

AP BIOLOGY SCOPE AND SEQUENCE

Textbook: Principles of Life Hillis

Semester 1:

Unit 1: Biochemistry

(Chemistry, bonding, macromolecules, nucleic acids, proteins, carbohydrates, lipids, enzymes, experimental design, digestion, energy)

Unit 2: Cells

(Organelles, structure-function, surface area to volume ratio, cell membrane, water potential, cellular transport, nervous system)

Unit 3: Cell Communication

(Signal transduction pathways, endocrine system, plant hormones, animal hormones, homeostasis)

Unit 4: Energy Transformations

(Cellular respiration, photosynthesis)

Semester 2:

Unit 5: Genetics

(Mendelian genetics, sex-linked genes, codominance, incomplete dominance, pedigrees, meiosis, mitosis,
DNA replication, mutations, historical discovery)

Unit 6: Molecular Genetics

(Biotechnology, gene regulation, transcription, translation)

Unit 7: Evolution

(Natural selection, Hardy-Weinberg, speciation, phylogenetic trees, evidence for evolution)