Honors Chemistry Pacing Guide (Syllabus) Subject to Change- Orbock Miller Spring 2025

Week	Topic	Essential Standards*	Content
1	Introduction	n/a	Class information-expectations, rules
2	Chem Tools/ Science Measurement		Measurement, significant figures, dimensional analysis, precision and accuracy, analyze scientific data, lab safety, scientific method
3	Atomic Theory	1.1	History, Parts of an atom, Lab: Nucleus, developing models of knowledge
4	Modern Atomic Theory	1.3	MAT History, Bohr Model, e- configuration and energy levels, more models and evidence
5	Periodic Table	2.1, 2.2	Periodic Trends-groups, families, properties, atomic size, reactivity, electronegativity, and ionization energy
6	Bonding and Formulas	3.1,4.3	Metallic and Ionic Bonding, Theory, Naming Compounds, Empirical and Molecular formula,
7	Covalent Bonding	3.1, 4.3	VSEPR, empirical and molecular formulas, mole concept, % composition
8	Matter and Change	3.2	Identify substances using physical properties: mp, bp, d,solubility); mixtures, pure substances
9	Solutions	6.1,6.2	Vocabulary, solubility graph, molarity, ions in solution, colligative properties
10	Acids and Bases	6.3	Properties, concentration and dilution factors, arrhenius/bronsted/lowery, strong/weak acids and bases, titrations, pH and pOH
9	Chemical Equations and Reactions	3.3, 4.2	1st and 2nd Law of Thermodynamics: Law Conservation of Matter and Entropy, formulas and equations, indication of chemical change, physical change
10	Chemical Equations & Rxns	3.3, 4.2	Balancing equations, reaction types, solubility rules, activity series, predicting products, net ionic equations

11	Stoichiometry	4.1,4.4	Limiting reagents, mole/mole, mass/mass, gas species, reactions with solutions
12	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
13	Gas Laws	7.1	KMT,Boyle's,(Charle's,(Gay-Lussac's, Combined Gas Law, Dalton's Law of Partial Pressure, Graham's Law
14	Gas Laws	7.1	Avogadro's Law, Ideal Gas Equation,
15	SPRING BREAK		NO CLASSES
16	Gas Laws	7.1	Practice Problems
17	Heat and Calorimetry	7.1, 7.2	Heat and Temperature, energy, endo and exothermic processes, entropy, phase change factors
18	Heat and Calorimetry	7.1, 7.2	Heat and Temperature, energy, endo and exothermic processes, entropy (2nd law of thermodynamics) phase change factors
19	Nuclear Chemistry	1.2	Radioactivity, decay equations, half-life, fission and fusion

*NC DPI Essential Standards 2024 Standards