Chemistry Pacing Guide (Syllabus) Subject to Change- Orbock Miller Fall 2024

Days	Topic	Essential Standards*	Content
1	Introduction	n/a	Class information-expectations, rules
7.5	Chem Tools/ Science Measurement		Measurement, analyze scientific data, lab safety
6	Atomic Theory	1.1	History, Parts of an atom, Lab: Nucleus, developing models of knowledge
5	Modern Atomic Theory	1.3	MAT History, Bohr Model, e- configuration and energy levels, more models
6	Periodic Table	2.1, 2.2	Periodic Trends-groups, families, properties, atomic size, reactivity, electronegativity, and ionization energy
10	Bonding and Formulas	3.1,4.3	Metallic and Ionic Bonding, Covalent Bonding, VSEPR Theory, Naming Compounds, the Mole Concept, Empirical and Molecular formula, percent composition
5	Matter and Change	3.2	Identify substances using physical properties: mp, bp, d,solubility); identification of a chemical change
8	Chemical Equations and Reactions	3.3, 4.2	L. Conservation of Matter, formulas and equations, indication of chemical change, balancing equations, oxidation/reduction, reaction types, solubility rules, activity series, predict products, net ionic equations
6	Stoichiometry	4.1,4.4	Limiting reagents, mole/mole, mass/mass, gas species, reactions with solutions
6	Gas Laws	7.1	KMT,Boyle's,(Charle's,(Gay-Lussac's, Combined Gas Law, Avogadro's Law, Ideal Gas Equation, Dalton's Law of Partial Pressure, Graham's Law
5	Heat and Calorimetry	7.1,7.2	Heat and Temperature, Energy, phase diagrams, endo and exothermic processes, entropy, phase change factors
2	Kinetics and Chemical Equilibrium	5.1, 5.2, 7.1,7.2,7.3	Energy Reaction Pathways, Reaction rates, factors affecting reaction rate, forward and reverse reactions,equilibrium,Le Chatelier's expression
4	Solutions	6.1, 6.2	Vocabulary, solubility graph, molarity, ions in solution, colligative properties
3	Acid/Base Reactions	6.3	Properties, concentration and dilution factors, Arrhenius/Bronsted/Lowery, strong/weak acids and bases, titrations, pH and pOH
3	Nuclear Chemistry	1.2	Radioactivity, decay equations, half-life, fission and fusion

*NC DPI Essential Standards 2023 Standards