

Chem 125 Assignment Schedule

Prof. Adam Van Wynsberghe

Fall 2014

Week	Date	Lecture Topic	Reading	Laboratory	Assignments
1	8/29 F	Class Introduction	Review Gilbert Chaps. 1 and 2	No Lab	
2	9/1 M	Waves and Particles	Gilbert 3.1-3	Synthesis of Nylon	
	9/3 W	Bohr Model & Quantum Mechanics I	Gilbert 3.4-5		
	9/5 F	Introduction to Toxicology	SDRD viii-32; <i>Our Stolen Future</i> pgs. 1-46 (BB)		HW #1
3	9/8 M	Introduction to Toxicology II		Nailing Statistics	
	9/10 W	Searching the Scientific Literature in Burke Library			
	9/12 F	Quantum Mechanics II	Gilbert 3.6		
4	9/15 M	Atomic Orbitals	Gilbert 3.7	Determination of Iron in supplements	
	9/17 W	Electron Configurations	Gilbert 3.8-9		
	9/19 F	Toxin Discussion: BPA	SDRD 216-253 and 271-275		HW #2
5	9/22 M	Periodic Trends	Gilbert 3.10-12	Isolation of caffeine from tea	
	9/24 W	Chemical Bonds and Lewis Theory	Gilbert 4.1-3		
	9/26 F	Resonance and Advanced Lewis Structures	Gilbert 4.4-9		

***** Exam I: Monday, September 29th, 6:00 PM TSC 3024 *****

6	9/29 M	Mass Spectrometry	Gilbert 7.6	Cocaine Detection on Dollar Bills	
	10/1 W	VSEPR and Molecular Shapes	Gilbert 5.1-3		
	10/3 F	Toxin Discussion: PFOA	SDRD 69-95 and 260-262		HW #3
7	10/6 M	Valence Bond Theory I	5.4-5	Macromolecular Docking	
	10/8 W	Molecular Orbital Theory I	Gilbert 5.7		
	10/10 F	Toxin Discussion: PBDE's	SDRD 96-130 and 262-264		HW #4
8	10/13 M	Molecular Orbital Theory II	Gilbert 5.7	Project Workshop	
	10/15 W	S-P mixing; Heteronuclear Diatomics	Gilbert 5.7	Draft Proposal Due Monday Night	
	10/17 F	No Lecture-Fall Recess			
9	10/20 M	Molecular Interactions	Gilbert 5.3; 6.1-5	Independent Projects	HW #5
	10/22 W	Energy, heat, & work	Gilbert 9.1-2	Full Proposal Due in Lab	

***** Exam II: Thursday, October 23rd, 6:00 PM TSC 3021 *****

10/24 F	Enthalpy and Hess's Law	Gilbert 9.3; 9.6-7		
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10	10/27 M	Spontaneity, Entropy, and the 2nd Law	Gilbert 12.1-2	Independent Projects	
	10/29 W	Statistical and Thermodynamic Entropy; 3rd Law	Gilbert 12.3-5		
	10/31 F	Toxin Discussion: Phthalates	SDRD 33-68 and 254-260		HW #6
11	11/3 M	Free Energy; Rates of Rxns and Rate Laws	Gilbert 12.6-8; 13.1-2	Independent Projects	
	11/5 W	Integrated Rate Laws	Gilbert 13.3		
	11/7 F	Toxin Discussion: Mercury	SDRD 131-158 and 264-267		HW #7
12	11/10 M	Arrhenius Equation; Catalysis	Gilbert 13.4; 13.6	Independent Projects	
	11/12 W	Rxn Mechanisms	Gilbert 13.5	Oral Presentations in Lab	
	11/14 F	Toxin Discussion: Triclosan	SDRD 159-186 and 267-269		HW #8
13	11/17 M	Dynamic Equilibrium	Gilbert 14.1-6	Independent Projects	
	11/19 W	Free Energy and Equilibrium	Gilbert 14.9-10		

***** Exam III: Thursday, November 20th, 6:00 PM TSC 3021 *****

11/21 F	Le Chatlier's Principle	14.7
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Thanksgiving Break!

14	12/1 M	Equilibrium constant calculations	14.8; 15.10	Poster Workshop	
	12/3 W	Acids and Bases; pH	15.1; 15.3; 15.5		
	12/5 F	Toxin Discussion: 2,4-D	SDRD 187-215 and 269-271		HW #9
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15	12/8 M	K_a 's and pK_a 's	15.4	Poster presentations	
	12/10 W	Buffers and Titrations	15.6-9; 17.10		
	12/12 F	Molecular rationale of acid/base strength	15.2		

***** Final Exam: Tuesday, December 16th, 2:00-5:00 PM TSC 3021 *****
