

# Chemistry 432/532: Instrumental Analysis II, Spring 2005

- Lecture:** Tuesday, Thursday 8-9:15, Natural Sciences 208.
- Lecture Text:** Douglas A. Skoog, F. James Holler and Timothy A. Nieman, "Principles of Instrumental Analysis," Fifth Edition, Saunders: Philadelphia, PA, 1992.
- Instructor:** Roger Bacon, Natural Sciences 325, Phone: 227-3650, 586-8399 (H)
- Email/Web:** [bacon@email.wcu.edu](mailto:bacon@email.wcu.edu), [paws.wcu.edu/bacon](http://paws.wcu.edu/bacon).
- Office Hours:** Tuesday, 9:30 - 11:30 and Wednesday 8 - 11 or by appointment.
- Prerequisites:** Undergraduate organic, analytical, and physical chemistry.

	<b>Topic</b>	<b>Reading Material</b>
1.	Statistics and Method Evaluation	Appendix 1
2.	Electrical Components and Circuits	Chapter 2
3.	Operational Amplifiers in Chemical Instrumentation	Chapter 3
4.	Digital Electronics and Microcomputers	Chapter 4
5.	Signals and Noise	Chapter 5
6.	An Introduction to Electrochemical Chemistry	Chapter 22
7.	Potentiometry	Chapter 23
8.	Coulometry	Chapter 24
9.	Voltametry	Chapter 25
10.	Thermal Methods	Chapter 31
11.	Radiochemical Methods	Chapter 32
12.	Surface Characterization	Chapter 21
13.	Automated Methods of Analysis	Chapter 33
14.	Supercritical Fluid Chromatography and Extraction	Chapter 29
15.	Capillary Electrophoresis and Electrochromatography	Chapter 30

**NOTE: I know the above list is too long, and coverage will be modified to fill gaps from your other undergraduate courses.**

## **Grading Scale (432)**

100-92 = A, 91-88 = A-  
87-84 = B+, 83-80 = B, 79-76 = B-  
75-72 = C+, 71-68 = C, 67-64 = C-  
63-60 = D+, 59-56 = D, 55-52 = D-  
51-0 = F

## **Grade Determination**

Hour Exams (2 @ 20%)	40%
Final Exam	30%
Homework & laboratory	20%
Homework Presentation, Discussion, Attendance	10%

**Grading Scale (532)**

100-88 = A

87-76 = B

75-64 = C

63-0 = F

**Grade Determination**

Hour Exams (2 @ 20%) 40%

Final Exam 30%

Graded Homework and Laboratory Participation 20%

Homework Presentation, Discussion, Attendance 10%

**Exams.** Hour examinations will be given on (Tentatively!!) February 28 and April 18.

**Final Examination.** A comprehensive final examination will be given on Tuesday, May 3 at 12 noon.

**Homework Problems, Discussion, and Attendance.** Homework will be assigned from the Skoog text or from handouts. All students are expected to be able to present any of these problems during any class period. If you are not present, then you cannot take part in the discussion, and hence you will receive a grade of zero for that class. The only legitimate excuses to miss a class are (1) participation in a university sanctioned trip (in which case you need to provide written documentation ahead of time) (2) illness verifiable by a note from a physician or (3) other serious circumstances. Please come to my office and talk to me if you encounter problems.

**Academic Honesty.** I assume that all students will adhere to the university's policy on academic honesty. Students who violate this policy will receive a zero for that assignment. You may work together on homework but I don't want to see any "clone papers". If you have questions about academic honesty, please ask me.