

## AP Biology Syllabus

Unit No.	Unit Title	Estimated Hours	Exam Weighting	Key Topics Covered
1	Chemistry of Life	8 hours	8-11%	Elements and molecules essential to life, water properties, macromolecules, structure and function of proteins, nucleic acids, lipids, and carbohydrates
2	Cell Structure and Function	10 hours	10-13%	
3	Cellular Energetics	14 hours	12-16%	Enzyme activity, cellular respiration (aerobic/anaerobic), photosynthesis (light/dark reactions), energy flow, ATP production
4	Cell Communication and Cell Cycle	11 hours	10-15%	Cell signaling (local and long-distance), feedback, signal transduction, mitosis, cell cycle regulation, cancer
5	Heredity	10 hours	8-11%	Meiosis, segregation and independent assortment, Mendelian and non-Mendelian inheritance, pedigrees, chi-square analysis
6	Gene Expression and Regulation	17 hours	12-16%	DNA structure, replication, transcription, translation, gene regulation, operons, mutations, biotechnology tools (PCR, gel electrophoresis)
7	Natural Selection	15 hours	13-20%	Darwin's theory, evidence of evolution, Hardy-Weinberg equilibrium, genetic





Ecology

13 hours

10-15%

Energy flow, food chains/webs,  
symbiosis, population dynamics,  
carrying capacity, community  
interactions, human impact