



Chemistry 1220

CALIFORNIA STATE POLYTECHNIC
UNIVERSITY, POMONA

Lecture Schedule

Required Text: *Chemistry, 8th Edition, Robinson, McMurry & Fay*

Prerequisite: C- or better in (CHM 122 or CHM 122B or CHM 1210) and (CHM 122L or CHM 122LB or CHM 1210L)

Co-requisite: CHM 1220L

Week	Day	Topics	Text Sections
1	1	Reaction Rates, Rate Laws	14.1 – 14.3
	2	Integrated Rate Laws, Half-life	14.4 – 14.6
	3	Collision Theory, Arrhenius Equation	14.7 – 14.8
2	4	Mechanisms	14.9 – 14.11
	5	Catalysis	14.12 – 14.13, pp. 583 - 584
	6	Introduction to Equilibrium, Equilibrium Constants	15.1 – 15.3
3	7	Heterogeneous Equilibria, Equilibrium Calculations	15.4 – 15.5
	8	Equilibrium Calculations	15.5
	9	Le Chatelier's Principle	15.6 – 15.9
4	10	Equilibrium and Kinetics	15.10
	11	EXAM I^d	
	12	Bronsted-Lowry Theory, Acid/Base Strength	16.1 – 16.3
5	13	Water Ionization, pH	16.4 – 16.7
	14	Acid Ionization Equilibrium	16.8 – 16.10
	15	Polyprotic Acids, Base Ionization Equilibrium	16.11 – 16.12
6	16	Salt Solutions	16.13 – 16.14
	17	Salt Solutions, Lewis Acids and Bases	16.14 – 16.15
	18	Neutralization Reactions, Common-Ion Effect	17.1 – 17.2
7	19	Buffers	17.3
	20	Henderson-Hasselbalch Equation	17.4
	21	pH Titration: Strong Acid & Strong Base	17.5 – 17.6
8	22	pH Titration: Weak Acid & Strong Base	17.7
	23	pH Titration: Weak Base & Strong Acid	17.8 ^a
	24	EXAM II^d	
9	25	Spontaneity, Entropy	18.1 – 18.2
	26	Probability, 3 rd Law	18.3 – 18.4
	27	Standard Molar Entropies, 1 st and 2 nd Laws	18.5 – 18.6
10	28	Free Energy	18.7 – 18.9
	29	Free Energy and Chemical Equilibrium	18.10 - 18.11
	30	Galvanic Cells, Cell Potentials	19.2 - 19.4 ^b
11	31	Standard Reduction Potentials	19.5 – 19.6
	32	Nernst Equation	19.7 – 19.8
	33	Relationship between ΔE° , K , ΔG°	19.9
12	34	Batteries, Corrosion	19.10 – 19.11
	35	Electrolysis, Quantifying Electrolysis	19.12, 19.14 ^c
	36	EXAM III^d	

13	37	Solutions, Solubility, Concentration	13.1 – 13.5
	38	Colligative Properties, Vapor Pressure Lowering	13.6 – 13.7
	39	Boiling Point Elevation, Freezing Point Depression	13.8
14	40	Osmotic pressure, Uses of Colligative Properties	13.9
	41	Nuclear Reactions, Radioactivity	20.1 – 20.2
	42	Nuclear Stability	20.3
15	43	Decay Rates, Dating	20.4 – 20.5
	44	Mass-Energy Relationships, Fission, Fusion	20.6 – 20.7
	45	Transmutation, Measuring Radioactivity	20.8 – 20.9
^a Omit Sections 17.9 - 17.15. ^b Omit Section 19.1. ^c Omit Section 19.13. ^d <i>The schedule above, including the timing of the exams, is tentative and may be amended by your instructor.</i>			

Chemistry 1220 is the second semester of the two-semester General Chemistry sequence (CHM 1210, 1220). Students are responsible for all text material whether it is specifically discussed in lecture or not. Suggested practice problems are given below. Your instructor may assign others.

CHM 1220 Suggested End-of-Chapter Problem Assignments

Chemistry, 8th Edition, by Robinson, McMurry & Fay

Chapter	Problem Numbers
13	1, 2, 3, 4, 5, 6, 7, 8, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 30, 33, 36, 38, 40, 44, 46, 48, 50, 52, 57, 60, 64, 66, 70, 80, 82, 84, 86, 90, 92, 93, 94, 95, 96, 102, 103, 104, 106, 108, 110, 112, 114, 116, 118, 120, 124, 126, 130, 136
14	1, 2, 3, 4, 5, 6, 7, 8, 11, 12, 13, 14, 15, 16, 17, 19, 20, 21, 22, 23, 24, 25, 26, 40, 42, 48, 50, 56, 58, 60, 62, 64, 66, 70, 72, 74, 78, 81, 86, 94, 96, 104, 106, 108, 116, 118
15	1, 2, 3, 4, 5, 7, 8, 12, 13, 15, 16, 17, 19, 20, 23, 24, 25, 26, 27, 28, 29, 30, 31, 41, 42, 43, 44, 46, 48, 50, 51, 52, 56, 60, 62, 64, 66, 72, 74, 76, 80, 82, 84, 86, 90, 92, 94, 98, 118, 120, 122, 124, 126, 128, 132, 100, 102, 111
16	1, 2, 3, 4, 5, 6, 9, 10, 11, 12, 13, 14, 15, 17, 18, 19, 20, 23, 24, 25, 26, 27, 29, 30, 38, 39, 41, 43, 48, 50, 52, 54, 68, 70, 72, 74, 76, 82, 84, 88, 90, 94, 96, 98, 100, 102, 112, 114, 116, 118, 120, 124, 126, 128, 130, 131, 138, 142
17	1, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 38, 41, 42, 47, 49, 51, 55, 57, 59, 61, 63, 65, 67, 69, 71, 73, 75, 77, 82, 83, 84, 85, 86, 90, 91, 94
18	1, 2, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 26, 28, 29, 30, 38, 40, 44, 56, 62, 64, 66, 68, 72, 74, 82, 94, 96, 98, 100, 108, 110, 112, 114, 118
19	5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 17, 19, 20, 21, 23, 24, 25, 26, 34, 38, 41, 58, 60, 62, 64, 66, 68, 72, 74, 76, 80, 84, 86, 88, 90, 94, 96, 98, 106, 110, 112, 132, 134, 136, 138, 140, 142
20	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 21, 25, 26, 28, 30, 32, 34, 36, 40, 43, 44, 46, 49, 50, 52, 58, 60, 63, 64, 70, 74, 76, 78, 80, 82, 84, 88, 90, 94, 96, 100, 102, 107