Course at a Glance

Plan

The course at a glance provides a useful visual organization of the AP Biology 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 spiral throughout the course.

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

Assess

Assian the Progress Checks—



~9-11 Class Periods

8-11% AP Exam Weighting

- 2 1.1 Structure of Water and **Hydrogen Bonding**
- 2 1.2 Elements of Life
- 2 1.3 Introduction to **Macromolecules**
- 1 1.4 Carbohydrates
- 6 1.5 Lipids
- 2 1.6 Nucleic Acids
- 6 1.7 Proteins

Cells

~14-16 Class

10-13% AP Exam Weighting

- 2.1 Cell Structure and **Function**
- 2.2 Cell Size
- 2.3 Plasma Membrane
- 5 2.4 Membrane Permeability
- 2.5 Membrane Transport
- 2.6 Facilitated Diffusion
- 2.7 Tonicity and Osmoregulation
- 2.8 Mechanisms of **Transport**
- 6 2.9 Cell Compartmentalization
- 2.10 Origins of Cell Compartmentalization

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

Progress Check 1

Multiple-Choice: ~24 questions Free-Response: 2 questions

- Conceptual Analysis (partial)
- Analyze Model or Visual Representation of a Biological Concept or Process (partial)

Progress Check 2

Multiple-Choice: ~33 questions (2 parts) Free-Response: 2 questions

- Interpreting and Evaluating Experimental Results (partial)
- Analyze Model or Visual Representation of a Biological Concept or Process (partial)

NOTE: Partial versions of the free-response questions are provided to prepare students for more complex, full questions that they will encounter on the AP Exam.



~12-14 Class Periods

12-16% AP Exam Weighting

- 3.1 Enzymes
- 3.2 Environmental Impacts on Enzyme Function
- 3.3 Cellular Energy
- 3.4 Photosynthesis
- 3.5 Cellular Respiration



Cell Communication and Cell Cycle

~12-14 Class Periods

10-15% AP Exam Weighting

- 4.1 Cell Communication
- 4.2 Introduction to Signal Transduction
- 4.3 Signal Transduction Pathways
- 4.4 Feedback
- 4.5 Cell Cycle
- 4.6 Regulation of Cell Cycle

5

Heredity

~8-10 Class Periods

8-11% AP Exam Weighting

- 5.1 Meiosis
- 5.2 Meiosis and Genetic Diversity
- 5.3 Mendelian Genetics
- 5.4 Non-Mendelian Genetics
- 5.5 Environmental Effects on Phenotype

Progress Check 3

Multiple-Choice: ~19 questions Free-Response: 2 questions

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

Progress Check 4

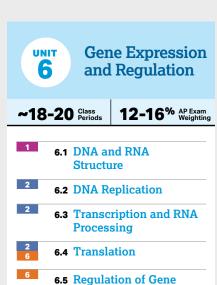
Multiple-Choice: ~24 questions Free-Response: 2 questions

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

Progress Check 5

Multiple-Choice: ~23 questions Free-Response: 2 questions

- Interpreting and Evaluating Experimental Results with Graphing
- Conceptual Analysis



Expression

6.7 Mutations

6.8 Biotechnology

2

6

6.6 Gene Expression and

Cell Specialization





Progress Check 6

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

- Interpreting and Evaluating Experimental Results
- Analyze Model or Visual Representation of a Biological Concept or Process

Progress Check 7

Multiple-Choice: ~48 questions (2 parts) Free-Response: 2 questions

- Interpreting and Evaluating Experimental Results with Graphing
- Analyze Data

Progress Check 8

Multiple-Choice: ~24 questions Free-Response: 2 questions

- Interpreting and Evaluating Experimental Results with Graphing
- Scientific Investigation