

AP BIOLOGY SYLLABUS Bastrop High School 2018-2019
Elizabeth Dollery

Dear AP Biology Students and Parents,

This Syllabus has been prepared for you so you will become familiar with the AP Program® and understand the requirements for success. I have included as much information as possible to help you.

The AP Program® is designed to allow high school students to obtain college credit &/or advanced placement in college. The credit is earned by examination. The AP Exam is given in May to over 200,000 students. The score range is 1-5. A score of 3 is usually acceptable to most colleges & universities. Most of the exam is based on course content, but critical thinking skills are required to successfully complete the majority of the exam. Much of the exam involves lab-based questions, which will involve an understanding of experimental design, graphing, data analysis, prediction, etc. We will work on these skills throughout the year.

Since this course is a college-level course taught to high school students it is very demanding. Universities expect the course to be the equivalent of a freshman Biology majors course. Universities differ in their acceptable exam score requirements depending on whether the student plans to major in science or not. ***If you are concerned about this contact the college or university you plan to attend & find out their policy.***

For those of you who are not familiar with AP courses, you should be aware of some expectations beyond what is required in a regular course. All students are expected to take the AP Exam. The exam date is **Monday, May 13, 2019**. Each student will be required to read & learn materials outside of the text that might not be covered in lecture. Each student will be required to learn to use & read current scientific literature. Students will need to spend time outside class to study, read & work on assignments. In a typical college level science course, a student would spend around 7 contact hours weekly in class. Since our classes are only 50 minutes, we end up spending only around 4.2 contact hours weekly in class. Since we are expected to cover at least the same amount of material, much of the learning is necessarily accomplished independently by the student outside of class.

Attendance is extremely important in AP Biology. Material is covered very quickly & in much more detail than in Biology/PAP Biology. Excessive absences for whatever reason (excused or unexcused) will jeopardize your chances of success in this course. Lab work is almost impossible to make-up & will be included on unit tests. If students are absent on a lab day, they may not understand the concepts well enough to answer questions on quizzes & tests. It is important if you are absent to find a time to see me in tutorials about the material you missed. Students are provided access to the Google Classroom that has all assignments posted with due dates. ***It is highly recommended that if a student is struggling in AP Biology with getting assignments completed, the student needs to make it a priority to see Ms. Dollery to discuss a plan to be successful in this course!*** Time management is an extremely important skill to learn & is best learned before being on your own at a university.

We will be using the Internet quite frequently in this course. While it is not required that you have internet access from home, it would be very helpful. Students who cannot connect from home can use the computers in the school library, the public library, & the classroom.

AP BIOLOGY GENERAL COURSE DESCRIPTION

2017-2018

This is a college-level course taught in high school. At the end of the year, students are given a standardized exam, which will determine their eligibility for college credit. Students must exercise exceptional organizational skills in order to meet the demands of this course.

The course is organized into major instructional areas as shown below. The material reflects the curriculum standards set by the College Board for this course.

GENERAL COURSE OUTLINE

Unit 1	Nature of Science & Ecology
Unit 2	Biochemistry
Unit 3	Cells
Unit 4	Energetics
Unit 5	Cell Signaling & Regulation
Unit 6	Cell Division & Heredity
Unit 7	Evolution

This course is divided into seven major units that each include all four of the Big Ideas that are the fundamental framework for the AP Biology Curriculum. Within each unit, the enduring understanding statements, essential knowledge, learning objectives & science practices that will be taught as outlined below.

BIG IDEAS

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

Biology is a scientific process that requires students to make observations & interpret information from the natural world. Because the process of science is such an important part of this course, students will be required to record their lab activities in a lab notebook in such a way as to mirror the process that is used in research laboratories. Students in this course meet for 50-55 minutes five days each week & will spend at least 40% of this time engaged in laboratory exercises. Each of the Science Practices below will be addressed throughout the course within the context of the Essential Knowledge. They are listed in the curriculum framework along with the appropriate learning objective. This document is available on my Classroom & the College Board website. Because students will be learning the practice of being a scientist, they will conduct at least two inquiry based lab activities per Big Idea in the curriculum framework. The products of these investigations will be either a formal lab report, mini-poster presentation or a group presentation.

Course Sequence & Correlation to Textbook

Unit	Unit Name	Ch	Chapter Name
1	Nature of Science & Ecology	1.1-3	Introduction/nature of science
		51	Animal Behavior
		52.2-4/53.1-5	Population Ecology & Distribution of Organisms
		54	Species Interactions
		56/53.6	Global Ecology & Conservation Biology
		38.3	Domestication of Flowering Plants
		27.5	Prokaryotes in the Biosphere
		28.6	Single Celled Eukaryotes in Ecological Comm.
2	Biochemistry	2/3.1/4.2/5	Chemistry of Life/Carbon
		16.1	DNA is the Genetic Material
		17	Protein Synthesis
		18.1-4	Regulation of Gene Expression
		20.1	Biotechnology
3	Cells	6	A tour of the cell
		7	Membrane Structure & Function
		25.1/25.3/28.1	Cell Origins/Eukaryotic Evolution
		40.2-3/44.1-3	Osmoregulation & Excretion
		48	Neurons, Synapses & Signaling
		50.5-6	Muscle Contraction
4	Energetics	8	Intro to Metabolism
		9	Cellular Respiration
		27.1/27.3	Prokaryote Metabolism
		40.1	Feedback & Thermoregulation
		10.1-3	Photosynthesis
		35.1-4/36.1-5/ 37.2-3	Roots, shoots & leaves/Resource Transport
		55	Ecosystems
5	Cell Communication & Regulation	11	Cell Signaling
		45/39.1-2	Endocrine System/Plant Responses
		49.1-2/49.5	Nervous Systems
		43	Immune System
		18.4/20.3	Development, Stem Cells
		47	Development
6	Cell Cycle & Heredity	12	Cell Cycle
		16.2-3	Molecular Basis of Inheritance
		18.5	Cancer
		13	Meiosis & Sexual Life Cycles
		14	Mendelian Genetics
		15.1-4	Chromosomal Basis of Inheritance
		27.2	Genetic Diversity of Prokaryotes
21	Genomes and their evolution		
7	Evolution & Biodiversity	22	Descent with Modification
		23	Population Genetics
		24	Speciation
		25	Patterns of Evolution (omit 25.1 & 25.3)
		26	Phylogenetics (omit 26.4)
		27.4	Prokaryote Evolution

GRADING POLICY & ASSIGNMENTS

How to contact Ms. Dollery:

Room 822

Email edollery@bisdtx.org (school)

Through the Google Classroom

Materials Needed for Class: (Items in bold need to be brought to class daily)

- **Large (2-3in) 3 ringed binder** with dividers to contain Cornell Notes for class, video notes, and materials that do not fit in your lab notebook.
- **1 composition notebook.** This notebook will be used to create your AP Biology Lab notebook.
- **Pen, pencil, extra notebook paper**
- Internet access for online homework & access to reading material.
- Any other material that would be useful to you for studying or time management: planner, notecards, post it notes, highlighters, several pen colors etc...

Each student's six-week's grade will be based on the following:

Exams, Labs, Projects, & Abstracts	60%
Classwork, Activities, Quizzes & Homework	40%

All students will take the fall semester exam (*i.e. there will be no exemptions*). By taking the Semester Exam in the fall, students have an opportunity to review a good deal of material that will be on the AP exam. Since students will be taking the AP Exam in the spring, students may exempt the spring semester exam, provided the student **registers & takes** the AP Exam on May 13, 2019.

Where to find your assignments:

- Most of your assignments are found on my Google Classroom.
Join code is 8etu1in.
- I will provide you a **single copy of each assignment on paper**. If you lose your copy, go to the Google classroom to print another copy.
- All scientific papers to read for abstracts are also found on the Classroom and there is no need to print these.
- It is important that you get used to having much of your work online. When you go to college, many classes you take will require you to download work & submit much of your work online.

General Guidelines for Assignments:

- Assignments must be turned in on time.
- Since you will know the due dates in advance, you are expected to turn in your work the **day you return from an unexpected or planned absence**. It is your responsibility to check Google classroom or attend tutorials for your make-up work. Your allotted time to complete and turn in make-up work is one day for each day of absence plus one additional day.
- Each day the assignment is late, the grade is reduced by 10 points, up to a maximum of 30 points. **After three days, the assignment will no longer be accepted to be graded.** Absences are subject to the late policy.
- All assignments are posted on the Google Classroom with **DUE** dates. Make sure assignments are completed and turned in on time.
- Major grades (major tests, major labs, abstracts, and major projects) have one opportunity to recover the failed major grade to a **maximum grade of 70**. Students will have **three days upon receiving their grade** to complete their retest (tests)/corrections (projects, major labs, & abstracts). Higher grade of the original and retest grades will be entered in the gradebook.
- **Failed daily grades will not be recovered, this includes quizzes, homework, video notes, Cornell notes, and activities.**

Textbook Reading & Note-taking

Access to the textbook is found by setting up an account with Mastering Biology at: <https://www.pearsonmylabandmastering.com/northamerica/masteringbiology/>

Couse ID: EDOLLERY1819 (make sure you use a computer/laptop for setting up account)

Once your account is set up with Pearson, you may download the free app Pearson eText 2.0 to access the textbook on your cellphone.

Textbook: Campbell Biology AP®Edition (Reece)

There are a limited number of textbooks available for check out from the Bookroom.

- You will be expected to **read & take Cornell notes** on each chapter. Notes are due at the beginning of class on the due date.
- I will provide you information on how to effectively take notes from a textbook using Cornell Notes.
- These notes should be taken in your binder or a spiral.

Homework Assignments

- Assignments must be **completed on time**.
- There will be many times that you will be assigned homework over concepts we haven't covered in class. You should always read the chapter in the book & complete the Cornell Notes **BEFORE** working on the homework assignment. **Class time is meant to help you think critically about the material you are learning & to clear up misconceptions.** You will be better able to learn if you take the time to prepare yourself before you come to class by thoroughly reading, taking notes & completing the homework.

Video Notes

- You will usually have a set of short instructional videos to watch each week. You are expected to watch the videos & **take notes** in your notebook. Video notes will be due at the **beginning** of class on the day they are due. This is a daily grade.
- These videos are meant to supplement classroom instruction & will allow us to explore topics in class more deeply. The videos are also a very good tool for test review for many students.

Paper Summaries—Abstracts

- Current scientific literature relevant to topics being discussed are assigned to be read & summarized for each unit.
- Papers that are available to be read are posted on the google classroom.
- Specific instructions for completing abstracts will be presented to you.
- You are **required to prepare two summaries** for each unit.
- You are expected to summarize the paper **in your own words**! Do not take several sentences from the paper & piece them together!
- Abstracts will be graded based on two criteria:
 - (1) Completing the assignment in the correct format
 - (2) Thoroughness & ability to accurately summarize information in the paper
 - (3) Writing the abstract in your own words.
- These assignments **must be turned in on time** to the google classroom or turned in to the teacher.
- Since these are considered major assignments, **late points will be taken each day your abstracts are late.**

Lab Assignments

- Directions for formal lab write-ups will be given to you before the first lab write up. You will **not** prepare a formal report for every lab.
- All lab assignments **must be turned in on time** (*i.e. beginning of your class on due date*). These are considered major assignments.
- **Pre-labs are not accepted late** for any reason & will result in your inability to participate in the lab!!
- Some lab activities cannot be made up because the materials will not keep very long, but you are still responsible for completing the lab questions or write up.
- If you are absent on a lab day, you are expected to get lab data from someone in class in order to complete the lab & turn it in on the due date.

Quizzes

- Some quizzes are announced ahead of time & will cover material you should have read, work we have done in class or something that we worked on in lab.
- Quizzes may be short answer, multiple choice or a free response question from a previous AP Exam.
- If you are absent & miss a quiz, make arrangements to attend tutorials to make up quiz within 3 days of your absence.
- Quizzes are daily grades and cannot be retaken to change the grade. Please do your best on every quiz.

Unit Exams:

- It is important that you keep up with your assignments & work on studying a little bit each day. There is too much information for you to try to “cram” all of your studying into a few hours before the exam. If you try to do the “cramming” method, you will hurt yourself in the long run because you will be unable to remember the material long term (i.e. for Unit Exams or the AP exam in May). You will be more likely to retain information if you **review & study your notes & textbook a little every day** by practicing recall using flash cards.
- Exams are composed of questions that mirror what you will see on the AP exam. Many questions will present you with data &/or experiments that you have not seen before & you will be expected to **apply** the information you have learned in class. In other words, simply memorizing information from the textbook or notes will not be the most productive study method! You must **understand** the material in order to apply the concepts & or evaluate new material.
- Expect each exam to be **comprehensive** (i.e. contain material previously learned in class). Most of the exam will consist of material for that particular unit but will often contain questions from previous units.
- Exams will sometimes take two periods & **time will be limited** just as it is on the AP exam.
- Exam questions will be based on class notes, assignments, labs & the textbook.
- If you are absent on the day of an exam, you should **expect to take the exam in tutorials within 3 days of your absence**. If you have extenuating circumstances you are expected to make arrangements with me ahead of time or by email.

Adapted from Shamone Minzenmayer

Tape/glue this into your notebook. Make sure this last page is signed before the end of the first week of school.

Student/Guardian AP Biology Contract

Student Form

I _____ have read the course syllabus & understand what is required
(*Print Student Name*)
of me in this course. I have read the honor code & district requirements & agree to follow
the expectations outlined in this document.

(*Student Signature*)

Date _____

Parent/Guardian Form

I _____ the parent/guardian of _____
(*Print Parent Name*) (*Print Student Name*)
have read the course syllabus & understand what is required of my student in this course.

(*Parent/Guardian Signature*)

Date _____

