

CH 331  
LECTURE AND EXAM SCHEDULE  
Prof. Stefan Franzen  
Fall 2009

Date	Lecture	Reading
August 20	1. Blackbody Radiation. Wave equation.	Chapter 1
August 25	2. Energy Levels and electromagnetic radiation	Chapter 9
August 27	3. Absorption in the Atmosphere: MO diagrams.	Chapter 9
September 1	4. Rotational and Vibrational Spectroscopy.	Chapter 10
September 3	5. Fluorescence Spectroscopy and Applications.	Chapter 10
September 8	6. Perfect gas law. Kinetic theory of gases.	Chapter 2 & 6
September 10	7. Thermodynamics: The First Law.	Chapter 2
September 15	First Mid-term exam	
September 17	8. Enthalpy.	Chapter 2
September 22	9. Entropy The second law.	Chapter 2
September 24	10. The third law.	Chapter 2
September 29	11. Free Energy Functions.	Chapter 2
October 1	12. Biological Applications. Protein Folding.	Chapter 2
October 6	13. Phase transitions and equilibria.	Chapter 2
	Fall Break	

October 13	14. Mixtures. Raoult's law. Henry's law.	
October 15	15. Activity coefficients. Ionic solutions.	Chapter 3
October 20	Second Mid-term	Chapter 4
October 22	16. Colligative properties, Osmosis.	Chapter 4
October 27	17. Surface tension, vapor pressure, membranes.	Chapter 4
October 29	18. Diffusion. Sedimentation. Viscosity. Electrophoresis.	Chapter 4

November 3	19. Chemical reaction rates. First order kinetics.	Chapter 5
November 5	20. Multi-step Reactions. Steady State.	Chapter 5
November 10	21. Half life. Arrhenius equation.	Chapter 5
November 12	22. Activated complex theory.	Chapter 5
November 17	23. Second Order Kinetics. Michaelis-Menton.	
November 19	24. Enzyme Kinetics.	Chapter 5
November 24	25. The Chemistry of Climate Change.	Chapter 5
	Thanksgiving Break	
December 1	26. Cooperativity. Biological Examples.	Chapter 6
December 3	27. Electron Transfer. Biological Examples.	Chapter 7
December 10	Final Exam 8:00 a.m.	