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:

- 1 Concept Explanation
- 4 Representing and Describing Data
- 2 Visual Representations
- 5 Statistical Tests and Data Analysis
- Questions and Methods
- 6 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.



ENE

Chemistry of Life

~5-7 Class Periods

8-11% AP Exam Weighting

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



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 ENE 2.4 Plasma Membranes ENE 2.5 Membrane Permeability ENE **2.6** Membrane Transport ENE 2.7 Facilitated Diffusion ENE 2.8 Tonicity and Osmoregulation ENE 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)



~14-17 Class Periods

12-16% AP Exam Weighting

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



Cell Communication and Cell Cycle

~9-11 Class Periods

10-15% AP Exam Weighting

IST	4.1 Cell Communication
1	
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
1ST 4 5	4.6 Cell Cycle
6	4.7 Regulation of Cell Cycle



Heredity

~9-11 Class Periods

8-11% AP Exam Weighting

1	5.1 Meiosis
3	5.2 Meiosis and Genetic Diversity
EVO IST 6 5	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

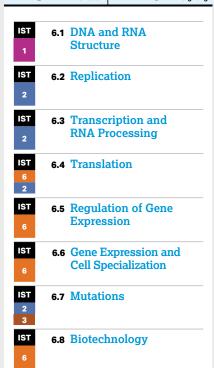
Multiple-Choice: ~25 questions Free-Response: 2 questions

- Interpreting and Evaluating Experimental Results with Graphing
- Conceptual Analysis



~18-21 Class Periods

12-16% AP Exam Weighting



Natural UNIT Selection

~20)-23	Class Periods	13-20%	AP Exan Weighti
EVO			ction to	
2		Natura	l Selection	
EVO	7.2	Natura	Selection	
1				
EVO	7.3	Artifici	al Selection	1
4				
EVO	7.4	Popula	tion Genetic	cs
3				
EVO	7.5	Hardy-	Weinberg	
5		Equilib	rium	
EVO	7.6	Eviden	ce of Evolut	tion
4				
EVO	7.7	Commo	on Ancestry	
6				
EVO	7.8	Contin	uing Evolut	ion
3				
EVO	7.9	Phylog	eny	
2				
EVO	7.10	Specia	tion	
2				
EVO	7.11	Extinct	ion	
3				
SYI		Variatio		
6		Popula	tions	
		<u> </u>		



~18-21 Class Periods

10-15% AP Exam Weighting

IST 3	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
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

7.13 Origin of Life on Earth

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

- Interpreting and Evaluating Experimental Results with Graphing
- Analyze Data

Personal Progress Check 8

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

- Interpreting and Evaluating Experimental Results with Graphing
- Scientific Investigation