

Course Syllabus: AP Biology

"Anyone who has never made a mistake has never tried anything new"

-Albert Einstein

INSTRUCTOR: Ms. J. Morris

AP BIOLOGY: Periods 3 & 4

CONFERENCE 5th PERIOD: 12:48-1:43

ROOM: 2-216

TUTORING: Mon-Fri 7:00-7:45am and selected afternoons

School Telephone: 714-433-6600

Email: Jessica.morris@sausd.us



Course goals and overview:

(Excerpted from AP Course Description, The College Board)- The AP Biology course is designed to provide students with a learning experience equivalent to a two-semester college introductory biology course taken by biology majors during their first year of college. The course is designed to provide students with the conceptual framework, factual knowledge, and analytical skills necessary to deal critically with the rapidly changing science of biology. The two main goals of AP Biology are to help students develop a conceptual framework for modern biology and an appreciation of science as a process. Primary emphasis in an AP Biology course is on developing an understanding of the concepts. Essential to this conceptual understanding are a grasp of science as a process rather than as an accumulation of facts; personal experience in scientific inquiry; recognition of unifying themes that integrate the major topics of biology; and application of biological knowledge and critical thinking to environmental and social concerns. The course emphasizes biological concepts of Molecules and Cells, Heredity and Evolution, and Organisms and Populations. The course also includes laboratory components constituting a minimum of 25% of instructional time. Students are encouraged to keep copies of their laboratory work for use in determining college credit or placement

(<http://apcentral.collegeboard.com>)

Textbook

Principles of Life Second Edition, Hillis, Sadava, Hill, Price

Course Planner

My AP course is structured around the four big ideas, the enduring understandings within the big ideas and the essential knowledge within the enduring understanding.

The big ideas:

Big idea 1: The process of evolution drives the diversity and unity of life. (18%)

Big idea 2: Biological systems utilize free energy and molecular building blocks to grow, to reproduce and to maintain dynamic homeostasis. (28%)

Big idea 3: Living systems store, retrieve, transmit and respond to information essential to life processes. (47%)

Big idea 4: Biological systems interact, and these systems and their interactions possess complex properties. (22%)

Godinez High School 2018-2019
Tentative Schedule for AP Biology

Ms. Morris

Time	Biological Concepts	Details of Topic	Big Idea
2 weeks (before school starts)	Summer Work	Review of Chemistry Intro to the Chemistry of Life	1, 2, 3, 4
Aug/Sept	Exploring Life	Exploring Life	1, 4
Semester 1 Sep	Molecules and Cells	Chemistry of Life <ul style="list-style-type: none"> • Types of chemical bonding • Functional groups • Classification and formation of macromolecules • Characteristics of enzymes • Water • Proteins- structure and function 	1, 2, 3, 4
		Cellular Structure and Function <ul style="list-style-type: none"> • Fluid mosaic model of the plasma membrane • Cell membrane structure and function • Types of cellular transport • Subcellular organization • Prokaryotic and eukaryotic cells- evolutionary differences 	1, 2, 3, 4
Oct/Nov	Molecules and Cells	Energy & Communication <ul style="list-style-type: none"> • Reception, transduction, and response of cellular signals • Plant hormones and interactions • Functions of endocrine system and their hormones • Immune System • Free energy changes • Molecules and reactions involved in metabolism • Fermentation and cellular respiration • Light-independent and light dependent reactions • ATP structure and function • Cellular respiration • Mitochondria form and function 	1, 2, 3, 4
Semester 1 Nov/Dec	Heredity and Evolution	Molecular Genetics <ul style="list-style-type: none"> • RNA and DNA structure and function • Protein Synthesis transcription and translation • Mutations- basis for natural selection 	1, 3
		Mitosis and Meiosis <ul style="list-style-type: none"> • Stages involved in mitosis • Stages involved in meiosis • Cell Cycle mechanisms & control • Alternation of generations • Spermatogenesis and Oogenesis 	2, 3
Dec		Mendelian and Non-Mendelian Genetics (3 weeks) <ul style="list-style-type: none"> • Inheritance patterns: monohybrid, lethal, sex-linked, codominance, multi-hybrid crosses • Predicting genetic outcomes, genetic counseling • Gene linkage & mapping 	1, 3

		<ul style="list-style-type: none"> • Mutations revisited 	
Dec	Heredity and Evolution	Molecular Genetics <ul style="list-style-type: none"> • Regulation of gene expression • Viruses • Gene expression in bacteria • Biotechnology: Recombination technology • Genetic development • Use of bioinformatics to analyze genomes • Comparing and discussing genomic sequences in relation to evolution 	1, 3
Semester 2 Jan/Feb	Heredity and Evolution	Evolutionary Biology <ul style="list-style-type: none"> • Lamarck's theory of evolution • Darwin's Origin of Species • Natural selection • Evidence of evolution (molecular analysis & morphological analysis) • Phylogeny and Systematics • Evolution populations • Hardy-Weinberg Law 	1, 3
Feb		Biological Diversity & Microbiology <ul style="list-style-type: none"> • Origin of Life • Fossil record • Evolution of multicellular organisms • Biological diversity • Archae, Bacteria, Eukarya • Review Viruses • Protists • Fungi 	1, 3, 4
Semester 2 Feb/Mar	Organisms and Populations Organisms and Populations	Invertebrates <ul style="list-style-type: none"> • Animal diversity • Evolution of symmetry • Characteristics (body plans and systems) as you go up phylogenetic tree 	1, 3, 4
Mar	Organisms and Populations Organisms and Populations	Vertebrates <ul style="list-style-type: none"> • Evolution of vertebrae • Homeostasis and feedback mechanisms • Circulation and gas exchange • Immune System • Osmoregulation and excretion • Digestive, Circulatory, Respiratory, Excretory, Endocrine, Nervous, Muscular Systems 	1, 3, 4

Mar		Ecology <ul style="list-style-type: none"> • Ecological interactions • Abiotic and biotic factors • Behavior ecology • Population dynamics • Ecological disturbances • Energy flow in an ecosystem • Conservation biology • Environmental concerns 	1, 3, 4
Apr/May		Project 1: Biological Social Concerns. <ul style="list-style-type: none"> • Students will research a social concern (i.e. Global warming, Stem cell research, Embryonic development, Animal experimentation, etc.). This information will be presented to the class while the student will lead a debate with discussion on pros and cons of the issue. Classmates will form opinions based on the information presented. 	1, 2, 3, 4
May		Project 2: Biology in Pop Culture. Students will read at least one suggested novel and watch at least one movie both of which focus heavily on some aspect of biology. Students will then validate or invalidate the science in these 2 entertainment mediums and present their findings to their peers.	1, 2, 3, 4
May	AP Biology Exam Monday, May 13th 8:00am		
June		Review for Final Exam	

MATERIALS:

- ✓ 5 subject spiral bound notebook
- ✓ Colored Pencils
- ✓ At least 2 different colored highlighters
- ✓ Different colored pens (at least 4)→ good for making illustrations and organizing your notes
- ✓ Sticky notes→ good for organizing your binder and marking pages in your text

IF you have any trouble getting these items please let me know, I have limited resources that I can share out with you.

ATTENDANCE:

Students are expected to be in their designated class every day they are in attendance in school. In case of an absence, a student must provide a valid excuse for being absent from school. The teacher will contact parents as and when required in relation to attendance issues.

MAKE UP WORK POLICY:

1. If your absence is excused it is **YOUR RESPONSIBILITY** to get make-up work from me.
 - i. You must see me outside of class time to get make up work. Please DO NOT interrupt class to demand work.
 1. All missed handouts will be kept by door in a labeled cubby. This is where you will need to LOOK when you return to class.
 - ii. Make-up exams will be scheduled by me during office hours within two days of an absence

1. Exams are EXTREMELY difficult to make-up so please make every effort to come to class on these days
- iii. There will be NO make-up Labs.
 1. There are not enough materials or space to run extra lab sets. You will be given the data for the lab and will earn a maximum of 80% credit for the lab with an EXCUSED absence. For students with UNEXCUSED absences, your labs will earn a maximum of 70% of the credit.
2. Assignments or tests missed due to excused absences should be made up within two days of the student's return to school, or as agreed upon by the student and teacher.
3. I will be available for scheduling of make-up assessments, presentations, and labs and expect students to schedule the make up work promptly. A student who fails to appear for *scheduled* makeup work will receive a zero.

CARD SYSTEM:

The Godinez card system will be in place for tardies and missed homework assignments. **ALL LATE LABS** will be given homework cards so make sure you stay on top of your lab work in this class. Please review your student handbooks if you have questions about this system.

EXPECTED CLASSROOM BEHAVIORS:

- Be responsible for one's own property and behavior.
- Observe and follow rules stated in the student handbook.
- Follow directions first time given.
- Bring required materials to class daily.
- Be on time for class. Tardy is defined as "not in your seat when the bell rings".
- Respect yourself, your classmates, and school personnel.
- Be silent and listen when another person is speaking.
- Respect other people and their ideas.
- Keep working until your teacher dismisses you.
- Excessive talking, roaming, grooming, sleeping, eating, singing, use of profanity, use of electronic devices and any other inappropriate behavior in class is not allowed.
- Do not touch any equipment unless instructed to do so by the teacher.
- Read, understand, sign and follow the Safety Contract.
- Keep the classroom clean.

The student that fails to follow safety or classroom rules will be subject to detention and/or referred to the administration for further disciplinary action.

DISCIPLINE- Failure to comply with classroom policy will result in:

- b. 1st offense: verbal warning
- c. 2nd offense: student conference, 15-min detention
- d. 3rd offense: parent phone call, written discipline detention
- e. 4th offense: 30-min detention and parent notification
- f. 5th offense: referral

ASSIGNMENTS:

1. Students are expected to complete all the given assignments and submit them on time.
2. Students are expected to maintain in a chronological order all dated daily work.
3. All work submitted for a grade should be neat, complete, organized, and **legible**.
4. **ACADEMIC INTEGRITY IS A MUST!**

Examples of Cheating include, but are not limited to:

- Plagiarism – using words or ideas from a published source without proper documentation; using the work of another student (e.g. copying another student’s homework, composition, or project); using excessive editing suggestions of another student, teacher, parent or paid editor.
- Looking on someone else’s paper during a test or quiz.
- Knowingly accepting or giving information concerning the contents of a test or quiz.
- Changing the appearance of computer printouts.
- Allowing another student to complete web-based activities using your name and login information.
- Please **DO NOT** copy **OR** let someone copy your assignments. If I see you copying **OR** if it is obvious that you copied both the student that copied and the student that “shared” their paper will receive a **ZERO** on that assignment and it will count as a **MISSED HOMEWORK** assignment.

HOMEWORK:

This year I am going to try out a new homework policy, one more closely aligned to a college course:

Your mandatory homework will be limited and assigned on an as needed basis. It will usually consist of 1FRQ question a night, called an assessment, and finishing the analysis on any Labs that we ran in class.

Most homework will be recommended but optional and will be assigned at the start of each unit and will be collected on the day of the unit test. This homework will help deepen your understanding of the material covered in class. This homework will be worth up to a 10% bump on your unit test, equally distributed between the multiple choice and free response sections. In the event of a failing grade in the class this homework will switch to mandatory. Any ***suspicion*** or ***proof*** of copying will result in zero credit being given. **NO LATE** work will be accepted, absences included.

LABORATORY EXPERIENCE:

1. Approximately 35% of your course work will be in the form of laboratory investigations.
2. You will be required to wear appropriate safety attire while working in the lab.
3. A copy of the Laboratory Safety Rules will be given to you. You must earn a score of 85% on the Safety Test in order to be allowed to participate in any laboratory experience. Safety will be reinforced in every laboratory experience.
4. Anyone not observing safety regulations will be removed from the laboratory setting and earn a grade of **“0” (zero)** for the lab.

TESTS & QUIZZES:

Daily quizzes will be given using canvas Monday-Thursday. These will consist of 3-5 questions and must be completed at the start of the class period. Missed quizzes due to absences or tardies may not be made-up.

Every Friday there will be a short FRQ quiz. These will have a stepped progression of difficulty and grading as the semester goes on.

All unit tests will follow the AP format. Tests will be given at the end of every unit. In general, each test will have several multiple-choice and grid-in questions in the first part, with the second part of the test consisting of free-response questions. Unit tests will be given over a 2-day span so please make sure you are at school for both sections.

COURSE GRADING PROCEDURES AND POLICIES:

All graded work is important! Don't neglect any aspect of the class. Don't ask me to raise your grade just because you're close. An 89 is an 89. Here are the expected percentages of the grade:

- A. All labs, projects, assignments, tests and quizzes and daily activities will be assigned a point value. Grades will be determined by how many points you earn.
 - a. Unit Assessments (Unit tests, quizzes, final exam)- 50%
 - A- Multiple Choice 25%
 - B- Free Response Questions (FRQs) 25%
 - b. Labs/ Performance assessments – 35%
 - c. Learning activities – 15%

B. The grade scale will be as follows:

A- 100-90%

B- 89-80%

C- 79-70%

D- 69-60%

F- 59% and below

I DO NOT ROUND GRADES.

WANT TO TALK ABOUT IT?

If at any time you feel uncomfortable about our class, please come talk to me or email me. Your feelings are important to me, and I would like to give you my full attention—something I cannot do when I am in charge of the whole class. If your parents would like a conference, please have them call guidance and leave a message.

DISCLAIMER:

I do not give out grades; you earn your grades. The only person responsible for your performance in class is you. Some people may have to work harder to reach success in the class than others will. I am here to help you succeed. Please do not wait or hesitate to see me for help. I am available nearly every morning from 7:00-7:50, please check the posted calendar for tutoring schedules and my availability. I will try to make sure that you are 100% aware of when I am available.

Godinez High School 2018-2019
AP BIOLOGY SYLLABUS CONFIRMATION FORM

Ms. Morris

Dear Parent/ Guardian:

This form is to confirm that you and your child have read and understand the guidelines listed in the attached course syllabus. It is very important that you and your child sign below indicating that you have received this information. This form should be returned to the instructor immediately.

Thank you in advance for all that you do to insure parental support to your child and to Godinez Fundamental High School. I look forward to working with you and your child this school year.

Sincerely,

Ms. Jessica Morris
AP Biology Teacher

Student's Name (Print) _____

Student's Signature _____ Date _____

Parent's/ Guardian's Name (Print) _____

Parent's Signature _____ Date _____

Contact Phone #: _____

Parent's/ Guardian's E-Mail _____

Note: The teacher reserves the right to change or adjust any section of the course syllabus at any time to better meet the needs, abilities, and interests of the students.