

LECTURE SYLLABUS

PHYSICAL CHEMISTRY 3510
FALL SEMESTER 2008, 8:00-8:50 a.m. MWF
PREREQUISITES: CHEM 1120, MATH 2110,
PHYS 2210, 2220 (may be taken concurrently)

PROF. S. H. NORTHRUP
OFFICE HOURS: TBA
FOSTER HALL ROOM 333
TELEPHONE: 372-3748

TEXTBOOK: Peter Atkins and Julio de Paula, Physical Chemistry, 8th edition, W.H. Freeman; this is bundled with an activation code for Explorations in Physical Chemistry 2.0, and access to the eBook, a complete online version of the textbook.
Student Solutions Manual for Physical Chemistry, 8th edition

LAB TEXT: Garland, Nibler, & Shoemaker, Experiments in Physical Chemistry, 8th ed.

MATERIALS: CPS RF Clicker device, scientific calculator

OBJECTIVES:

The objective of this course is to introduce students to some of the central concepts of classical, quantum, and statistical mechanics which explain the inherent physical and chemical properties of matter. Of special importance will be an understanding of how these physical principles account for bonding of atoms to form stable molecules, the interaction of matter with light (spectroscopy), and the relationship of the microscopic to the macroscopic world through the statistical behavior of large ensembles of molecules. The student will learn to apply these principles through practical problem solving.

TEACHING METHODS:

The lecture portion of the course will be entirely in lecture format with electronic responses. Students are encouraged to ask questions during the lecture. More personal attention to questions can be entertained through Office Hours. If the posted Office Hours are inconvenient, the student may make an appointment for private help. Help sessions will be offered before major tests as needed.

<u>GRADING:</u>	3 exams*	40%	Class Participation**	10%
	Final Exam	25%	Lab	25%

*The lowest of the three hourly exam scores will be dropped, and so there will be no makeup exams. The dropped grade is not for the purpose of raising your average due to a poor performance, but to provide for the possibility of missing due to illness or unforeseen circumstance. Arrangements will be made in the event of long term illness or hospitalization on a case basis. If there is a consensus in the class, exams could start a few minutes before the hour to allow additional time to complete the exam and avoid being rushed. This will be announced prior to exams.

**Spontaneous In-Class Participation Exercises will be given using the CPS RF Clicker devices throughout the semester. This is partially to encourage attendance, but also to

enliven the lectures and provide me feedback on student comprehension and progress on assigned homework. No make-up possibility is provided for these, so I will be dropping several to make allowance for occasional misses.

I am a strong believer in homework, even to the extent that in the past I have often used electronic homework in teaching both general and physical chemistry. However, this semester homework will be assigned but will not be handed in for explicit grading and credit. I will spot-check whether you are doing your homework by occasionally asking for the answer to a problem using the Clicker device. Thus, your homework grade will show up in the "Class Participation" grade category. Be sure to bring your worked homework to class. The student solutions manual is available for purchase at the TTU Bookstore. This contains solutions to the (b) version of the Exercises and the odd-numbered Problems. I will be assigning a selection of complementary Exercises and Problems as Homework. These are essentially the same problem types.

ATTENDANCE POLICY:

Attendance at all class meetings is strongly encouraged, although the roll will NOT be taken as such. However, students may risk missing credit for in-class participation exercises by failure to attend class, and could lose a maximum 10 points out of 100 total class points.

EXAM DATES (Tentative):

Friday, September 19
Wednesday, October 15
Wednesday, November 12

FINAL EXAM: 8:00-10:00 a.m., Thursday, December 11

STUDENTS WITH DISABILITIES:

I am happy to accommodate students with disabilities. Students with a disability requiring accommodations should first contact the Office of Disability Services (ODS). An Accommodation Request (AR) should be completed for my signature as soon as possible, preferably by the end of the first week of the course. The contact is located in the Roden University Center, Room 112; phone 372-6119.

CHEATING POLICY:

Cheating will absolutely not be tolerated in Chem3510 or any other TTU course. Please consult the Student Handbook to learn the University policy on cheating, and what options are available to the instructor in cases of cheating. Examples of Cheating include but are not limited to: Using another student's clicker to record "their" Pop Quiz or other interactive responses during lecture; OR having another student use your clicker during a Pop Quiz in order that your attendance and performance is registered for that lecture session. Copying another student's answers during a quiz or exam. Deliberately showing another student your answers during a quiz or exam. CELL PHONES must be turned off and stowed away in a backpack during quizzes and tests.