

Chem 112 Schedule - Fall 2009

See Schedule on the Course Web page for updates: <http://courses.chem.psu.edu/chem112/Fall>

Date	Topic	Reading	Textbook Exercises	Packet Problems
1 M Aug. 24	Syllabus, Kinetics	Packet Info 14.1-2	Introduction 14.1 ,13, 15, 17	
2 W Aug. 26	Kinetics I: Reaction Rates	14.3-4	14.23, 25, 27, 29, 32	Kinetics 1-3
Skill Check Test 1: Nomenclature Bonus Deadline: Thurs. Aug. 27 (midnight)				
3 F Aug. 28	Kinetics II: Rate Laws , Time Dependence	14.4 14. 5	14. 35, 37, 41, 45 14. 5, 47, 49, 51,55, 57	Kinetics 4-6
4 M Aug. 31	Kinetics III: Temperature Dependence	14. 6		Kinetics 7-9
5 W Sept. 2	Kinetics IV: Mechanisms and Catalysis	14.7,	14. 10, 63, 65, 67, 69, 99	Kinetics 10-12
Skill Check Test 2: Ions in Solution Bonus Deadline: Thurs. Sept. 3 (midnight)				
6 F Sept. 4	Enzymes	Enzyme supplement	14. 73, 75, 78-81, 92, 95	Kinetics 13-17
	Nuclear Reactions	21.1-3, 22.2	21.1,2, 7, 9, 11,13,17,19,27, 65	Nuclear 1-6
Unit Quiz 1, Kinetics START DATE: Sept. 5 Final Due Date: Tues. Sept. 8 (midnight)				
M. Sept. 7	Labor Day Holiday			
7 W Sept. 9	Half Life & Mass-Energy Conversion	21.4-6	21.4, 32, 33, 37, 39, 41, 42, 43, 45, 47, 51	Nuclear 7-13
8 F Sept. 11	Fission/Fusion, Medical Applications	21.7-9, p. 910, 922	21.6, 35,53,57	Nuclear 14-18
Unit Quiz 2, Nuclear START DATE: Sept. 12 Final Due Date: Sept. 14 (midnight)				
9 M Sept. 14	Exam I Review			
Nuclear Reactor Tours: TBA				
FIRST MIDTERM EXAM –Tuesday Sept. 15 - Pollock Testing Center				
Chapters TBA Skill Check Tests 1, 2, 3				

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10 W. Sept. 16	Equilibrium and Dissociation	15. 1-7	15.1, 11, 13, 15, 21a,b, 23, 29, 35, 37, 45, 51, 53	Equilibrium 1-16
Skill Check Test 3: Equilibrium Bonus Deadline: Thurs. Sept. 17 (midnight)				
11 F Sept. 18	pH, Strong and Weak Acids	4.2-4 16.1-3	16.17, 19, 21, 23, 29, 31, 33	Acid-Base 1
Unit Quiz 3 Acid Base Part 1 Chapt 16.1-8 START DATE: Sept. 19 Final Due Date: Sept. 21 (midnight)				
12 M Sept. 21	Strong and Weak Bases	16.3-5	16.3, 35, 37, 39, 41, 43-45, 47	Acid-Base 2-8
13 W Sept. 23	K _a , K _b , Salt Solutions	16.6-8	16.6, 51, 53, 57, 61, 65 16.73, 75, 77	Acid Base 9-26
Skill Check Test 4: Basic Acid-Base chemistry (pH) Bonus Deadline Sept. 24 (midnight)				
14 F Sept. 25	Chemical Structure & Lewis Theory	16.8-9	16.79, 81, 83, 85, 87	Acid Base 27- 32
Unit Quiz 4 Acid Base II START DATE: September 26 Final Due Date: September 28 (midnight)				
15 M Sept. 28	Common Ion Effect	16.10-11	16.9, 93, 95, 97, 101, 103	Acid Base 33-36
16 W Sept. 30	Buffer Solutions	17.1	17.13, 15 17.4, 19, 21, 23, 25, 27, 29	Buffers 1-4
Skill Check Test 5 Concentration Dilution Bonus Deadline October 1 (midnight)				
17 F Oct. 2	Titrations, Indicators	17.2-3	17.7, 33, 35, 37, 39, 41, 43, 45	Buffers 5-14
Unit Quiz 5 Buffers and Titration START DATE: October 3 Final Due Date: October 5 (midnight)				
18 M Oct. 5	Review			
SECOND MIDTERM EXAM – Wednesday, Oct. 7 - Pollock Testing Center				
Chapters TBA , Skill Check Tests				

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19 W Oct. 7	Solubility Equilibria	4.2, 17.4-5	17.47,49,51, 53, 55, 57	Solubility 1-7
20 F Oct. 9	Precipitation/Dissolution Complex Ions	17.6-7	17.10, 59, 61, 63, 67, 82, 85, 88	Solubility 8-14
Unit Quiz 6 Solubility START DATE: October 10 Final Due Date: October 12 (midnight)				
21 M Oct. 12	Spontaneity, Enthalpy	19.1-2	19.1, 9,11, 13, 23, 25	
22 W Oct. 14	Entropy	19.3-4	19.4, 31,33, 39,41, 43, 47, 49	Thermo 1-6
23 F Oct. 16	Free Energy	19.5-6	19.6, 51, 53, 55, 57,65	Thermo 7-18
Unit Quiz 7 Thermodynamics part 1 START DATE: October 17 Final Due Date: October 19 (midnight)				
24 M Oct. 19	Free Energy , Keq	19.7	19.73, 75, 77, 79, 81, 90, 93	Thermo 19-22
25 W Oct. 21	Oxidation Numbers	4.4	4.49, 51, 53	Electrochem. 1-4
	Balancing Redox reactions	20.1-2	20.11, 13, 15,19, 21, 93	
Skill Check Test 6 Oxidation Reduction Bonus Deadline October 29 (midnight)				
26 F Oct. 23	Voltaic Cells, EMF	20.3-4	20.4, 25, 33, 35, 37, 39, 43, 45	Electrochem 5-10
Unit Quiz 8 Thermodynamics part 2 START DATE: October 24 Final Due Date: October 26 (midnight)				
27 M Oct. 26	Review			
THIRD MIDTERM EXAM –Tuesday Oct. 27 - Pollock Testing Center Chapters TBA, Skill Check Tests				

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28 W Oct. 28	Spontaneity, Effect of concentration	20.5-6	20.7, 49, 51, 53a, 55 20. 59, 61, 63, 65, 96	Electrochem.11-19
29 F Oct. 30	Batteries and Corrosion 1	20.7-8	20.71, 73, 75, 81, 83	Electrochem. 20-21
30 M Nov. 2	Batteries and Corrosion 2	20.7-8	20.71, 73, 75, 81, 83	Electrochem. 20-21
31 W Nov. 4	Electrolysis, work, Quantitative electrochem	20.9	20.87, 89, 91, 105	Electrochem. 22-33
Review	Intermolecular Forces and Phase diagrams	11.1,2,6	11. 2, 6, 15, 45, 53, 55	
Review	Covalent bonding	9.4-6	9.51	
32 F Nov. 6	Bonding in Solids: Molecular Orbital Theory	9.7-8	9.59, 65,67,69,71	Molecular Orbital Theory 1-6
Unit Quiz 9 Electrochemistry START DATE: November 7				
Final Due Date: November 9 (midnight)				
33 M Nov. 9	Bonding and Structure of Solids	11.7, 8 p. 515-516 22.1, 22.10, 12.4	11.7c, 57,69, 71,73,75,77	Bonding in Materials 1-8 Polymers & Ceramics 9, 10
34 W Nov. 11	Periodic Trends	7.1-6 22.1	7.5, 23,25,27,29,31, 49, 57, 61,63 22.1, 7, 8abc, 11, 13, 15	Periodicity 1-9
Skill Check Test 7: Forces and Bonding in Solids Bonus Deadline:Nov. 12 (midnight)				
F Nov. 13 Late Drop Deadline				
35 F Nov. 13	Chemistry of the Elements	22. 1-11	22.1, 8, 13, 15, 21, 45, 46, 55, 63, 66, 75, 77, 78	Chemistry of the Elements 1-4, 6, 9, 10
Unit Quiz 10 Chemistry of the elements, START DATE: Nov. 14				
Final Due Date: Nov. 16 (midnight)				
36 M Nov. 16	Review			
FOURTH MIDTERM EXAM – Tuesday Nov. 17 - Pollock Testing Center				
Chapters TBA, Skill Check Tests				

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37 W Nov. 18	Metallurgy	23.1-4	23.2, 10, 14, 17, 19	Metallurgy 1-10
Skill Check Test 8: Periodicity Bonus Deadline: Nov. 19 (midnight)				
Unit Quiz 12 Review Part 1 START DATE: November 19 Final Due Date: December 11 (midnight)				
Unit Quiz 13 Review Part 2 START DATE: November 19 Final Due Date: December 11 (midnight)				
38 F Nov. 20	Transition Metals 1: Complex Ions	6.8-9 23.7 24.1-3	6.67b,d, 70 23.43, 45, 47 24.1, 13, 17, 19, 21, 23	
Nov. 23-27 Thanksgiving Break				
39 M Nov. 30	Transition Metals 2; Crystal Field Theory	p 745-750 24.5-6	17.91, 24.77 24.6, 7, 33, 35, 37, 41, 43, 45, 47	Transition Metals 1-8
40 W Dec. 2	Metal Properties: Electrical	12.1-3 12.5, 23.5	12.1, 2, 13, 15, 17, 23, 87 23.25, 29, 31	Metal Properties 3-7
41 F Dec. 4	Metal properties; Mechanical	23.6, 11.7, Metal supplement	23. 33, 34	Metal Properties 1,2, 8- 10
Unit Quiz 11 Metals, START DATE: December 5 Final Due Date: December 7 (midnight)				
Final Deadline for ALL Skill Check Tests 1-8 Monday, December 7 (midnight)				
42 M Dec. 7	Modern Materials; Polymer Synthesis	12.6, Polymer supplement	12.5ab, 39, 40, 41, 43, 45	Polymers and Ceramics 1, 2
43 W Dec. 9	Polymer Properties and Biomaterials	12.7	12.3, 47, 48, 49, 51, 52	Polymers and Ceramics 3-8
44 F Dec. 11	Review			
FINAL EXAM – TBA, During Finals Week December 14-18, 2009 Comprehensive				