AP BIOLOGY 2010-2011

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EXPECTATIONS

AP Biology is a difficult, yet fun course. I will go so far and say that it will be the most challenging class you will take in high school. This is a college course and you will be held to high expectations and mature responsibilities just like any college freshman taking 'Intro to Biology'. Unlike when you had Regents biology, the information you will learn will not be spoon-fed to you. If you do not keep up with the work, the readings, and staying actively involved in lectures/discussions, 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**' you will be dropped from the class. This is 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 in early May, 2011. The fee for the exam is **~$86**. The format for this is 100 Multiple Choice questions (timed) and 4 Free Response questions. Exam grades are based on a scale of 1-5. Results will be mailed to you in July, so this will not be factored into your course grade. For more information on the course, exam, and exam scoring, visit **www.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 you're your buds, but with people that you aren't best friends with. Utilize the class blog, come after school for help, find the way 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. blue/black pen and pencil to be brought to class EVERY day
d. textbook: *Life: The Science of Biology* (8th Edition) by Sadava, et al.

WEBSITES

- Your textbook has a companion website at **www.thelifewire.com**. I will help you set up an account during the first days of school. This should be used daily along with your assigned readings. Information can be found on the inside cover of your textbook about this site. There are animated tutorials, interactive quizzes, on-line 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.
- 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, videoclips, animations, etc. that you can use to help understand some of the tough topics that we will learn throughout the year.

LABS

AP Biology has 12 required lab activities as stated by The College Board. We will do our best to complete these as well as a few additional labs throughout the year. See the AP Biology Lab Manual for the listing of all the activities. Lab assignments must be completed according to the standard format (unless otherwise instructed). Lab reports are due 5 school days after the lab is completed. Students will lose credit (10 points) for each day late and can earn only a maximum of a 50 for a satisfactory report after 5 school 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 on-line 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: As stated above, labs must be completed within five (5) school days after completion of lab activity in class, so consider this in addition to the regular workload.

EXAMS

Exams are composed of AP-style multiple choice as well as AP style essays. Some might have a take home component as well. Exams will most often take double periods (or more) 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 text.

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%**
TBD by Instructor	**20%**

EXTRA HELP

I am available for extra help after school EVERY DAY from 2:05—2:40. Just let me know if you are stopping by because I also teach Regents biology and Anatomy & Physiology and some days are dedicated to them.

END OF YEAR

The course work will be completed by the end of April. We will have a chance to review and all AP Biology students will be given a summation exam **before** the AP Exam. After the AP exam you are expected to attend class. We will use that time to complete student projects. These activities are a major part of the 4th quarter grade.

2010-2011 Course Outline

As a first year college "intro" course, the content follows the traditional timeline, which also follows the three main subtopics: Molecules and Cells, Heredity and Evolution, and Organisms and Populations, as outlined in the AP Biology Course Description published by the College Board. I follow this micro to macro arc, starting with molecules and then cells. This is followed by genetics and evolution, then organisms, and finishing with populations-ecosystems.

The eight themes identified in the Course Description are woven into the treatment of the course material at appropriate points all year. They form a conceptual underpinning that unifies apparently disparate topics and reminds course participants to step back and look at the big picture. A particular theme manifests in many different topics. Some examples are listed below:

1. Science as a Process: analysis of lab data; study of historical development of a particular topic such as identification of DNA as the molecule of heredity (Griffith, Avery, Hershey-Chase, Chargaff, Franklin, Watson-Crick, Meselson-Stahl, etc.)
2. Evolution - genetic recombination as the "gist" for evolution; heterozygote advantage in sickle-cell anemia; phylogenetic patterns
3. Energy Transfer - conservation of energy; respiration and photosynthesis; ATP as an energy storage molecule to drive cell processes; food and energy pyramids.
4. Continuity and Change - Mendelian genetics, DNA replication, mutation, selective advantage, behavioral reproductive barriers
5. Relationship of Structure to Function - enzyme specificity; cell type diversity; organ structure and function ex: inner ear
6. Regulation - Positive and negative feedback loops in metabolic pathways; feedback loops in human endocrine pathways ex. thyroid goiter; competition in regulating population
7. Interdependence in Nature - coevolution, mutualistic relationships ex. mycorhizzae, lichen; predator-prey cycles; food webs; decomposers; nitrogen fixation
8. Science, Technology, and Society - lab activities such as DNA electrophoresis and gene transfer; class discussions on ethical issues ex. cloning, "designer" babies; environmental impact of industrial society.

You can see last year's weekly schedule posted in the AP Biology Weekly Schedule section of www.goldiesroom.org. We will pretty much mirror this timeline. However, things change, as the pace of the course will ultimately be dictated by the work that you, the student, put into the class. Ideally, the goal is to complete the curriculum and lab work with at least a week or two to review for the exam.

Do's and Don'ts When Writing AP Biology Essay Answers:

Writing is an important skill that is required in this class. Both in lab reports and on exams (including the Part II essays 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.