Course at a Glance

Plan

The course at a glance provides a useful visual organization of the AP Biology curricular components, including:

- Sequence of units, along with approximate weighting and suggested pacing. Please note, pacing is based on 45-minute class periods, meeting five days each week for a full academic year
- Progression of topics within each unit
- Spiraling of the big ideas and science practices across units

Teach

SCIENCE PRACTICES

Science practices are spiralled throughout the course:

- Concept Concept Explanation
- 4 Representing and Describing Data
- 2 Visual Representations
- 5 Statistical Tests and Data Analysis
- Questions and Methods
- Argumentation

BIG IDEAS

The big ideas spiral across topics and units:

- **EVO** Evolution
- **ENE** Energetics
- IST Information Storage and Transfer
- SYI Systems Interactions

Assess

Assign the Personal Progress Checks—either as homework or in class-for each unit. Each Personal Progress Check contains formative multiplechoice and free-response questions. The feedback from the Personal Progress Checks shows students the areas where they need to focus.

UNIT

Chemistry of Life

~5-7 Class

8-11% AP Exam Weighting

- SYI 1.1 Structure of Water and Hydrogen Bonding
- ENE 1.2 Elements of Life
- SYI 1.3 Introduction to Biological Macromolecules
- 1.4 Properties of Biological Macromolecules
- 1.5 Structure and Function of Biological Macromolecules
- IST 1.6 Nucleic Acids

UNIT

Cell Structure and Function

~11-13 Class Periods

10-13% AP Exam Weighting

- SYI 2.1 Cell Structure: Subcellular Components
- SYI 2.2 Cell Structure and Function
- ENE 2.3 Cell Size 5 2 ENE
- ENE 2.5 Membrane Permeability

2.4 Plasma Membranes

- ENE 2.6 Membrane Transport
- ENE 2.7 Facilitated Diffusion
- ENE 2.8 Tonicity and Osmoregulation
- 2.9 Mechanisms of Transport
- ENE 2.10 Cell Compartmentalization
- EVO 2.11 Origins of Cell Compartmentalization

Personal Progress Check 1

Multiple-Choice: ~20 questions Free-Response: 2 questions

- · Conceptual Analysis (partial)
- Analyze Model or Visual Representation (partial)

Personal Progress Check 2

Multiple-Choice: ~30 questions Free-Response: 2 questions

- Interpreting and Evaluating Experimental Results (partial)
- Analyze Model or Visual Representation (partial)

3

Cellular Energetics

~14-17 Class Periods

12-16% AP Exam Weighting

ENE 1	3.1 Enzyme Structure
ENE 3	3.2 Enzyme Catalysis
ENE 6	3.3 Environmental Impacts on Enzyme Function
ENE 6	3.4 Cellular Energy
ENE 6	3.5 Photosynthesis
ENE 4	3.6 Cellular Respiration
SYI	3.7 Fitness



Cell Communication and Cell Cycle

~9-11 Class Periods

10-15% AP Exam Weighting

IST 1	4.1	Cell Communication
IST 1	4.2	Introduction to Signal Transduction
IST 6	4.3	Signal Transduction
IST 6	4.4	Changes in Signal Transduction Pathways
ENE 6	4.5	Feedback
IST 4 5	4.6	Cell Cycle
IST 6	4.7	Regulation of Cell Cycle



Heredity

~9-11 Class Periods

8-11% AP Exam Weighting

IST 1	5.1	Meiosis
IST 3	5.2	Meiosis and Genetic Diversity
EVO IST 6	5.3	Mendelian Genetics
IST 5	5.4	Non-Mendelian Genetics
SYI 1	5.5	Environmental Effects on Phenotype
SYI 6	5.6	Chromosomal Inheritance

Personal Progress Check 3

Multiple-Choice: ~20 questions Free-Response: 2 questions

- Interpreting and Evaluating Experimental Results with Graphing (partial)
- Scientific Investigation (partial)

Personal Progress Check 4

Multiple-Choice: ~25 questions Free-Response: 2 questions

- Interpreting and Evaluating Experimental Results (partial)
- Analyze Data

Personal Progress Check 5

Multiple-Choice: ~25 questions Free-Response: 2 questions

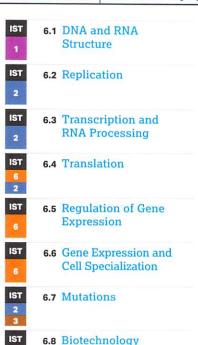
- Interpreting and Evaluating Experimental Results with Graphing
- Conceptual Analysis



Gene Expression and Regulation

~18-21 Class Periods

12-16% AP Exam Weighting





13-20% AP Exam Weighting

~20)-23	Periods	13-20% AP Exar Weighti
EVO 2	7.1		action to I Selection
EVO 1	7.2	Natura	Selection
EVO 4	7.3	Artifici	al Selection
3	7.4	Popula	tion Genetics
5 1	7.5	Hardy-Y Equilib	Weinberg rium
EVO 4	7.6	Eviden	ce of Evolution
EVO 6	7.7	Commo	on Ancestry
EVO	7.8	Contin	uing Evolution
EVO 2	7.9	Phylog	eny
6 2	7.10	Special	tion



~18-21 Class Periods

10-15% AP Exam Weighting

ENE IST	8.1 Responses to the Environment
ENE 6	8.2 Energy Flow Through Ecosystems
SYI 4	8.3 Population Ecology
SYI 5	8.4 Effect of Density of Populations
ENE 5	8.5 Community Ecology
SYI 6	8.6 Biodiversity
EVO SYI 5	8.7 Disruptions to Ecosystems

Personal Progress Check 6

Multiple-Choice: ~25 questions Free-Response: 2 questions

- Interpreting and Evaluating Experimental Results
- Analyze Model or Visual Representation

Personal Progress Check 7

Multiple-Choice: ~40 questions Free-Response: 2 questions

- Interpreting and Evaluating Experimental Results with Graphing
- Analyze Data

EVO

7.11 Extinction

7.12 Variations in **Populations**

7.13 Origin of Life on Earth

Personal Progress Check 8

Multiple-Choice: ~20 questions Free-Response: 2 questions

- Interpreting and Evaluating Experimental Results with Graphing
- Scientific Investigation