



Course Overview

High School | AP Biology - Last Updated on April 4, 2025

DESCRIPTION

K-12 Content Area | Mission & Philosophy Statement

- Young people are born investigators, with natural curiosities about the physical, biological, and social worlds they experience. Anchoring science learning in real-world phenomena connects curiosities to core conceptual understandings.
- Students actively construct understanding through inquiry, experimentation, and analysis to develop science and engineering practices such as asking questions, planning and carrying out investigations, and constructing explanations.
- Integration of crosscutting concepts such as patterns, cause and effect, and systems thinking promote interdisciplinary understanding and sense-making of the natural world.
- Science learning occurs alongside other disciplines to foster holistic understanding and application of knowledge.

Course Description

AP Biology is an introductory college-level biology course. Students cultivate their understanding of biology through inquiry-based investigations as they explore the following topics: evolution, cellular processes (energy and communication, genetics, information transfer) as well as ecology, and interactions. The course is based on four Big Ideas, which encompass core scientific principles, theories, and processes that cut across traditional boundaries and provide a broad way of thinking about living organisms and biological systems.

The following are the Big Ideas:

- The process of evolution explains the diversity and unity of life.
- Biological systems utilize free energy and molecular building blocks to grow, to reproduce, and to maintain dynamic homeostasis
- Living systems store, retrieve, transmit, and respond to information essential to life processes
- Biological systems interact, and these systems and their interactions possess complex properties

Since AP Biology is an integrated curriculum each, standard, lesson, topic, laboratory investigation, and chapter in the text addresses each of the big ideas to varying degrees.

STANDARDS

College Board - AP Biology - Objectives (2020)



Course Overview

High School | AP Biology - Last Updated on April 4, 2025

| | | | | | |
|--------------|--------------|--------------|--------------|--------------|--------------|
| APBIO.EVO.1A | APBIO.EVO.1B | APBIO.EVO.1C | APBIO.EVO.1D | APBIO.EVO.1E | |
| APBIO.EVO.1F | APBIO.EVO.1G | APBIO.EVO.1H | APBIO.EVO.1I | APBIO.EVO.1J | |
| APBIO.EVO.1K | APBIO.EVO.1L | APBIO.EVO.1M | APBIO.EVO.1N | APBIO.EVO.1O | |
| APBIO.EVO.2A | APBIO.EVO.2B | APBIO.EVO.2C | APBIO.EVO.3A | APBIO.EVO.3B | |
| APBIO.EVO.3C | APBIO.EVO.3D | APBIO.EVO.3E | APBIO.EVO.3F | APBIO.EVO.3G | |
| APBIO.EVO.3H | APBIO.EVO.3I | APBIO.EVO.3J | APBIO.ENE.1A | APBIO.ENE.1B | |
| APBIO.ENE.1C | APBIO.ENE.1D | APBIO.ENE.1E | APBIO.ENE.1F | APBIO.ENE.1G | |
| APBIO.ENE.1H | APBIO.ENE.1I | APBIO.ENE.1J | APBIO.ENE.1K | APBIO.ENE.1L | |
| APBIO.ENE.1M | APBIO.ENE.1N | APBIO.ENE.1O | APBIO.ENE.2A | APBIO.ENE.2B | |
| APBIO.ENE.2C | APBIO.ENE.2D | APBIO.ENE.2E | APBIO.ENE.2F | APBIO.ENE.2G | |
| APBIO.ENE.2H | APBIO.ENE.2I | APBIO.ENE.2J | APBIO.ENE.2K | APBIO.ENE.2L | |
| APBIO.ENE.3A | APBIO.ENE.3B | APBIO.ENE.3C | APBIO.ENE.3D | APBIO.ENE.4A | |
| APBIO.ENE.4B | APBIO.ENE.4C | APBIO.IST.1A | APBIO.IST.1B | APBIO.IST.1C | APBIO.IST.1D |
| APBIO.IST.1E | APBIO.IST.1F | APBIO.IST.1G | APBIO.IST.1H | APBIO.IST.1I | APBIO.IST.1J |
| APBIO.IST.1K | APBIO.IST.1L | APBIO.IST.1M | APBIO.IST.1N | APBIO.IST.1O | APBIO.IST.1P |
| APBIO.IST.2A | APBIO.IST.2B | APBIO.IST.2C | APBIO.IST.2D | APBIO.IST.2E | APBIO.IST.3A |
| APBIO.IST.3B | APBIO.IST.3C | APBIO.IST.3D | APBIO.IST.3E | APBIO.IST.3F | APBIO.IST.3G |
| APBIO.IST.4A | APBIO.IST.4B | APBIO.IST.5A | APBIO.SYI.1A | APBIO.SYI.1B | APBIO.SYI.1C |



Course Overview

High School | AP Biology - Last Updated on April 4, 2025

APBIO.SYI.1D

APBIO.SYI.1E

APBIO.SYI.1F

APBIO.SYI.1G

APBIO.SYI.1H

APBIO.SYI.2A

APBIO.SYI.2B

APBIO.SYI.2C

APBIO.SYI.3B

APBIO.SYI.3C

APBIO.SYI.3D

APBIO.SYI.3E

APBIO.SYI.3F

APBIO.SYI.3G

COURSE OBJECTIVES

Specific objectives for this course are aligned to the College Board standards for AP Biology as outlined in the Scope and Sequence for AP Biology.

ASSESSMENT TYPES

The following assessment types will be used during the course:

- Curriculum-based measures
- Benchmark Assessments
- Formative Assessments
- Summative Assessments
- Performance-Based Assessments

SUGGESTED METHODS OF INSTRUCTION

A science program demands the use of a variety of instructional strategies to foster scientific thinking. Below is a list of suggested strategies for high-quality instruction:

- Instructional components outlined in the *Framework for Teaching* by Charlotte Danielson
- Hands-on learning
- Posing questions for investigation
- Cooperative learning and collaboration
- Inquiry, engineering, and design



Course Overview

High School | AP Biology - Last Updated on April 4, 2025

RESOURCES

| District Approved Program Resources | District Approved Supplemental Resources | District Approved Technology Resources |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------|
| <p>Student Text Resource: Jane B. Reece, Lisa A. Urry, Michael L. Cain, Steven A. Wasserman, Peter V. Minorsky. (2013). <i>Campbell Biology</i>. Pearson</p> <ul style="list-style-type: none">• Student Edition Print Version <p>Teacher Text Resource: Jane B. Reece, Lisa A. Urry, Michael L. Cain, Steven A. Wasserman, Peter V. Minorsky. (2013). <i>Campbell Biology</i>. Pearson</p> <ul style="list-style-type: none">• Teacher Edition Print Version | <ul style="list-style-type: none">• Teacher Created Resources• District approved supplemental resources and labs | |