

Advanced Topics in Analytical Chemistry
Surface Chemistry
CHEM 4385 01W
Spring 2008

Purpose

This course introduces elementary concepts of modern surface chemistry. Considerations of thermodynamics, kinetics, surface structure, electronic structure, and catalysis and reactivity will be explored using examples from the current literature. The course is designated as a Writing Across the Curriculum course.

Learning Outcomes

- To develop an appreciation for surface processes such as adsorption, desorption and chemical reactions.
- To develop problem solving skills and conceptual understanding of surface and solid state structure and the energetics of both.
- To be introduced to common surface analytical techniques such as photoelectron spectroscopy, thermal desorption, and vibrational spectroscopy.

Instructor	Office	Office Hours
Andrew J. Leavitt, Ph.D. Professor of Chemistry	Alumni House 404-536-1772 cell aleavitt@westga.edu	By appointment only
Lecture	TR 08:00am – 09:15am	TLC 2105
Textbook	Surface Chemistry	McCash, Oxford Press, 2000
Readings	Handouts	

Homework

Homework will be assigned, collected, and graded. Your homework must be stapled and legible when turned in.

Attendance Policy

You are expected to be present and prepare for each class meeting. Due dates for Homework and examinations are scheduled and will not be moved. No late work will be accepted and no make-up exams will be given. You will be entitled to miss two class meetings for any reason (including university-excused absences) and retain your attendance points.

Academic Dishonesty

The Honor Code of the University of West Georgia is in effect. Any infractions will be mediated through this process.

Writing Requirements

This course has been designated as a writing intensive course for the **Writing Across the Curriculum** Program (WAC). You will be required to write several formal and informal reports. Located in TLC 1201, the Writing Center assists all students with any sort of writing assignment. Make an appointment with a tutor and focus on your writing reports early in the semester. Their phone number is 678-839-6513

and their web address is www.westga.edu/~writing. The Center's staff will work with you and help you at any stage of the writing.

1. Formal Report on "The Double Helix" by James Watson (50%)

You will write a 5-page, double spaced, font size 12, 1 inch margins literary critic on "The Double Helix" by James Watson. You will have the opportunity of writing several drafts of the paper. If you do not complete any of the parts of this assignment, you will receive a zero for the entire assignment. If you do not complete this assignment, you will receive a grade of F for the course regardless of your points standing on the other parts of the course.

2. Informal Reports (50%)

A. An exercise designed to build scientific reading comprehension will be assigned. You will be given a modified journal article to carefully read and interpret. The article will be modified by the removal of the abstract and any noticeable references to the citation. Then you will write the abstract that you believe fits the contents of the paper. This exercise will occur twice during the semester.

B. You will be asked to write 5-minute essays about the content of either the readings or the lecture. There will be a total of 10 essays that will be collected and evaluated by the instructor.

Exams

There will be three exams and one final exam. Each exam will be closed-book and you will be permitted to have a pencil and calculator. Please make every effort to avoid missing an exam since there will be no makeup exams given.

Grades

Your course average will be calculated as follows:

$(\text{Exam Average} \times 0.7) + (\text{Homework Average} \times 0.1) + (\text{WAC Work} \times 0.2) = \text{Course Average}$

85% - 100%	A
70% - 84%	B
55% - 69%	C
40% - 54%	D
0% - 39%	F

2008 Course Outline

Class	Date	Topic
10	2/12/08 (T)	Exam 1
15	2/28/08 (Th)	First Draft of Double Helix
	3/3/08 (M)	Last Day to Drop with W
19	3/13/08 (Th)	Exam 2
25	4/10/08 (Th)	Final Draft of Double Helix
29	4/24/08 (Th)	Exam 3
31	5/6/08 (T)	Final Exam 8 AM to 10 AM