

FHE AP BIOLOGY 2019-20

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Campbell Biology (9th edition) on-line resources:

- access after initial set-up: <https://www.masteringbiology.com/site/login.html>

AP CLASSROOM

Questions, practice, and progress checks
<https://myap.collegeboard.org/>
Join code: **6MMYPP**

Overview

The AP Biology program seeks to:

1. Give students the experience of a college-level curriculum;
2. Provide students with an opportunity to learn the factual information and laboratory skills of a college introductory-level biology course;
3. Help students develop the types of study skills that are necessary for success in any course at the college level; and
4. **Prepare students to be able to demonstrate on the AP Biology Exam the information and concepts they have learned and the skills they have developed.**

For many students, the AP Biology course is their first encounter with both an academically rigorous course and the need to be a self-starter, two attributes that characterize a college course experience. The key message is that in a college-level course, the responsibility for success is transferred from the teacher to the student. The first exam grade can often be a wake-up call for students who are used to getting A's based on effort and cooperation rather than serious academic preparation and achievement.

AP EXAM

- Monday, May 11, 2020 @ 8:00 am
- The Exam will be administered off-site by a non-science proctor hired by FHPS.
- Exam fee - \$90 (+/- \$5)
- Exam Scoring:

5 – Extremely Well Qualified	→	Credit Awarded varies based on college attended.
4 – Well Qualified	→	
3 – Qualified	→	
2 – Possibly Qualified		
1 – No Recommendation For Qualification		

Student Evaluation

- Students will receive points for a variety of homework, class work, lab work and exams.
10% of the grade = Homework
40% of the grade = Written Lab Reports/Lab Manual completion/Lab Assessments
50% of the grade = Tests/Quizzes/Projects

- Semester Grades Are Calculated As Follows:

<u>Semester I</u>	<u>Semester II</u>
Semester I coursework - 85%	Semester II course work – 85%
November Exam – 7.5%	Semester II Final Exam – 15%
January Exam – 7.5%	

- Historically, class averages range from 87% - 89%.

Work Load

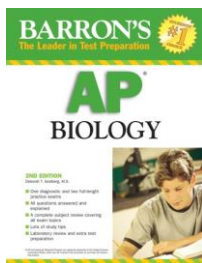
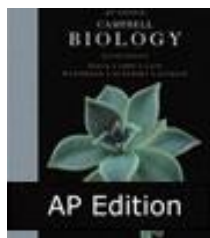
Work on Biology **EVERY** night! To stay up-to-date in this course, you need to spend some time on biology every night. The ideal would be about **one (1) hour per night** or approximately **six (6) hours per week**. This would include textbook reading, lecture review, lab notebook assignments, extra credit assignments, and test preparation. On weeks when you cannot devote that one hour on a weeknight, you should put in extra time on weekends to make up for it. On nights where you have minimal time, you should at least review the day's lesson or lecture notes (PowerPoint notes on the Web).

The Successful AP Biology Student:

- Realizes this is a fast-paced course so they have excellent attendance.
- Is never late.
- Always has their textbook, notebook, lab book, pencil, ... when they come to class.
- Let's the teacher know ahead of time when they will miss for a doctor's appointment or school trip.
- Makes certain that all assignments, labs, projects, and reports are completed on time.
- Schedules tests & labs to be made up after school when they return from an absence.
- Does not miss an excessive number of class periods for school trips.
- Keeps track of their grade.
- Always reads every lab before that lab day.
- Reads and recopies lecture notes and keeps them in an organized notebook.
- Reads all chapters before lecture.
- Reviews all chapters and notes each day.
- Asks questions in class.
- Utilizes the computer tutorials that supplement each unit of study.
- Pays attention in class.
- Keeps neat & accurate lab data to be organized in lab reports.
- Follows all instructions for projects & collections.

Course Recommendations:

1. The purchase of A.P. Biology Study Guide in the fall. (Important Discussion during class)
2. The purchase of a 2nd A.P. Biology Study Guide in the spring.



COURSE BREAKDOWN

The course is broken into four major "Big Ideas" to be covered equally throughout the year.

- Big Idea 1: The process of evolution drives the diversity and unity of life.
- Big Idea 2: Biological systems utilize free energy and molecular building blocks to grow, to reproduce and to maintain dynamic homeostasis.
- Big Idea 3: Living systems store, retrieve, transmit and respond to information essential to life processes.
- Big Idea 4: Biological systems interact, and these systems and their interactions possess complex properties.

These four ideas cannot and should not be thought of distinct individual concepts. There are many interconnections between these four ideas which will be a focus during the course.

LABORATORY COMPONENT

Students will conduct a minimum of eight inquiry-based investigations (two per big idea). Additional labs and activities will be used to widen the range of topics, deepen students' conceptual understanding in a hands-on, discovery mode.

Students will maintain a written record (lab notebook) of investigations conducted. In addition, they will be asked to communicate to others in other formats such as: formal lab reports, power point presentations, poster presentations, and group presentations. These communication tools will be a record of their collaboration, learning, information processing skills and a means for reflection of their own work throughout the year.

All of the laboratory investigations and activities will be focused around using the following science practices:

- 1) The student can use representations and models to communicate scientific phenomena and solve scientific problems
- 2) The student can use mathematics appropriately
- 3) The student can engage in scientific questioning to extend thinking or to guide investigations within the context of the AP course
- 4) The student can plan and implement data collection strategies appropriate to a particular scientific question
- 5) The student can perform data analysis and evaluation of evidence
- 6) The student can work with scientific explanations and theories
- 7) The student is able to connect and relate knowledge across various scales, concepts and representations in and across domains.

CURRENT SOCIAL AND ETHICAL TOPICS

It is critically important that students connect their classroom knowledge to socially important issues, which in turn can be used as a focus for the classroom learning. Topics will be introduced and discussed in a class setting, both live or through on-line forums. In addition, discussions will be focused around articles taken from journals, *Scientific American*, *Popular Science*, and other media sources to connect their lives to the classroom. Some current topics are listed below and the list can be modified as new issues arise:

- Stem Cell Research (Big Idea 3)
- Global Warming (Big Idea 4)
- Antibiotic Resistance and Antibiotic Use (Big Idea 1)
- Genetically Modified Organisms (Big Idea 3)
- Cloning (Big Idea 3)
- Use of Genetic Information (Big Idea 3)

"To quote the brilliant philosopher Douglas Adams, "For a moment, nothing happened. Then, after a second or so, nothing continued to happen." This is what it is like if you try to study by diffusion. The fact of the matter is, absorbing information taught in this class requires active transport. Even then, the competitive inhibitors of procrastination will likely prevent any absorbed facts from being catalysed into long-term memory. Study early, study hard, and always do the reading."

AP Biology Notebooks

- Organization can and will be your saving grace.
 - Your **organized notebook will be checked at least once per semester**. It will receive an "A" or be returned and organized until it is an A.
- There are several options and ways to keep organized. The big trick is to find what works best for your style. Unfortunately, only through a process of trial and error can you determine what works best for you.
- Here are some options: (there are more, see me if you want input on your idea)

Option 1

- Use a 2", 3-ring binder as your notebook.
- The cover of your notebook should have your name, subject, & period.
- A master cover sheet with your name & period can be clipped into your notebook as the first sheet.
- Dividers with tabs labeled with the name of each section can be included.
- All papers must be clipped into the notebook in the correct order.
- Notebook Sections:

SECTION 1 - WEEKLY ASSIGNMENTS

Each week on the same sheet of paper with that week's date at the top of the set of assignments

Do not write on the back of these sheets

SECTION 2 - HANDOUTS to BE SAVED ALL YEAR

Website sheet, materials needed, class rules, notebook guidelines, safety rules, how to write abstracts & lab reports

SECTION 3 - CHAPTER WORK

Include a cover sheet for each chapter with its number & title

Chapter work should be in the following order --- outlines, notes, worksheets, handouts, study guides, etc.

Each sheet must have the chapter & title and your name, date, & period

SECTION 4 - COMPUTERIZED GRADE REPORTS

Printed from computer every 2 - 3 weeks

Option 2

- Big (2-3") 3-ring binder. Preferably RED! STAYS AT HOME!
- Divided into chapters, units, and labs
- Insert papers when done with in class. (Recopy notes from the day?)
- Smaller binder (any color) to be used at school and transport to BIG RED.
- Contains current topic/chapter items: worksheets, labs, study guides, assignments, etc.

Option 3

- 2" 3-ring binder
- Each day starts a new page, dated in upper corner.
- Topic for day and any assignments written at the top
- Notes, drawings, work, etc on the rest of the page
- Hand-outs and supplementals clipped in behind the days page(s)
- All pages for a day are labeled with the date in the same upper corner.