

Advanced Placement Biology

Term:

Teacher: Mrs. Rewerts

Room: 127

E-mail: rewertst@wcsdre1.org

Course Description:

Advanced Placement Biology is an elective class designed for the college bound student. It is a higher-level course that provides high school students the opportunity to study and perform at the university level within a high school setting.

The general goal of this course is to give each student a better insight into Biology and the methods we use to study different biological themes. The course itself is lecture oriented with supplemental labs to reinforce major concepts that are studied. Projects, activities, and field trips will also be used to help students gain a better understanding of these concepts.

Student Expectations Outside of Class:

Unlike other high school classes, Advanced Placement Biology requires a much more rigorous approach to studying. On average, a student should expect to spend at least **60 to 90** minutes per night reviewing materials and preparing for the next class period. This expectation may be spread over the course of a week, so it may only be 30 minutes some nights and more others. In addition, there will be weeks where more work will be completed at home and weeks where there may be no homework at all. There are no summer assignments, and generally no homework for extended vacations (Spring Break, etc).

Communication Outside of Class:

I will send a parent contact of your progress about two times a month. I welcome parent emails / phone calls with concerns about your student. Students can generally contact me outside of class time and expect a response within about a 2 hour time frame.

Grading Procedures:

Grades will be determined by total points.

<u>Category</u>	<u>% of Class</u>
Tests and Quizzes	55%
Quizzes (10)	
Tests (25)	
Final (20)	
Activities / Laboratories	30%
Assignments / Notebooks	15%

All students will keep an organized notebook! Each student must have a three ring binder with dividers in which (s)he will keep all notes. Notes must be printed and handwritten, they will not be accepted from the computer.

Late work will NOT be accepted! Assignments will be completed by the date they are due, at the beginning of class. Not all assignments are necessarily collected or graded. Under certain

circumstances, I will allow late work to be accepted within two days of the original due date, however, any late work turned in after the due date (during those two days) can at maximum receive 65% credit.

Work Corrections: This is a college-level class and per the high school AP curriculum policy there will be NO work corrections, NO exceptions. Please make sure your work is turned in on time and of high quality!

Make-up assignments are your responsibility! If you are absent, you must check the calendar on the class website to see what you have missed. From there you may obtain any missing work off the class website or from the class copy box in the classroom. Any notes taken during the missed class period should be obtained from a fellow classmate. As a last resort because you cannot find the appropriate materials on your own, check with the instructor to get your make-up work. Please see me before or after school, as class time is limited. You may also contact me from home for any prolonged absences.

The district grade scale will be used to determine an overall academic grade, however, this course is weighted, thus for example, an A will not receive 4.0 points, instead it will receive 5.0 points towards GPA. Please note, the weighted grade does not count towards your overall grade until semester grades have been posted to your transcript by the counseling office.

Attendance:

1. Students should realize that time missed from class can never be made up; there is no substitute for being in class!
2. Any unexcused absence will result in a loss of credit for that day's work. This includes tests and quizzes and assignments that are due!
3. You have one week from the day you return to school to complete missed assignments. Any assignments or projects due on the day you are absent must be handed in anyway (this means emailing them or sending them with another student to turn in on your behalf). No extra days will be allotted.
4. Missed tests and quizzes must be made up the day you return to class either before or after school. You should attempt to schedule the make up with me before your return. This includes any "pop" quizzes you may have missed. If you do not make these up on this day, you will receive a ZERO.
5. You are required to make up work PRIOR to missing class if it involves any school-related activities (music, sports, StuCo, clubs, etc.) OR make prior arrangements with me.

Rules & Regulations:

- o Lab Safety is a MUST! Students are expected to act responsibly within the laboratory setting and obey all lab safety rules – you must pass a safety quiz with a 100% to partake in laboratory.
- o Any student caught cheating will receive a "0" for that assignment or test- NO QUESTIONS ASKED. 1st offense will remain between you and I, 2nd offense will be reported to administration and parents.

Books & Fees

We will be using Biology: Ninth Edition by Campbell and Reece as our primary text in class. This is provided for students as a downloadable text.

We will be using The College Board Advanced Placement Program Biology Lab Manual 2001 Student Edition and the College Board Advanced Placement Biology Inquire-Based Lab Manual 2012 Student Edition as laboratory manuals. You do not need to purchase these manuals, as I will provide you all handouts.

We will also be using the student study guide for the Campbell Biology Book, I will provide you with necessary copies.

Materials List

- ☒ Notebook/folder for materials
- ☒ Lined College-ruled notebook paper
- ☒ Bound Composition Book – for laboratory notebook – must be college ruled, 100 pages
- ☒ pack of 12 colored pencils
- ☒ USB storage device – requirement for Vernier Labs
- ☒ pens
- ☒ pencils
- ☒ highlighter
- ☒ glue sticks or tape – whichever you prefer
- ☒ gmail account for access to google docs and email

Class Website

The class website will be an important tool for students in this course. Students will need to login and request to be added to the classroom. Students should check the calendar daily as reading assignments, class quizzes, laboratory data, etc. will be posted. In addition, all lecture notes will be posted so that students may print them out for the lecture videos – I will NOT provide copies of these for you in class! You will NOT have the option of printing notes the day of the lecture and will NOT be allowed to use your computer for notes, so it is advisable to print all lecture notes for that section prior to the start of class.

Laboratory Notebooks

You will maintain a separate Lab Notebook for all lab work. It is recommended that you keep this EVEN AFTER the class has ended as some universities require that you provide evidence of lab work in order to receive credit for the course even if you pass the AP exam with a 5! You must have your lab notebook with you EVERY DAY in class – no exceptions. You will be asked to leave your lab notebook in class periodically for grading. The notebook needs to be a bound composition book. Further instructions will be given on how to organize your lab notebook and class notebook.

Advanced Placement Biology Content

The AP Biology 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.

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

Science Practices

The course is also structured around inquiry in the lab and the use of the seven science practices throughout the course.

1. The student can use representations and models to communicate scientific phenomena and solve scientific problems.
2. The student can use mathematics appropriately.
3. The student can engage in scientific questioning to extend thinking or to guide investigations within the context of the AP course.
4. The student can plan and implement data collection strategies appropriate to a particular scientific question.
5. The student can perform data analysis and evaluation of evidence.
6. The student can work with scientific explanations and theories.
7. The student is able to connect and relate knowledge across various scales, concepts and representations in and across domains.

Units of Instruction

Unit 1: First Week and Introduction (3 weeks)

Unit 2: Introduction to the Cell (3 weeks)

Unit 3: Cellular Energy and Related Processes (3 weeks)

Unit 4: Cell Communication and the Cell Cycle (3 weeks)

Unit 5: Genetic Basis of Life (4 weeks)

Unit 6: Gene Activity and Biotechnology (5 weeks)

Unit 7: Evolution and Phylogeny (5 weeks)

Unit 8 Diversity in the Biological World: Organism Form and Function (2 weeks)

Unit 9: Ecology (4 weeks)

Review Using Various Practice Exams and Review Materials Leading up to the Examination (5 weeks)

Post AP Examination (3 weeks)

Research over various Social and Ethical Issues Surrounding Biology:

Gives students the ability to see both sides of several topics and make choices themselves. Topics include from genetic technology, extension of life, use of antibiotics, reintroduction of species, etc.

Kingdom Scavenger Hunt

