# AP Biology Syllabus



# Instructor’s Information

 Melissa Wyatt

E-mail: Melissa.wyatt@dcsms.org

Website: wyattbio.weebly.com

Remind 101 Text @WyattbioAP

# Text book: Principles of Life Second Edition

# Course Description

AP Biology is a semester long course designed to be taken by students after the successful completion of both high school biology and chemistry. AP Biology includes those topics regularly covered in a college introductory biology course and differs significantly from the standards-based, high school biology course with respect to the kind of textbook used, the range and depth of topics covered, the kind of laboratory work performed by students, and the time and effort required of the students. The textbook used by AP Biology is also used by college biology majors and the kinds of labs done by AP students are equivalent to those done by college students. AP Biology is a course that aims to provide students with the conceptual framework, factual knowledge, and analytical skills necessary to deal critically with the rapidly changing science of biology. This course is designed to prepare students for the Biology College Board Advanced Placement Exam.

You can familiarize yourself with the College Board standards and information for the course by visiting <https://apstudent.collegeboard.org/apcourse/ap-biology>

# Required Course Materials

- Three ring binder

-1 bound composition notebook

-Graph paper,

- Pens, pencils, highlighters, colored pencils

- Calculator

# Lab Fee

All students are responsible for paying a $20.00 lab fee.

# Assessments

Grades are calculated on a percentage basis. The value of each individual assignment varies. Students earn a grade based on the quality and accuracy of the work they complete. Overall class grades are based on a straight percentage, not a curve.

**Exams and Labs 40%**

**Quizzes 25%**

# 9 Weeks Exams 20%

# Class/Homework 15%

# Exams

At appropriate times during the semester exams will be given. These will follow the AP format (50% multiple choice/grid-in and 50% free response). There will be a comprehensive final exam at the end of the semester. Final exams will be multiple choice and cumulative in nature.

# Quizzes

At a minimum, one quiz will be given each week. Some quizzes will be announced and others will not. Quizzes will vary in format depending on the topic being covered. These are designed to encourage to you keep up with daily assignments and readings.

# Lab & Lab Reports

Lab reports are required for each of the recommended Inquiry-Based AP Biology Labs. These reports may include: title, introduction/background information, purpose, hypothesis, procedure, data/results, analysis, question, and conclusion. Students work in pairs to complete lab procedures, but are responsible for turning in individual lab reports. Students are encouraged to produce a high quality report and are given a week from the conclusion of the lab to submit their report.

A formal lab write-up for the remaining additional labs are not required. In these cases, student’s lab papers will include pre-lab questions, data/results, analysis, and post-lab questions, which are geared to emphasize the key concepts of the lab.

# Homework & Readings

An outline of this AP Biology course, which includes assignments and readings for the course, will be given to the students. Additionally, on the last day of each school week, students are reminded of upcoming assignments and due dates for the following week. This information is posted in class and on the AP Biology course website. When appropriate, PDFs of assignments are provided on the website along with links to related references.

Homework will take many forms and is designed to help with student understanding of the current unit being studied. Homework assignments for each unit include, but are not necessarily limited to, the following; reading assigned chapters and completing notes, justify why the answers to the questions at the end of each assigned chapter are correct, completing teacher created worksheets, answering free-response questions, preparing for labs.

Readings for each unit include chapters from the textbook, which contain information that will be covered. Scientific abstracts and papers are assigned with the purpose of showing how discoveries are made and demonstrate that science is the process. Articles found in science magazines and online news sources are also assigned to promote discussion about social and environmental concerns.

# Lab Component

The laboratory experience is extremely important in the AP Biology course and is used to emphasize that biology and science is a process, which involves development and testing of a hypothesis, collection, analysis, and presentation of data with a clear discussion of the results. Students are required to come in to the laboratory prepared and ready to complete the day’s procedure. Lab reports are then completed at home.

The course also includes additional lab activities, which have been chosen to emphasize topics covered in the course that are not addressed in the recommended AP Biology Laboratories.

# Interactive Notebook

# Throughout the semester, we will be using a standard composition notebook. This will be a fun way to keep you engaged and hands on while learning. You will be assessed on your notebook through notebook quizzes. You are encouraged to use your creativity in making the notebook a reflection of you. Most importantly, you will have a wonderful, all-inclusive study tool to use in preparation for the AP Biology Exam.

# Topic Outline For The Year

The AP Biology Curriculum is framed around four Big Ideas. For each of these Big Ideas, there is a set of core concepts called Enduring Understanding, which will be used to guide the AP Biology course curriculum. Below is an outline of the AP Biology Curriculum Big Ideas and the Enduring Understandings topics covered in this course. AP Biology is a rigorous course that demands personal responsibility from the student. In order for students to plan effectively, they are provided with due dates for all major projects, labs and tests. They are strongly encouraged to complete nightly readings and study each day’s lecture notes on their own time.

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| **Big Ideas** | **Enduring Understanding** |
| The process of evolution drives the diversity and unity of life. | 1. Change in the genetic makeup of a population over time is evolution.
2. Organisms are linked by lines of descent from common ancestry.
3. Life continues to evolve within a changing environment.
4. The origin of living systems is explained by natural processes.
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| Biological systems utilize energy and molecular building blocks to grow, reproduce, and maintain homeostasis. | 1. Growth, reproduction, and maintenance of the organization of living systems require free energy and matter.
2. Growth, reproduction, and dynamic homeostasis require that cells create and maintain internal environments that are different from their external environments.
3. Organisms use feedback mechanisms to regulate growth and reproduction, and to maintain dynamic homeostasis.
4. Growth and dynamic homeostasis of a biological system are influenced by changes in the system’s environment.
5. Many biological processes involved in growth, reproduction, and dynamic homeostasis include temporal regulation and coordination.
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| Living systems retrieve, transmit, and respond to information essential to life processes. | 1. Heritable information provides for continuity of life.
2. Expression of genetic information involves cellular and molecular mechanisms.
3. The processing of genetic information is imperfect and is a source of genetic variation.
4. Cells communicate by generating, transmitting, and receiving chemical signals.
5. Transmission of information results in changes within and between biological systems.
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| Biological systems interact and these interactions possess complex properties. | 1. Interactions within biological systems lead to complex properties.
2. Competition and cooperation are important aspects of biological systems.
3. Naturally occurring diversity among and between components within biological systems affects interactions with the environment.
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***Put this syllabus in your notebook for future reference.***

Please sign, remove this page from the packet, and return it to your instructor.

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AP Biology

**STATEMENT OF UNDERSTANDING**

By signing this contract, the parent and the student acknowledge that they have read the preceding documentation (**AP Biology Summer Assignment** and **AP Biology Syllabus**) for Mrs. Wyatt’s **AP Biology** class and that they *understand* and *agree* to the commitment necessary to be successful in this course.

printed student name

 /

signature of student / date

 / signature of parent or guardian

Please return ***completed*** STATEMENT OF UNDERSTANDING to your ***instructor*** to be eligible for enrollment in Mrs. Wyatt’s AP Biology Course.

AP Biology Syllabus 2016