

Wheeler High School
AP Biology
Course Guidelines and Syllabus
2019-2020

Teacher: Susan Phillips	E-mail: susan.phillips@cobbk12.org (occasionally, emails go to 'junk' folder); susan.phillips@wheelermagnet.com
School: Joseph Wheeler High School	Website: www.phillipsscientificmethods.weebly.com Remind account- see instructions on my website/blog
Course: AP Biology	School Phone: 770-578-3266
Extra assistance: 1) Magnet Learning Links (MLL). Go to www.wheelermagnet.com to sign up, at least 48 hrs in advance. 2) Wheeler Learning Links 3) By appointment after school (*for asking specific questions).	Study groups, peer tutoring and instructor debriefs will be discussed throughout the semester. *Magnet Learning Links is HIGHLY recommended as the student's first course of action.

General AP Biology Information: Advanced Placement (AP) Biology is designed to prepare students for the AP Biology examination given each spring by College Board. The AP Biology Exam is given in May to over 250,000 students. Students are assigned a score of 1, 2, 3, 4, or 5, with a 3 or higher considered "passing." Around 60-65% of the students who have taken the exam in the last few years have earned a 3 or higher, with the majority making a 3 on the Exam. **Globally, only ~ 7% earned a 5 on the Exam and 21-22% of students scored a 4.** The Exam is based on much more than simply 'knowing' course content. Higher-order application skills and proficiency in data/statistical analysis are mandatory to being successful on the Exam. Great emphasis will be placed on laboratory-based questions and will include demonstrating your understanding of experimental protocol. This includes: describing, explaining, predicting, justifying processes/phenomenon; modeling; graphing & analyzing data (which includes proficiency in statistics). We will work on developing these skills throughout the semester. *To see the formulas & course guidelines from College Board (*often referred to as CB), please visit my website or go to www.collegeboard.org.

Class Overview: The course is designed to be equivalent to a two-semester college level course. Because of the depth of the curriculum in AP Biology and our limited time, students are expected to **take responsibility for their own learning**, under the guidance of the instructor. This class acts primarily as a 'flipped' classroom. Class time is primarily devoted to activities that require application and analytical skills, while video lectures, etc. are required to be viewed from home.

Students enrolled in AP Biology must be prepared to consistently do the following:

- Attend class regularly. (See make-up policy, below.)
- Study and read outside of class. **This will include weekends and holidays!**
- Complete all assignments. Reading and personalizing material is critical for your success in this course. The textbook is only a resource. Course of study is not always chapter driven. Instead, it is largely based on concepts & phenomenon that are required by College Board. Study guides will not always be provided. You must take notes and follow the College Board objectives for each unit.
- Bring all required materials to class. (Given below).
- Ask questions and be communicative about areas of need.

This course is a survey of current biology theories and ideas. The AP Biology Curriculum Framework includes four "Big Ideas":

Big Idea I: The process of evolution drives the diversity and unity of life.

Big Idea II: Biological systems utilize free energy and molecular building blocks to grow, reproduce, and to maintain dynamic homeostasis.

Big Idea III: Living systems store, retrieve, transmit, & respond to information essential to life processes.

Big Idea IV: Biological systems interact, & these systems & their interactions possess complex properties.

AP Biology is a college course taught in high school and will be treated as such. It is a very demanding course because colleges will expect you to have had a course equivalent to their introductory level biology course. If you do not intend to major in a science, you may find that the college of your choice will accept a 3 on the exam for credit. However, most will accept only a 4 or 5 for credit.

The most difficult challenge of any AP course is the requirement that students remain consistent throughout the year. In a 1st year Magnet or Honors course, a bright student may let his or her effort slide from time to time but make up for it with a big push just before the test. Other students may take good notes and pay attention in class, but never open the textbook to read the assigned chapters and/or complete their homework. These behaviors and habits threaten even the brightest student's chances of passing the very difficult AP exam, as well as passing this course.

AP Biology at Wheeler: The AP Biology exam covers all material typically included in TWO semesters of college biology. Because we are on the block schedule, we must cover the same amount of information in one semester. Additionally, the college classes are accompanied by separate lab components; labs are not taken out of class time but attended separately – usually one three-hour lab each week. What does this mean? It means that in one year of college biology, students receive 168 hours of instructional time. Our situation is not quite ideal; if we have a full 90-minute class period available to us every single day of the semester (which we all know does not happen), then we only have approximately 135 total hours in which to cover the content of AP Biology. Additionally, the AP exam is only offered in May. Students taking the course in the fall must continue to review the material for months after completing the course in order to be successful on the exam. Students taking the course in the spring (not currently offered) actually lose an additional 1-2 weeks of instructional time, since AP Exams begin a couple of weeks before the end of the semester. Neither of the situations is optimal. These circumstances make this class particularly challenging.

Your Personal AP Biology Experience: The challenges described in the last paragraph do NOT mean that you will have a miserable experience this semester. This class is for those students who are both bright and motivated, with a love for biology, and met the criteria to take the course. However, this success will not be easy. To achieve success, you will be required to commit to each of the following guidelines:

1. Read the assigned chapters from your textbook, the 11th edition (AP edition) of *Campbell's Biology*. Time will not permit me to cover all of the material in the book, but you are responsible for all of this content on the AP exam. I understand that many of you have enjoyed academic success during your high school career without reading your textbooks, simply taking very good notes and paying attention in class. This will not be enough for you to succeed in this class. The average AP course requires 7 hours per week of preparation time; our circumstances will require you to spend 10+ hours per week (outside of class) of reading and studying.
2. Attend class. Attendance is extremely important in AP Biology. Material is covered very quickly and in much more detail than in your introductory level biology courses. Excessive absences for whatever reason – illness, athletic competitions, doctor's appointments, etc. – will jeopardize your chances of success in the course. If absences have been a problem for you in the past and you expect them to continue to be a problem, you need to reconsider taking an AP course. It is especially important to be present for the labs, since you will be asked about them on the AP exam. If you miss a lab, you will be required to obtain the data from me and then analyze, interpret, and reach your own conclusions from that data. Additionally, you will be required to either do a "Case-Study" and/or write a summary of a scientific article related to that lab as a make up assignment for the lab experiment that you missed.
3. "Study Groups." Because of time constraints, there will be some material in the chapters that are not covered during class time, but you are still expected to know. There will also be no class time allocated

- for review before a unit test. In order for you to maximize your success in this class, I recommend making study groups with your peers, as well as regularly attending Magnet Learning Links.
4. Don't procrastinate! Because this class is intended to be equivalent to a 2-semester college class, we will have 8-9 tests during our 'one-block' semester. This means that each test will cover an extremely large amount of material (there are over 50 chapters!), which is too much material for you to learn and understand the night before the test. Study the material as we cover it!
 5. Have an open mind and a positive attitude. While this will not be an easy class, it can certainly be a fun one. What you get out of this class is directly proportional to what you put into it. Make it worthwhile!

Materials: Students will need the following items:

1. Composition Notebooks (Lab Journal). *a minimum of 2 are required
2. 3-ring binder (2+ inches) with pockets (for notes and other materials)
3. Basic scientific calculator
4. Several No. 2 pencils & black ball-point pens; red pen; highlighter. Small ruler and colored pencils are highly recommended, as I have limited supplies (both will be used often in class).
5. Current textbook, IF hard copies are available and distributed: Campbell Biology, 11th (AP) Edition (*students will receive access codes for the textbook e-version)
6. Access to the Internet and a Printer (*mine cannot be used for printing student assignments, as I only receive ONE cartridge for the school year)
7. Remind account (instructions are on my website)
8. Optional: student personal laptop (there are only 10-12 desktops in my room)

CLASSROOM ENVIRONMENT:

***ALWAYS Be Respectful!!**

1. No profanity or foul language.
2. STAY ON TASK. Phones must remain in backpacks or purses, unless I have approved use for an assignment. **This also applies to headphones.**
3. No food or drink in class! (*Water and gum are ok, unless it's a lab day. However, if you do not discard trash appropriately (meaning a trash can) the privilege will be terminated.
4. Students may not leave the room during the first 10 minutes or last 10 minutes of class.

Assignments/ Make-ups: READ CAREFULLY! These policies will NOT change.

All assignments are due on the given due date. Not all homework will be graded (however, students are responsible for knowing the material for the test). No credit will be given for late homework, unless you have an excused absence. It is up to the student to turn it in IMMEDIATELY upon return. Late labs and other assignments will be given a 20% deduction per day, unless the student has an excused absence, as explained above. If a student is absent, each student should contact the teacher (email or Remind) and at least one other student in the class for work assigned.

GRADING SCALE: Each student's grade will be based on the following allocation of points:

Graded Items	Percentage
1. Major Tests/ Projects	55%
2. Laboratory Reports/ Quizzes	20%
3. Homework/ Classwork/ Participation	10%
4. *Final Exam	*15%

*We will discuss the Alternate Final Exam policy.

The AP Exam scores are not received until early July. These scores are therefore not used as a part of a student's average in the course.

If you have any questions or concerns, please feel free to contact me at school, 770-578-3266, ext. 515 or by way of school e-mail susan.phillips@cobbk12.org *E-mail is the preferred mode of communication.

Tentative General Course Pacing Guide for AP Biology

**Subject to change, as the final revisions from College Board will be released to teachers on 8/1/19*

Time/ Unit (Approximate)	Unit/Topics	Book (and Other)	Labs (minimum of 10 total)	Assessment
-Week 1 (*1 st wk is only a 2-day wk) -Week 2 7-8 Days (total)	U1: Scientific Method; Graphing; Statistics; Chemistry of Life	Ch 1-5 Intro to Statistics (Summer Assignment) Case Study/ HHMI	-Water Lab -Protein Modeling Lab	-Quiz #1 (Ch 1-4; Stat); -Test #1 (Ch 1-5, Statistics, Labs)
-week 3 -week 4 (.5) 7-8 Days	U2: Cells	Chapter 6 Chapter 7 Chapter 8 (.5 of chapter) Case Study/ HHMI	AP Lab- Diffusion & Osmosis AP Lab- Enzymes	Test #2
-Wk 4 (.5) -Wk 5 7-8 days	U3: Cellular Energetics	Chapter 8 (.5) Chapter 9 Chapter 10 Case Study/ HHMI	AP Lab- Photosynthesis	Test #3 *possible quiz
Wk 6 Wk 7 9-10 days	U4: Cell Communication- Intro (con't U8) Cell Cycle Heredity	Chapters 11-15 Case Study HHMI	AP Labs (2): -Mitosis & Meiosis -Drosophila (one may be virtual)	Test #4 *possible quiz
Wk 8 Wk 9 9-10 days	U5: Molecular Genetics	Chapters 16- 20	AP Lab 6- Analysis of Lambda DNA (Electrophoresis)	Test #5 *possible quiz
Wk 10 Wk 11 9-10 days	U6: Evolutionary Biology	Chapters 21-26	AP Labs (2): -BLAST -Hardy Weinberg	Test #6 *possible quiz
Wk 12 Wk 13 9-10 days	U7: Diversity of 'Organisms': -Viruses -Bacteria & Archaea, -*Protists & Fungi (*very brief!)	Chapter 27- 34 (*parts of these chapters will be omitted)	AP Lab- Bacterial Transformation	Test #7
Wk 14 Wk 15 9-10 days	U8: Communication #2: Animals & Plant Physiology *This unit is being modified for 2019-20 due to CB changes	-Brief Review of Ch 11 -Chapters 29-51 (*Do NOT panic! MANY, MANY parts of these chapters are omitted!!)	-AP Lab: Bio-Rad Giant Panda Lab -AP Lab(s) Isopod Communication Lab and/or Transpiration Lab	Test #8 Student Project (Test Grade)

Wk 16 Wk 17 9-10 days	Ecology	Chapter 52-56	Simpson Diversity Index Lab *New lab (this formula was added to the curriculum by CB for 2019-2020)	Test #9
Wk 18 5 days	-Practice College Board Exam -Final Exam	All inclusive (*we will discuss this and options that depend on you taking the College Board exam in the Spring)	*Discuss AP Bio Exam Review Session Schedule for spring semester	-Practice Exam (ALL students) -Final Exam (majority of students will qualify for exemption)

IMPORTANT! BE SURE AND READ THE FOLLOWING:

- Tests, and the majority of quizzes, will be announced. However, there will be several unannounced quizzes throughout the semester.
- Visit my website for additional details of the course, including unit assignments and numerous links to other valuable resources.
- Sign up for a College Board account (link is on my website) if you do not have one. Use the links on my site to access College Board resources, including the AP Bio Course and Exam Description.
- Final AP Bio curriculum changes from College Board will not be sent, or accessible, to teachers until AUGUST 1, 2019. Therefore, my curriculum is subject to change.
- A variety of teaching/ facilitating strategies will be implemented throughout this course. Some examples are: class discussions, media presentations; unit/topic lecture videos, modeling, computer simulations, virtual labs, case studies, demonstrations, PPt lectures and many 'hands-on' AP labs.
- Daily Agendas will **NOT** be posted on my blog, as they are subject to frequent changes. It is up to the student to **write down assignments and due dates** that are posted on the Smartboard, during the first 5 minutes of class, **EVERY SINGLE DAY**.
- Pacing of content is subject to change. Students will be notified on the Daily Agenda (or via Remind if a change occurs after class and cannot wait until the next school day).
- Exact due dates for homework, pre-labs, labs, etc. will be communicated to the students BY DAILY AGENDAS.
- Sign up for Remind ASAP (see my blog for instructions). Pearson (book publisher) Student Access Codes were sent to students after they joined Remind during the summer. I will be actively communicating with the students via Remind throughout the year. Please see AP Biology "General Information" subpage on my website for the rules regarding students sending me messages.
- **Project(s):** There will be at least one major project this semester and will count as a test grade. Details are soon forthcoming.
- Recommended books to prepare for the AP Bio Exam (as well as preparing for my unit tests) are on my blog. Some of these are subject to change due to College Board's curriculum changes that will begin this year.
- AP Exam Review Sessions will begin after school in late February/ early March and will include administering at least one **secure** College Board Practice Exam. More info will be given later and sent via Remind, as well as being posted on my website. 50% of the AP Exam are Mul Choice questions and 50% are FRQs (discussion questions). Questions & FRQs are long, so timing is crucial! Attending the review sessions in the spring should be prioritized by every student in order to adequately prepare.

*LEAVE THIS PAGE BLANK IF PRINTING ON BOTH SIDES OF PAPER

***Please detach this page and return it to class tomorrow.**

Plagiarism Notice

The signatures below indicate that you understand that plagiarism is the un-credited use of another author's words or ideas. It is a form of stealing that **will not** be tolerated. Any assignment containing any plagiarized work will receive **ZERO** points. Plagiarized work includes any work copied from a **published document, internet site or any other individual**. Not only will a "0" result on the entire assignment that contains plagiarized/copied work, this will also result in a discipline referral.

***Student signature**

'Hand-printed' name (please print legibly)

***Parent/Guardian signature**

'Hand-printed' name

Parents and Students,

Please sign below indicating that you have read the syllabus information regarding the procedures of this class.

Parents: My preferred mode of communication is email, so please include an email address you check regularly.

Parent/Guardian Signature _____ Date _____

Parent's e-mail address: _____ Phone #: _____

Student's Signature _____ Date _____

Student's e-mail address _____ Phone #: _____

Student's schedule: (*please include 'skinnies'):

BLOCK:

COURSE:

TEACHER:

ROOM #:

1

2

3

4

Parents/Students: If there are issues/concerns that I need to be aware of, please write below. Thank you!