

AP BIOLOGY

2016-17

Course Outline & Syllabus

Mrs. Fischer

Rm. 125

fischers@chatham.k12.ny.us

<http://fischer-science.weebly.com/>

Course Overview

The field of biology grows and changes almost daily as technology and communication allow for constant revision and discovery. Given the magnitude of information that continues to build, we need to contextually manage this information for better understanding and application. The Big Ideas found within the AP Biology course description serve as a foundation from which this AP course was built. As AP Biology students, you will learn these big ideas (i.e. evolution, bioenergetics, ecology, etc.), and connect them to one another within the course framework in order to establish a solid foundation for understanding biology. The addition of inquiry in both laboratory investigations and student-centered activities will provide you with the science practices will allow you to be both scientifically literate and capable of conducting research.

The Emphasis on Science Practices

A practice is a way to coordinate knowledge and skills in order to accomplish a goal or task. The science practices enable you to establish lines of evidence and use them to develop and refine testable explanations and predictions of natural phenomena. Because content, inquiry, and reasoning are equally important in AP Biology, each learning objective combines content with inquiry and reasoning skills described in the science practices. The science practices capture important aspects of the work that scientists engage in, at the level of competence expected of you, an AP Biology student.

Instructional Context

The AP Biology class will meet on an alternating schedule of 40 minute and 80 minute classes. Generally, for each unit, students are required to read and study the necessary chapters and by completing a reading guide for each unit. The class periods are primarily used to reinforce major concepts of a given unit through lectures, discussions, activities, and labs. Every unit exam (summative assessment) follows the format of the actual AP exam in terms of composition (multiple choice and free response questions) and analogous time frame.

In addition, students will be required to read and submit a minimum of 2 summaries of scientific articles published during the last three years that relate to units of study.

Textbook

Biology 9th ed., Campbell, et. Al: Pearson Benjamin Cummings
ISBN: 9780131375048

Review Book (purchased by student)

Barron's AP Biology, 5th Edition 5th Edition - by Deborah T. Goldberg M.S. (Author)
ISBN-13: 978-1438005003

Organized around Big Ideas:

The key concepts and related content that define the revised AP Biology course and exam are organized around a few underlying principles called the big ideas, which encompass the core scientific principles, theories and processes governing living organisms and biological systems. Our course will be structured around these big ideas and the essential knowledge around these enduring understandings.

Big Idea 1: Evolution

The process of evolution drives the diversity and unity of life.

Big Idea 2: Cellular Processes: Energy and Communication

Biological systems utilize free energy and molecular building blocks to grow, to reproduce, and to maintain dynamic homeostasis.

Big Idea 3: Genetics and Information Transfer

Living systems store, retrieve, transmit, and respond to information essential to life processes.

Big Idea 4: Interactions

Biological systems interact, and these systems and their interactions possess complex properties.

The Investigative Laboratory Component

Students are provided time to engage in inquiry driven lab investigations that reflect the central themes of the four big ideas. **The laboratory is integrated throughout the course for a minimum of 25% of instructional time.** The course is designed in order to fully immerse students in best practice of inquiry developed lab investigations. This involves students developing their own lab designs, recording their own unique data, and communicating their results to their investigations. Students will be expected to conduct a minimum of 8 this would mean 2 per big idea inquiry-based investigations. In order to deepen student knowledge and understanding additional hands-on labs will be provided that will create a community of discovery learners.

The Exam:

The AP Biology Exam is approximately three hours long and has two sections (each worth 50% of the final grade):

Section 1 lasts 1 hour and 30 minutes and contains 63 multiple choice questions and 6 grid-in questions.

Section 2 lasts 1 hour and 20 minutes (plus a 10 minute reading period), and contains 8 questions consisting of 2 long free response questions and 6 short free response questions.

The exam is graded on a scale from 1 to 5, with 5 being the best. The total raw score on the exam is translated into the AP's 5-point scale. The scale is interpreted as a rating of how qualified you are to receive advanced standing in the discipline and the AP credit you receive MAY (this will vary from school to school and program to program) count as college credit which may allow you to take more advanced classes without having to take introductory courses. The scale is interpreted as follows:

<u>AP Grade</u>	<u>Qualification</u>
5	Extremely Well Qualified
4	Well Qualified
3	Qualified
2	Possibly Qualified
1	No Recommendation

My Class:

In my eyes, my goals are three-fold:

- 1) FIRST AND FOREMOST, I want you to leave my class with a deeper and more technical appreciation for natural world. We live in an amazing place which is filled with amazing organisms which interact in amazing ways and we should take note of that each and every day. I hope you will when you are done with my class.
- 2) I want you to leave my class prepared to take and excel in college level science courses.
- 3) If I meet both of my previous goals, I should achieve the third goal of having you do well on the AP biology exam.

My grading policy is as follows:

- Tests & Quizzes – 40%
- Assignments & Homework – 15%
- Labs & Notebooks – 35%
- Class Participation – 10%

Grades will be updated for the parent portal on a weekly basis although some assignments may take longer.

Extra Help: I am available to assist students Periods 1 and 4 or after school most days. Students should schedule a time to meet with me ahead of time so that I can have lab materials prepared in advance.

- **Cheating/Plagiarism:** This will NOT be tolerated and students found to be copying from other students or sources will be penalized according to school policy.

Please complete and return tomorrow:

To the STUDENT:

I have read the AP Bio Course Outline and Syllabus and understand its expectations.

Student Name _____(print)

_____ (signature)

To the PARENT/GUARDIAN

I have read the AP Bio Course Outline and Syllabus.

Parent/Guardian Name _____(print)

_____ (signature)