

Course Outline:

AP Unit (Big Ideas)	Book Chapter	Topics (Skill)
1 (SPQ, SAP)	1, 2, 3	Sig Figs (2.D/5.F) 1.1 Moles and Molar Mass (5.B) 1.2 Mass Spectrometry of Elements (5.D) 1.3 Elemental Composition of Pure Substances (2.A) 1.4 Composition of Mixtures (5.A)
	7	1.5 Atomic Structure and Electron Configuration (1.A) 1.6 Photoelectron Spectroscopy (4.B) 1.7 Periodic Trends (4.A) 1.8 Valence Electrons and Ionic Compounds (4.C)
2 (SAP)	8, 9	2.1 Types of Chemical Bonds (6.A) 2.2 Intramolecular Force and Potential Energy (3.A) 2.3 Structure of Ionic Solids (4.C) 2.4 Structure of Metals and Alloys (4.C) 2.5 Lewis Diagrams (3.B) 2.6 Resonance and Formal Charge (6.C) 2.7 VSEPR and Bond Hybridization (6.C)
3 (SPQ, SAP)	10	3.1 Intermolecular Forces (4.D) 3.2 Properties of Solids (4.C) 3.3 Solids, Liquids, and Gases (3.C)
	5	3.4 Ideal Gas Law (5.C) 3.5 Kinetic Molecular Theory (4.A) 3.6 Deviation from Ideal Gas Law (6.E)
	11, 7, Appendix 3	3.7 Solutions and Mixtures (5.F) 3.8 Representations of Solutions (3.C) 3.9 Separation of Solutions and Mixtures, Chromatography (2.C) 3.10 Solubility (4.D) 3.11 Spectroscopy and the Electromagnetic Spectrum (4.A) 3.12 Photoelectric Effect (5.F) 3.13 Beer-Lambert Law (2.E)
4 (SPQ, TRA)	4	4.1 Introduction for Reactions (2.B) 4.2 Net Ionic Equations (5.E) 4.3 Representations of Reactions (3.B) 4.4 Physical and Chemical Changes (6.B) 4.5 Stoichiometry (5.C) 4.6 Introduction to Titration (3.A) 4.7 Types of Chemical Reactions (1.B) 4.8 Introduction to Acid-Base Reactions (1.B) 4.9 Oxidation-Reduction (Redox) Reactions (5.E) 5.1 Reaction Rates (6.E) 5.2 Introduction to Rate Law (5.C) 5.3 Concentration Changes Over Time (5.B) 5.4 Elementary Reactions (5.E)
5 (TRA, ENE)	12	

AP Unit (Big Ideas)	Book Chapter	Topics (Skill)
6 (ENE)	6	6.1 Endothermic and Exothermic Processes (6.D) 6.2 Energy Diagrams (3.A) 6.3 Heat Transfer and Thermal Equilibrium (6.E) 6.4 Heat Capacity and Calorimetry (2.D) 6.5 Energy of Phase Changes (1.B) 6.6 Introduction to Enthalpy of Reaction (4.C) 6.7 Bond Enthalpies (5.F) 6.8 Enthalpy of Formation (5.F) 6.9 Hess's Law (5.A)

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(TRA)