

Chem 3621, Physical Chemistry III, Spring 2007

Latest revision is 5/28/07

Class Times: TTh 12:00 – 1:50 pm, Olin 103

Instructor: Sandra S. Eaton

Office: Seeley G. Mudd Rm. 178

Office Hours: T Th 2-4 pm, or by appointment

Text: *Physical Chemistry*, P. Atkins and J. de Paula, 8th ed., Freeman, 2006.**Course Outline**

Date	Topic	Reading in Atkins and de Paula	Homework - E and P refer to Exercises and Problems from Atkins and de Paula
Mar. 27	No class – makeup on April 4		
29	No class – makeup on April 11		
April 3	Symmetry and Point Groups	404-412	
4* (2-4 pm, BE209)	Character Tables, Molecular orbitals for H ₂ O	413-425	
5	Electronic Spectroscopy	481-492	
6* (9-11 am BE102)	Fluorescence, Phosphorescence and Lasers	492-505	E12.9b, E12.10b, E12.11b, E12.12b
10	Magnetic Resonance	513-533	E14.1b, E14.6b, E14.8b, E14.11b, P14.13, P14.18
12	Pulsed NMR	533-549	
17	Electron Spin Resonance	549-555	E15.6b, E15.7b, E15.11b, E15.12b, P15.2
19	Spin density and Huckel theory	386-392	
24	Statistical Thermodynamics	560-570	E15.18a, E15.20a, E15.21a, E15.22a, P15.10
26	Internal energy and entropy	571-580	
May 1	Exam 1		
3	Motion in Gases	747-756	E16.2a, E16.6a, E16.8a (omit part d), E16.11a, P16.8
8	Motions in Liquids	761-776	
10	Rates of Reactions	791-803	
15	Rate Laws, Temperature Dependence	804-809	E21.3a, E21.5a, E21.7a, E21.26a, E21.29a
17	Mechanisms and Rate Laws	809-815	
22	Mechanisms (cont.)	815-823	E22.2a, E22.5a, E22.8a, E22.14a, P22.9
24	Exam 2		
29	Complex Reactions	830-838	
31	Collision Theory	867-878	P22.20, P22.24, E24.4a, E24.5a, E24.8a
June 5	Final exam – cumulative 11 am - 1 pm		

Homework will be assigned weekly, collected, and graded. The assignments will be added to the version of the course outline that is posted on Blackboard.

*Makeup classes will be held on Wed. April 4 at 2-4 pm, and Fri. April 6 9-11 am to compensate for having no class meetings during the first week of the quarter.

Grading: Class Participation - 10%, Homework - 15%, Exams - 25% each.