AP Biology Syllabus
Mr. Cooper

Philosophy- My general philosophy for teaching AP Biology is to impart to students the time and dedication that this course requires all the while reminding them of the self-fulfilling end result of the course. I tell my students regularly if being a great success in life was easy then everyone would be extremely successful. It takes hard work and dedication to achieve high levels of success. This is evident with the course requirements to be successful in AP Biology. However, I temper these comments with bits of glory that can be realized because of their hard work and personal sacrifice. The students normally begin to feel success as they begin to be able to answer for themselves the greatest question in science "Why?" It happens as the material begins to fold back on itself and the facts they have learned become useful in developing answers to more complex questions. I call it the light bulb part of my class, because you can see the light bulbs brightening over the heads of these future doctors, nurses, and veterinarians. Lastly, as the students take part in the lab portions of the course they get to actually see and do the science that up until now has only been in books or their imagination. The laboratory section of AP Biology is what I call the concreting section. I say this because seeing that what they learned actually happens, by their own hands, is extremely powerful and cements the learning that has led them to that point.

Course Overview- My AP Biology course meets 75 minutes everyday for an entire school year. This allows me some flexibility in planning and accomplishing labs and discussions. However, it does not allow me time to go over everything that the students must know everyday. The students are required to come to class prepared by either reading an assigned section or completing a review of the previous section that was covered. We are fortunate to have an amazing **textbook the 8th edition of Neil A. Campbell and Jane B. Reece's *Biology*.** I also use AP lab manuals for students throughout the course. The actual course itself is arranged by three central themes:

1. **Molecules and Cells**
2. **Heredity and Evolution**
3. **Organisms and Populations**

Additional Course Activities and Teaching Strategies

1. Roughly 75% of AP Biology course is lecture/discussion/Review based including:
    a. Powerpoint lecture
    b. Class Discussions/Review
    c. Peer to Peer Discussions and Review
    d. Peer Presentations
    e. Computer Based Assignments
    f. Videos

*Every science teacher will be awarding daily participation points. Students will earn 5 points per day by being present, being alert and being involved. These points may be earned via bell ringers, exit slips, or other measures of formative assessment.

2. Roughly 25% of AP Biology devoted to labs including:

a. Lab Prep
b. Lab Participation
c. Lab Cleanup
d. Lab Discussion/Review

3. Other additional Strategies
    a. Reading Quizzes
        i. To ensure that students continue to keep up with reading assignments
    b. Unit Exams
        i. Theses exams are based on AP Style test questions and are formatted to closely resemble the AP Exam only on a smaller scale
    c. Course Review
        i. Review dates are setup throughout the year
        ii. Starting around the beginning of the 3rd trimester an out of class review will begin with particular questions being answered during class and grades are given for these assignments to ensure students complete the reviews
        iii. To accompany these reviews will be mock exams
            1. These exams will be scored exactly the same as a real AP exam
            2. This is done so that the students know long before the actual exam where they stand and what sections of the material they need to work on and review the hardest.
        iv. Released free response test questions are given as review materials during class for each unit as appropriate and on tests

Grading

- Grades throughout the course will be based on the following categories and percentages:

Homework/Participation/Labs/Presentations-	20%
Quizzes-	40%
Tests-	40%

- A State based end of course assessment will make up **20%** of your final grade and will not be exemptible. This assessment will be given in May towards the end of the entire course.
- There will be no penalty for not taking the AP Exam in May however the last test in AP Biology will be a replica of an actual AP Exam. Therefore, quitting because you are not going to take the AP exam will not serve you well.

Behavior

- Students are expected to be respectful of the expensive equipment we use it is a privilege that can be revoked
- Students are expected to be respectful of each other especially when asking questions

- Students are expected to be respectful of Mr. Cooper and not speak while he is speaking
- Students are expected to be respectful of the appropriate use of POD's
    i. Zero tolerance for students who misuse this privilege
- If you violate these:
    i. I will ask you to return to a more respectful behavior
    ii. I will contact your parents
    iii. I will write an office referral
    iv. You can be removed from this course

- Positive behavior will be expected but also rewarded with PAWSITIVE Referrals

Daily Procedures

- Most days will begin with a bellringer either reviewing or previewing material
- If there was a reading assigned like most night's there will be a quiz over the reading and you will turn in your outline/notes over the section… don't panic I will show you how to do this and it will definitely help you learn now and in college
- These questions will not be knowledge level a big part of my job is to get you to understand the information not just memorize or skim over it so be prepared for in depth questions over the readings
- If there is not a lab we will have a discussion of the reading and I will answer any questions and provide some notes over the given topic
- We will review what we have covered and talk about tomorrow
- If there is a lab we will quietly go over to the lab with our procedures and complete the portions of the lab that is appropriate for that day
- When you are completed you will thoroughly clean yourself and your lab station
- Absolutely no horseplay will be allowed in the lab this will result in a zero for the lab with NO make up available

Late Work:

- Students may submit late work until the grade cutoff for progress reports/final exams to submit work. Resets every 4 weeks; meaning if the work is not made up prior to the progress report or the final exam, a permanent zero is entered into the grade book

The Anderson County School District has adopted a Bring Your Own Device (BYOD) policy for all schools in the district. This policy allows students to bring many of their own technology devices to school for use in our classrooms. ACHS will now be incorporating the use of Personally Owned Devices (POD's) such as laptops, iOS Devices, tablets, netbooks and cell phones with browsing capabilities for educational purposes. Similar to other personally owned items, the district/school is not liable for the loss, damage, misuse, or theft of personally owned devices brought to school. All device maintenance and upkeep is the sole responsibility of the device owner.

Students are not required to bring in outside technology to school. All students will continue to be able to utilize school equipment. No student will be left out of the instructional process.

Expectations for POD use at Anderson County High School:

1. Students will only use appropriate technology at teachers' discretions and will abide by procedures for use set forth by the classroom teacher.

2. Students will only use appropriate educational applications on their device as determined by the teacher (i.e. not non-school related tasks and functions).

3. Students are not to call, text message, email, post to social networks, or electronically communicate with others from their personal device, including other students, parents, guardians, friends, and family during the school day unless it is part of classroom instruction.

4. Students' devices must be registered and are permitted to access only the school's network, not private networks.

5. Devices may be used at the students' discretion during free time in common areas unless prohibited by monitors or supervising teachers.

Reinforcement:

Students utilizing this opportunity to its fullest capacity within school expectations will find numerous benefits to instruction, resources, completion of assignments and personal organization.

Students not following expectations for use of personal devices will face school disciplinary measures.

Parent Name: _____

Student Name: _____

Parent Signature: _____

Chapter	Topics	Labs	Activities	Days
1	Themes and Nature of Science	Lab 11 Behavior	Student experiment design and discussion/critique	3
2	Chemistry		Model building of functional groups	2
3	Water	Surface tension, adhesion, cohesion	Determine water properties through inquiry	3
4	Carbon		Model building of isomers adding functional groups	2
5	Macromolecules		Model building of organic macromolecules	4
TEST				
6	Cell Morphology	Viewing prepared slides	Differentiate b/w eukaryote/prokaryote	2
7	Plasma Membrane	Lab 1 Diffusion/Osmosis	Create a plasma membrane	4
8	Cell Energetics	Lab 2 Enzyme Catalysis	Jello and pH and temperature	4
9	Cell Respiration	Lab 5 Cell Respiration	Flow Chart	4
TEST				
10	Photosynthesis	Lab 4 Chromatography and Photosynthesis	Spinach punch out lab; Flow Chart	4
11	Cell Communication		Review Cell membrane structure and function	2
12	Cell Cycle	Lab 3 Mitosis and Meiosis	Mitosis vs. Meiosis Poster	3
13	Meiosis	Gummy Worms		2
TEST				1
14	Mendelian Genetics	Law of probability complex genetics coin/paper lab	Mono/Di hybrid crosses	4
15	Chromosomal basis of Genetics	Lab 7- Drosophila	M&M chi square Mating and continuation of traits through genotypes	5

16	Molecular Basis of Genetics			2
17	Protein Synthesis	Building a DNA to Protein Model	Restriction enzymes	6
TEST				
18	Genetics of Bacteria Some viruses		Classroom reading and discussion of the social concern of vaccination vs. not vaccinating	2
19	Genetics of Eukaryotes			2
20	DNA Technology	Lab 6- Transformation and Electrophoresis	Who's your Daddy	6
21	Genetic Basis of Development			2
TEST				
22	Darwinian Evolution		Artificial Selection Vs. Natural Selection	2
23	Evolution of Populations	Lab 8- Population Genetics		3
24	Origin of Species			1
25	Phylogeny and Systematics		Phylogenic Tree Posters	2
26	Diversity of Life Introduction			1
TEST				
27	Prokaryotes	Staining- Simple, Negative, Gram	Wall Poster Timeline	5
28	Protista	Survey of Protists Termite Gut Test	Add to Wall Poster	2
29	Plants- Ferns, Gametophyte, chemotaxis, and sporophyte		Add to Wall Poster	2
30	Plants Continued- Monocots, dicots, Fruits and seeds		Add to Wall Poster Local flowers and tree identification	4
31	Fungi	Survey of divisions/characteristics	Add to Wall Poster	3

32	Intro to Animals		Add to Wall Poster	1
33	Invertebrates		Add to Wall Poster	4
34	Vertebrates		Add to Wall Poster	4
35	Plant Structure	Slides and Models Making biodiesel from vegetable oil	Coloring Posters	2
36	Plant Transport	Lab 9 Transpiration	Celery in food coloring	2
37	Plant Nutrition	Students grow own plants and identify soil composition and pH		2
38	Plant Reproduction	Take seeds from known fruits and plants and reseed	Tie into previous genetics chapter with P, F1 and subsequent generations	5
39	Plant Behavior	Grow Wisconsin fast plants while keeping journal of hormone and seed to plant activity	Flow Chart Posters diagramming plant hormones and their function	2
TEST				
40	Intro to Animals			1
41	Animal Nutrition		Food Label Dissection	2
42	Circulation and Gas	Lab 10- Circulation	Goldfish fin and respiration tests Effects of Caffeine	6
43	Immune System	Germ Transfer		5
44	Osmoregulation and Excretion	Urine Comparison		4
TEST				
45	Endocrine System	Gary Busey Poster	Hormone Quiz	4
46	Reproduction			5
47	Development	Embryology comparison		3
48	Nervous System		Nerve coloring/labeling Flow chart	4

49	Sensory and Motor Mechanisms			3
TEST				
50	Behavioral Ecology	Lab 11 Termite		2
51	Population/Community Ecology			1
52	Ecosystems	Lab 12- Dissolved Oxygen		2
Final Exam Review				5
Final Exam				1

- The days don't add up to the total days of school to allow for some flexibility.