AP BIOLOGY 2017 – 2018

EXPECTATIONS

The Advanced Placement Biology course will be a learning experience that will be relatively new to you. I will go so far and say that it will be the most challenging, demanding class you will take in high school. It is a college course and you will be held to very high expectations and you will need to exhibit mature responsibilities just like any college freshman taking their respective 'Introduction to Biology'. Unlike when you had Regents biology, the information you will learn will not be spoon-fed to you – a lot of it you will learn yourself. If you do not keep up with the work, the readings, and staying actively involved in lectures/discussions/lab investigations, your chances for success are slim. Regarding this, if there is any time on an interim report or quarter grade where you receive an '**F**', you have until the next grading interval (basically 5 weeks) to turn it around. If you still maintain an '**F**' by quarters end, measures will be put in place to start your removal from the class. This will then be entered on your transcript as a "**Withdrawal due to Failure"**.

THE AP EXAM

Since you are taking AP Biology, plan on taking the AP exam! This exam will determine whether or not you are eligible to receive college credit for this course. The AP exam for this current year will be on Monday, May 14, 2018. The fee for the exam is **$93**∗. The format for this is a 90-minute, 60+ multiple-choice/grid-in section and a 90-minute free response section. Exam grades are based on a scale of 1-5. Results will be e-mailed to you next July, so this will not be factored into your course grade. For more information on the course, exam, and its scoring, visit: **collegeboard.com**

TEAM WORK

I view this course as a team effort. While each person needs to complete and hand in their own unique work, study groups and cooperative effort are strongly encouraged. You never learn something as well as you do when you have to explain it to someone else. Work not just with your buds, but with people that you aren't best friends with. Make sure to come after school for help if needed. You need to find the way to prepare that works best for you!

ATTENDANCE

Students are expected to be on time to class every day. If you are absent, you are responsible for finding out the assignments/readings (always posted on-line) and completing them on your own. Students must make up exams missed the day you return and must make up labs during extra-help sessions after school, if applicable.

MATERIALS

a. large 3-ring binder for question sets, notes (handwritten or printed) & lab manual
b. composition notebook for lab work (pre-lab write-ups and data collection)
c. textbook: *Life: The Science of Biology* (10th Edition) by Sadava, et al.

WEBSITES

- Most materials for the class can be downloaded in the AP Biology section of **www.goldiesroom.org**. Along with the class documents, there are hundreds of links, video-clips, animations, etc. that you can use to help understand some of the tough topics that we will learn throughout the year.
- Your textbook has a companion website (**I'll send it out via email**) that is awesome. I will help you set up an account during the first days of school. This should be used daily along with your assigned readings. There are animated tutorials, interactive quizzes, on-line chapter quizzes (that will be graded), and so much more. Being a passive learner will not lead towards success! Use all available resources to get the most out of this class.

LABS

The College Board AP Biology curriculum has 13 'recommended' lab investigations. We will do our best to complete most of these as well as many, many additional activities throughout the year. See the AP Biology Lab Manual section of your binder for the listing of all the activities. Formal lab reports and will be completed for many of these student-driven investigations. Students will lose credit (10%) for each day late and can earn only a maximum of a 50% for a satisfactory report after 5 calendar days late. If you are legally absent for a lab activity you must make it up ASAP after school or a penalty will be applied. Some activities cannot be made up but you are still responsible for the write-up after you receive the data. Labs will be returned to you for review and I will then keep them on file.

HOMEWORK

Textbook Reading: Very Important! Read the assigned chapters/sections nightly and take notes. On-line quizzes at the end of each chapter will be graded. Stay up-to-date to be prepared for class.
HW Assignments: Besides the reading and chapter quizzes, you will have the complete set of guided notes and lab exercises from the onset of the class. You should be working on these as we work through each chapter using both the text and lectures from class.
Lab Assignments: Will be the main source of written work outside of class. This will be in addition to the regular readings and question sets.

EXAMS

Exams are composed of content driven multiple choice as well as AP-style free-response questions. Some *might* have a take home component as well. Exams will most often take double periods and time will be limited just as it is on the AP Exam. Exam questions will be based on class notes, lectures, lab, and the textbook.

GRADING

Each student **earns** their grade based on the quality of work they complete. Each quarter grade will be determined by the percentages listed below except the final quarter. The 4th quarter is unique, since much of it occurs after the AP Exam. The 4th quarter will involve a student project that is valued at 50% of the quarter grade. To determine the letter grade that you will receive each quarter, the final point total of each quarter will be analyzed and then curved accordingly.

Exams (~2 per quarter)	**40%**
Labs & Lab Reports	**40%**
Chapter Quizzes	**10%**
Question-of-the-Day	**10%**

2017 – 2018 Course Overview

As a first year college "introduction" course to biology, the content follows a "traditional" timeline, all the while focusing on the four Big Ideas and the Enduring Understandings identified in the Curriculum Framework published by the College Board. I follow a micro- to macro- arc, starting with molecules (yes – CHEMISTRY) then cell structure. This is followed by cellular homeostasis, cellular energenics, and the cell cycle. Mendelian genetics follows, which will flow into a hefty unit of molecular genetics (my favorite topic). Evolution comes next (okay, ***really*** my favorite)... This leads into organismal homeostasis, multicellular molecular signaling, developmental biology, and animal behavior – which we can now look from a truly evolutionary standpoint. The year finishes up with ecology as we also tie in all content into the major themes of the course.

The Big Ideas are woven into the treatment of the course material at appropriate points all year. They will form a conceptual underpinning that will unify apparently disparate topics and reminds the course participants to step back and look at the big picture. Required readings by the students will include the use of their textbook with the guided reading question sets, and possibly current journal entries and articles from Scientific American/Nature. Discussions will originate from lectures and topics chosen by the students from their readings and viewings of various programs (Eyes of Nye, NOVA, Frontline, etc.) as they come up throughout the year.

The Big Ideas

The big ideas are interrelated, and they will not be taught alone. The course will connect these big ideas and enduring as they are made by the students themselves and will be discussed at length during class 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.

Application of the Science Practices Throughout the Course

As an inquiry-based learning course, it is organized to give students a basic understanding of each concept to be studied, and then have the student conduct first teacher-directed activities to experience a science practice before conducting their own student-directed experiments. Our goal is to include as many of the 13 student-directed investigations as published in the "AP Biology Investigative Labs: An Inquiry-Based Approach" along with many other activities that should (if you are doing things right) get the student excited to carry out experiments to answer questions that they ask themselves throughout the year.

Do's and Don'ts For AP Biology Free Response Questions:

Writing is an important skill that is required in this class. Both in lab reports and on class exams (including the Part II free-response questions on the AP Exam), you need to articulate your thoughts onto paper. The lab format will be described later on, but on all exams and other class assignments, you need to be able to compose your thoughts clearly and concisely. Below are a couple of guidelines that you should follow which should lead towards success in the written portion of the class.

DO:

- Read the question twice before answering, and once after answering.
- Outline the answer to avoid confusion and disorganization. Thinking ahead helps to avoid scratch-outs, skipping around, and rambling.
- Define any term that you use.
- Answer the parts of the question in the order called for. It is best to not skip around.
- Write clearly and neatly. Unreadable answers are never given any credit.
- Go into detail on the subject, and to the point. ANSWER the question THOROUGHLY!
- If you cannot remember a word exactly, take a shot at it – get as close as you can. If you don't have a name for a concept, describe the concept.
- Use a black ball point pen.
- Remember that no detail is too small to be included, as long as it is to the point.
- If you draw a diagram, carefully label it (otherwise it gets no points) and place them in the text at the appropriate place, not detached at the end.
- Bring a watch to the exam so that you can pace yourself. You have four essays with about 22.5 minutes for each answer.
- Understand that the exam is written to be hard – the average score on the essays are usually between 2 and 5 points. It is very likely that you will not know everything, so relax and do your best.

DON'T:

- Don't waste time on background information unless the question calls for historical development or historical significance. Answer the question!
- Don't ramble, get to the point!
- Don't shoot the bull – say what you know and go on to the next question. You can always come back if you remember something.
- Don't use pencil or an ink color other than black.
- Don't panic or get angry because you are unfamiliar with the question. You probably have read or heard something about the question – be calm and think.
- Don't scratch out excessively. One or two lines through the unwanted words is sufficient.
- Don't write words in the margins unless it is necessary.
- Don't worry about spelling a word exactly or using perfect grammar. These are not a part of the standards that the graders use.
- Don't write sloppily. It is easier for a grader to miss an important word when he/she cannot read your handwriting.
- Don't write introductory or closing paragraphs. This is not an English essay, it is an answer to a question.
- Don't leave questions blank. Make *some* effort on every question.