

CHEM 110 Syllabus
Chemistry, 9/e by Raymond Chang

Week#	Lecture#	Topic	Chapter	Pages
1	1	Introduction, SI-Units and their prefix	1	15 - 17
	2	The Atomic Theory, The Structure of the Atom	2	42 - 49
	3	Atomic Number, Mass Number, and Isotopes	2	49 - 50
2	4	The Periodic Table, Molecules and Ions	2	50 - 54
	5	Chemical Formulas, Naming Compounds	2	54 - 64
	6	Atomic Mass, Avogadro's Number and the Molar Mass of an Element, Molecular Mass	3	78 - 85
3	7	Atomic Mass, Avogadro's Number and the Molar Mass of an Element, Molecular Mass	3	78 - 85
	8	Percent Composition of Compounds, Experimental Determination of Empirical and Molecular Formulas	3	86 - 92
	9	Chemical Reactions and Chemical Equations	3	92 - 97
4	10	Amounts of Reactants and Products	3	97 - 101
	11	Limiting Reagents, Reaction Yield	3	101 - 106
	12	Limiting Reagents, Reaction Yield	3	101 - 106
5	13	Concentration of Solutions (Molarity and dilution)	4	142 - 148
	14	Substances That Exist as Gases, Pressure of a Gas	5	170 - 175
	15	The Gas Laws, The Ideal Gas Equations,	5	175 - 194
6	16	Dalton's Law of Partial Pressures	7	268 - 272
	17	From Classical Physics to Quantum Theory	7	274 - 282
	18	Bohr's Theory of the Hydrogen Atom, The Dual Nature of the Electron	7	283 - 292
7	19	Quantum Mechanics, Quantum Numbers, Atomic Orbitals	7	292-302
	20	Electron Configurations, The Building-Up Principle	7	318 - 322
	21	Electron Configurations, The Building-Up Principle	7	318 - 322
8	22	Periodic Classification of the Elements	8	322 - 327
	23	Periodic Variation in Physical Properties	8	322 - 327

	24	Ionization Energy, Electron Affinity	8	329 - 335
9	25	Lewis Dot Symbols, The Ionic Bond	9	358 - 360
	26	The Covalent Bond, Electronegativity, Writing Lewis Structures, Formal Charge and Lewis Structures	9	366 - 377
	27			
10	28	The Concept of Resonance, Exceptions to the Octet Rule	9	375 - 385
	29	The Concept of Equilibrium and the Equilibrium Constant, Writing Equilibrium Constant Expressions	14	602 - 615
	30			
11	31	The Relationship Between Chemical Kinetics and Chemical Equilibrium, What Does the Equilibrium Constant Tell Us?	14	616- 623
	32	Factors That Affect Chemical Equilibrium	14	623- 629
	33	The Acid-Base Properties of Water, pH—A Measure of Acidity	15	647 - 652
12	34	The Common Ion Effect, Buffer Solutions,	16	698 - 708
	35	Solubility Equilibria	16	718 - 725
	36	Hybridization of Atomic Orbitals (Organic) (sp^3 , sp^2 , sp)	10	417 - 422
13	37	Classes of Organic Compounds, Aliphatic Hydrocarbons	24	(1004 - 1008) (1011 - 115)
	38	Aromatic Hydrocarbons, Chemistry of the Functional Groups (Functional groups only)		(1017 - 1018) (1025)
	39	Proteins, Nucleic Acids	25	1045 - 1056