

AP CHEMISTRY SCOPE AND SEQUENCE

Semester 1

Unit 1: Measurement/ Atomic Characteristics/Compound Structure (September)

(Quantities, Subatomic Particles, Ions, Naming and Forming Compounds)

Unit 2: Reactions and Stoichiometry (September)

(Mole amounts of reactants and products, limiting and excess, yield, % Composition)

Unit 3: Aqueous Reactions (September-October)

(Ionic Reactions, Acid/Base, Redox, Gas Forming, Precipitation)

Unit 4: Thermochemistry (October-November)

(Specific Heat Capacity, Measurement of heat of reaction and formation)

Unit 5: Atomic Structure and Configuration (November)

(Electron Configuration, Orbital Diagram, Lewis Structure)

Unit 6: Bonding and Molecular Structure (November)

(VSEPR naming of molecules, Bond Types, Hybridization)

Unit 7: Gases, IM Forces, and Solutions (December)

(Gas Properties and Laws, Inter Molecular Forces, Solution Properties)

Semester 2

Unit 8: Reaction Rates (January-February)

(Factors affecting reaction rate, collision theory, Rate laws, Order, Activation Energy)

Unit 9: Equilibrium (February)

(Reversibility, Rice Chart, Equilibrium Constant, Gas Reactions, Quantities, Favorability)

Unit 10: Acid-Base and Titration (February-March)

(Rice Charts, Strong vs. Weak, Titration Curve, Neutralization, Buffers)

Unit 11: Entropy (March)

(Disorder, Favorability, Gibbs Free Energy)

Unit 12: Electro Chemistry and Electron Transfer (March-April)

(Electron half reactions, plating, current, cell function, and Potential)

Unit 13: AP Exam Review (April-May)

(Prepare for the Advanced Placement Exam)