (100 points each):	300
	Presentation:	25
	Final Exam:	<u>150</u>
		535 points total

Grading Scale based on percentages:

A 100 - 92.5	B+ 89.9 - 87.5	C+ 79.9 - 77.5	D+ 69.9 - 67.5
A- 92.4 - 90.0	B 87.4 - 82.5	C 77.4 - 72.5	D 67.4 - 60.0
	B- 82.4 - 80.0	C- 72.4 - 70.0	F 59.9 -

Homework and Attendance Policy:

Homework will not be graded and attendance will not be taken. It is in your best interest to attend every class, and to do the homework sets. Handouts and notes will not be available later.

Recommended Study Habits

- 1) **Utilize the textbook.** At the end of each chapter, there are “Terms to Understand,” a Summary, Exercises, and Problems of which you are responsible for. The Exercises have complete step-by-step solutions at the end of the book; therefore, you should work all of these before working the assigned homework Problems.
- 2) **Keep up with the class.** The class will move quickly, nearly a chapter per lecture. Some sections may be assigned that will not be covered in the lecture. Be prepared. Looking at the chapter ahead of time will help you during class.
- 3) **Work in a study group.** Work with classmates, but be sure to understand all of the material yourself.
- 4) **Come see me with questions. Attend problem sessions.**

Important University Dates

Jan. 17	Monday	Martin Luther King, Jr. Holiday (No Classes/Offices Closed)
Feb. 4	Friday	Last day to withdraw without a “W”
Mar. 7-12	M - F	Mid-Winter/Spring Break (No Classes/Offices Open)
Mar. 25	Friday	Easter Recess (No Classes/University Closed)
Apr. 1	Friday	Last day to WITHDRAW from class
Apr. 25-30	M – F	Final Exam Week

Class Cancellation Policy:

If the class is canceled due to weather or instructor’s absence, anything planned for that class (test, etc.) will occur during the next class session.

Academic Integrity:

Students are expected to conform to a high standard of honesty and integrity in this course. Refer to the University Catalog (p. 285) and Student Handbook for further explanation. Everything submitted for grading (quizzes, exams, and presentation) is expected to be a student’s own work.

Tentative Course Outline

<u>Chapter</u>	<u>Topic</u>
0	The Analytical Process
1	Measurement
3	Experimental Error
4	Statistics and Spreadsheets
5	Calibration Methods
6	Chemical Equilibrium
7	Let the Titrations Begin
8	Activity
19	Fundamentals of Spectrophotometry
20	Applications of Spectrophotometry
9	Systematic Treatment of Equilibrium
10	Monoprotic Acid-Base Equilibria
11	Polyprotic Acid-Base Equilibria
23	Introduction to Analytical Separations
24	Gas Chromatography
14	Fundamentals of Electrochemistry
15	Electrodes and Potentiometry
12	Acid-Base Titrations
13	EDTA Titrations
16	Redox Titrations

Quiz and Exam Calendar

Jan. 14	Quiz 1	Friday	10:00 – 10:10 am
Jan. 21	Quiz 2	Friday	10:00 – 10:10 am
Jan. 28	Quiz 3	Friday	10:00 – 10:10 am
Feb. 4	Exam 1	Friday	10:00 – 10:50 am
Feb. 11	Quiz 4	Friday	10:00 – 10:10 am
Feb. 18	Quiz 5	Friday	10:00 – 10:10 am
Feb. 25	Quiz 6	Friday	10:00 – 10:10 am
Mar. 4	Exam 2	Friday	10:00 – 10:50 am
Mar. 11	no quiz		Spring Break
Mar. 18	Quiz 7	Friday	10:00 – 10:10 am
Mar. 25	no quiz		Easter Break
Apr. 1	Quiz 8	Friday	10:00 – 10:10 am
Apr. 8	Quiz 9	Friday	10:00 – 10:10 am
Apr. 15	Exam 3	Friday	10:00 – 10:50 am
Apr. 22	no quiz		dead week
Apr. 25	Final Exam	Monday	11:00 a.m. to 12:50 p.m.

You will present, using PowerPoint®, a journal article written on a Quantitative Analysis experiment. You will be allowed no more than 15 minutes. Dr. Lanigan must approve the article. Each student's article is to be different from any other student's. The presentations will be given during the last two weeks of class. The schedule will be given after the midterm

The Journal of Chemical Education is a good place to begin looking, however articles from other journals (Analytical Chemistry) may be used, based on approval. Your article should entail the use of an instrument or an analytical method for quantitative analysis. Example topics: Quantitative Analysis using GC/MS, LC/MS, UV-vis, AA, titration, gravimetric analysis, etc. (See your text for acronym definition).

Outline of Presentation:

- I. Concept
- II. Basic Principles of Method or Instrument
- III. Experimental Procedures (Chemicals, Instrumentation, Sample preparation)
- IV. Results
 - Description of Figures
 - Discussion of Results
- IV. References in proper ACS style – see ACS Style Guide available in library or online

Extra Credit Opportunities

- 1) **Bonus Board Points** – 1 point each time - student goes to board at problem session and presents the solution to the class.
- 2) **Environmental Sustainability Presentation** – 5 points maximum
Research and present a general description of an environmental study, which has tested and quantified pollution (atmospheric, water, or soil) at an interesting location such as local, national, or international parks. Other locations are welcome. All topics require instructor approval.

You may use the Internet, but in order to provide enough information you will likely need to reference at least one published article. However, if you can't find the work published but can show me a substantial amount of material from a different type of source, I will accept it.

Overhead transparencies can be provided. The general outline should be as follows.

- I. Who was doing the work?
- II. What was being tested for?
- III. What types of quantitative methods were used?
- IV. What were the results?
- V. Reference (correct format – see ACS Style Guide in the front office)