Textbook: Volume 1 of Physical Chemistry, 9th Ed. By Atkins and De Paula, 2010

Class Schedule: M, T, Th, 11:50 a.m. - 12:40 p.m.

Class	**Chapter (Sections)**	**Topic(s)**
9/1 (Thurs.)	Fundamentals	Fundamental concepts
9/5 (Mon.)	Ch. 1 (1,2)	"Perfect" gases
9/6 (Tues.)	Ch. 1 (3,4)	Real gases
9/8 (Thurs.)	Ch. 2 (1-3)	Work, Heat and the First Law
9/12 (Mon.)	Ch. 2 (4-6)	Energy, Enthalpy and changes of state
9/13 (Tues.)	Ch. 2 (7-9)	Thermochemistry
9/15 (Thurs.)	Ch. 2 (10-12)	State functions and exact differentials
9/19 (Mon.)	Review	(Quiz #1, 1:00 - 5:00 p.m.)
9/20 (Tues.)	Ch. 3 (1-2)	Entropy and the Second Law
9/22 (Thurs.)	Ch. 3 (3)	Calculating entropy changes
9/26 (Mon.)	Ch. 3 (4-6)	The Third Law; Gibbs and Helmholtz Functions
9/27 (Tues.)	Ch. 3 (7-9)	Combining the First and Second Laws
9/29 (Thurs.)	Ch. 4 (1-3)	Describing phase transitions
10/3 (Mon.)	Ch. 4 (4-6)	Thermodynamics of phase transitions
10/4 (Tues.)	None	Catch-up day #1
10/6 (Thurs.)	None	Fall break -- no class
10/10 (Mon.)	Review	(Quiz #2, 1:00 - 5:00 p.m.)
10/11 (Tues.)	Ch. 5 (1-3)	Thermodynamic description of mixtures
10/13 (Thurs.)	Ch. 5 (4-5)	Properties of solutions
10/17 (Mon.)	Ch. 5 (6-9)	Phase diagrams -- binary solutions
10/18 (Tues.)	Ch. 5 (10-13)	Activities; Debye-Huckel Theory
10/20 (Thurs.)	Ch. 6 (1,2)	Thermodynamics and spontaneity
10/24 (Mon.)	Ch. 6 (3,4)	Response of equilibrium to P, T changes

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10/25 (Tues.)	Ch. 6 (5,6)	Redox reactions; electrochemical cells
10/27 (Thurs.)	Ch. 6 (7-9)	Cell potentials, voltammetry, coulometry
10/31 (Mon.)	Review	(Quiz #3, 1:00 - 5:00 p.m.)
11/1 (Tues.)	Ch. 20 (1)	Gas Kinetic Theory -- Distribution Funcdtions
11/3 (Thurs.)	Ch. 20 (2-4)	Molecular collisions -- transport properties
11/7 (Mon.)	Ch. 20 (5-7)	Molecular motions in condensed phases
11/8 (Tues.)	Ch. 20 (8-11)	Diffusion
11/10 (Thurs.)	Ch. 21 (1-4)	Reaction rates and rate laws
11/14 (Mon.)	Ch. 21 (5-7)	T dependence; elementary mechanisms
11/15 (Tues.)	Ch. 21 (8,9)	Complex mechanisms
11/17 (Thurs.)	Ch. 21 (10)	More complex mechanisms
11/21 (Mon.)	Review	(Quiz #4; 1:00 - 5:00 p.m.)
11/22 (Tues.)	None	Catch-up day #2
11/24 (Thurs.)	None	Thanksgiving break -- no class
11/28 (Mon.)	Ch. 22 (1-3)	Dynamics 1 -- Collision Theory
11/29 (Tues.)	Ch. 22 (4,5)	Dynamics 2 -- Transition State Theory
12/1 (Thurs.)	Ch. 22 (6-10)	Dynamics 3 -- Other models
12/5 (Mon.)	Ch. 23 (1,2)	Homogeneous catalysis
12/6 (Tues.)	Ch. 23 (3-7)	Heterogeneous catalysis
12/8 (Thurs.)	None	Catch-up day #3
12/12 (Mon.)	Review	(Quiz #5, 1:00 - 5:00 p.m.)
12/13 (Tues.)	Course review	
12/15 (Thurs.)	Review period -- no class	
12/?	All	Final Exam (3 hrs.)