

AP/College Now Biology Course Calendar:

AP Exam Weighting & Textbook Coverage

UNIT	~ # of Class Periods	AP Exam Weight	TOPICS	Campbell Textbook Chapter Coverage
Formal Lab Overview AND Chemistry of Life	5-7	8-11%	Introductions & Class Information Interactive Notebook Note Taking & Critical Reading Skills Biology Overview Safety Contract Laboratory Skills & Scientific Inquiry Data Collection, Presentation & Processing Characteristics of Life Chemical Structure & Bonding H ₂ O & pH Review Organic Macromolecules Intro Functional Groups Organic Macromolecules Reports Condensation & Hydrolysis Organic Macromolecules	1.1-1.4, 1.6 1.5 1.1 2.1-2.3 3.1-3.3 4.1 4.2 5.1 5.1-5.5
Cell Structure & Function	11-13	10-13%	Cell Ultrastructure (subcellular) & Function Compartmentalization Origins of Compartmentalization (Endosymbiosis) Cell Size (SA:V) Plasma Membrane Structure, Function & Permeability Cell Transport <i>*Investigation #4: Diffusion & Osmosis</i> Tonicity & Osmoregulation Water Potential & Osmotic Potential	6.1-6.7 6.2 pgs 550-551 6.2 (pg 99) 7.1 7.1-7.5, pgs 739-740 7.3 (pgs 132-133), 36.1 (pgs 740-742), 44.1 36.1 (pgs 740-742)
Cellular Energetics	14-17	12-16%	Energy Transformations Energy Molecules & Cellular Energy Enzyme Structure, Function & Regulation Environmental Effects on Enzymes <i>*Investigation #13 Enzyme Activity Lab</i> Cycling Materials in Ecosystems Cellular Respiration Structures & Processes <i>*Investigation #6: Cellular Respiration Lab</i> Photosynthesis Structures & Processes <i>*Investigation #5: Photosynthesis Lab</i> Fitness (cellular & molecular variation increase survival & reproduction rates) <i>*Investigation #3: Comparing DNA Sequences to Understanding Evolutionary Relationships with BLAST Lab</i>	8.1-8.2 8.3 8.4-8.5 pgs 154-157 pg 160 & pg 181 pgs 109-110, 9.1-9.6 pgs 110-111, 182, 183, 189, 193 10.1-10.4
Cell Communication & Cell Cycle	9-11	10-15%	Intercellular Junctions & Communication Signal Transduction Changes in Signal Transduction Feedback Mechanisms Cell Cycle <i>*Investigation #7: Mitosis Lab</i> Cell Cycle Regulation	6.7 (pgs 120-121), 11.1-11.2, 11.4 11.3 pgs 11-12, 11.4, pgs 832-833 & pgs 177-178 12.1-12.2 12.3
Heredity: Meiosis & Mendelian & Non-Mendelian Genetics	9-11	8-12%	Meiosis Meiosis & Genetic Diversity <i>*Investigation #8: Meiosis in Sodaria Lab</i> Gregor Mendel & Principles Patterns of Inheritance (Mendelian & Non-Mendelian) Environmental Effects on Phenotype (Multifactorial) Chromosomal Inheritance & Genetic Disorders Linked Genes Genetic Testing & Karyotypes Monohybrid & Dihybrid Crosses Sex-linked Crosses	13.3-13.2 13.4 14.1 14.2-14.3 pgs 264 & 268 14.4, 15.1 15.2 14.4, 13.2 (pg 240-241), 15.4 pgs 255-256, 257, 259, 261, 263 15.1-15.3

Gene Expression & Regulation	18-21	12-16%	Nucleic Acid Structure & Function DNA Replication Protein Synthesis (Transcription, RNA processing & Translation) Regulation of Gene Expression Gene Expression & Cell Specialization Mutations Biotechnology & Genetic Engineering <i>*Investigation #9: Restriction Enzyme Analysis of DNA Lab</i> <i>*Investigation #8: Transformation Lab</i>	16.1, 19.1 16.2 17.1-17.6, figure 19.5 18.4, 19.2, 19.3 19.1 17.7, 15.4 (pg 286) 19.4, 20.1-20.5, 21.2
Theory of Evolution by Natural Selection	20-23	13-20%	Fossils & Geologic Time Theory of Evolution by Natural Selection Variations in Populations Species & Reproductive Isolation Artificial Selection <i>*Investigation #1: Artificial Selection Lab</i> Evidence Supporting Natural Selection Common Ancestry Macroevolution Speciation & Extinction Microevolution & Population Genetics Hardy-Weinberg Equilibrium <i>*Investigation #2: Mathematical Modeling: Hardy-Weinberg Lab</i> Continuing Evolution Process Behavioral Evolution Phylogeny, Taxonomy & Cladograms Origins of Life Theories	26.2, 26.6 22.1-22.3 pg 445 24.1, pgs 474-475 pg 445 22.1-22.3 pgs 443, 17-18, 507-508, 529-530 24.1-24.3 pgs 443-458 23.1-23.4 pgs 456-458 23.1-23.4 51.5 26.6, 25.1-25.5 26.1, 26.3-26.5
Ecology	18-21	10-15%	Ecology & the Biosphere Responses to the Environment Behavioral Ecology & Ethology Signaling Cooperative behaviors <i>*Investigation #11: Transpiration Lab</i> <i>*Investigation #12: Fruit fly Behavior Lab</i> Energy Flow Through Ecosystems <i>*Investigation #10: Energy Dynamics Lab</i> Population Ecology (Factors that influence growth dynamics) Population growth & Exponential growth Effect of Density on Populations Resource availability Community Ecology Simpson's Diversity Index Symbiotic relationships Trophic cascades Niche partitioning Biodiversity, Resiliency & Keystone species Disruptions to Ecosystems Interaction: variations in pop & environment Invasive Species Human Activities Destabilizing/Destructive Productive/Constructive Geological & Meteorological changes leading to changes in ecosystem structure/dynamics/distribution	50.1-50.4 51.1-51.4 36.3 & 36.4 pgs 1166-1168, 54.1-54.3 52.1 & 52.2 52.4 52.5 53.1 53.1 pg 1170 pgs 1160-1161 53.2 55.1 53.3 pg 1168 54.5, 55.1 55.3, 55.4, pgs 1226-1227 50.2, pgs 1087-1092