

**ANALYTICAL CHEMISTRY (CHEM 321-Spring 2007)
SYLLABUS**

Instructor: Dr. X. Nancy Xu
Office: Alfriend Chemistry Building Room 201
Office Hours: MW 7:10-8:00 PM (right after the class)
Email: xhxu@odu.edu
Teaching Assistant: Dr. Tao Huang and Jill Lowman

Time & Place:
MW: 5:45 – 7:00 PM; OCNPS Room 200

Pre-requisites:
MATH 102 or equivalent, CHEM 115, 116.

Textbook:
Quantitative Chemical Analysis, 7th edition, D. Harris, Freeman, 2007.

Reference:
Fundamentals of Analytical Chemistry, 7th edition, Skoog/West/Holler, Saunders Publishing, 1996.
(One copy of the book is placed in the reserved desk of the library.)

Course Website:
Class notes, assigned problems, answers and announcements are or will be posted at <http://www.odu.edu/sci/xu/chem321/chem321.htm>. **I suggest you visit this site as frequently as possible, especially before and after every class.** You will need Acrobat Reader.

Honor Code:
Students registered for CHEM 321 are expected to obey the ODU Honor Code.

Attendance:
Attendance at class meeting is compulsory. Regular and punctual class attendance is required of all students. If you are absent, you will be responsible for everything covered in class including any handouts (e.g., problem sets, answers, sample tests, etc).

Absence from Exams:
Missed exams may be made up **only with** a medical excuse (written by physician or health center), death or hospitalization in the family. Without these reasons, one will earn a “zero” grade on that test. **No exceptions will be made.** Please contact me prior to the exam if you must be absent.

Homework:
Assigned homework is **mandatory**. Working on these assignments in a timely manner is the best way to learn the material and get good grades. I may check your assignments and sample your homework on the due date even though it may not be graded. A copy of the answers to assigned problems is placed in the reserved desk of the library.

Exams:
4 unit tests and a comprehensive final examination

Grading:
Average cumulated grade = unit tests (70%) and final exam (30%)
100-93 = A; 92-90 = A⁻; 89-87 = B⁺; 86-83 = B; 82-80 = B⁻; 79-77 = C⁺;
76-73 = C; 72-70 = C⁻; 69-67 = D⁺; 66-63 = D; 62-60 = D⁻ <60 = F

CHEM 321 - Analytical Chemistry Tentative Timeline

Date	Chapter	Topic	Homework
01/08	1	Measurements	1-12, 17, 22, 28, 31, 32, 34
01/10	3	Experimental Error	3-1, 2, 5, 10, 12, 13, 15, 16, 22
01/15 Martin Luther King Holiday- No classes			
01/17, 22	4	Statistics	4-A, E, F, 11, 14, 17, 20
01/24 1st Unit Test (Chapter 1, 3, 4)			
01/29, 31	6	Chemical Equilibrium	6-4, 15, 16, 19, 22, 25, 30, 37, 47, 48, 53
02/5, 7	7	Let the Titrations Begin	7-B, F, 7, 22, 23, 28, 36
02/12, 14, 19	8	Activities and Systematic Treatment of Equilibrium	8-A, B, C, E, F, G, 2, 4, 11, 12, 18, 20, 24, 26
02/21	9, 11	Monoprotic Acid-Base Equilibria	9-B, D, E, 2, 5, 6, 22, 23, 27, 28, 33
02/26	6-9	Recitation and help session	
02/28 2nd Unit Test (Chapter 6-9)			
03/05-10 Spring Break- No classes			
03/12, 14	10, 11	Polyprotic acid-Base Equilibria	10-A, B, D, 4, 11, 17, 18, 23
03/19, 23	11	Acid-Base Titrations	11-A, B, F, 3, 6, 14, 19, 23
03/26, 28	12	EDTA Titrations	12-C, D, 1, 2, 3, 7, 8, 24, 34
04/02 3rd Unit Test (Chapter 10-12)			
04/04, 09	14	Fundamentals of Electrochemistry	14-B, C, D, 2, 10, 25
04/11, 16	15	Electrodes and Potentiometry	15-4, 8, 9, 21, 26
04/18	16	Redox Titrations	16-A, 1, 2, 6, 13
04/23 4th Unit Test (Chapter 14-16)			
04/30 3:45-6:45 PM Comprehensive Final Examination (Chapter 1-16, except 2, 5 and 13)			

Note to the class:

Welcome to Chem 321, a key course to your future success in analytical data analysis and experimental design of any chemical related problems in every scientific disciplinary including chemistry, biology, biotechnology, forensic science, food science, material science, medicine, environmental science, etc. Whether you aim to be a brilliant scientist, a medical doctoral, a technician or a good cook, you will find this course essential and helpful for your future career. We will introduce basic analytical concepts and theories and focus on data analysis and interpretation. Six tips for success in this class are (1) actively attending every class and take good notes, (2) improving your math (good math is **absolutely** essential), (3) completing all homework and study textbook, class notes and slides, (4) asking questions, (5) coming to Dr. Xu's office hours, (6) visiting course website frequently.

Good-luck to you!! ---Dr. Nancy Xu