AP Biology Syllabus
2016 - 2017

Dr. Simonsen

Resources:

- Text: *Biology* – Neil A. Campbell, Jane B. Reece, Benjamin Cummings; 7th edition

Course Description:

Introduction: The AP Biology course is a year-long course designed to be the equivalent of a college introductory biology course usually taken by biology majors during their first year of college. Non-science majors often use this course to fulfill a basic requirement for a laboratory-science course. Instruction will focus on enduring, conceptual understandings and the content that supports them. Students will spend less time on factual recall and more time on inquiry-based learning of essential concepts which will help them to develop the reasoning skills necessary to engage in the science practices. Skills developed in this course include, but are not limited to, designing a plan for collecting data, analyzing data, modeling of concepts, applying mathematical routines, and connecting concepts in and across domains.

Objectives:

- To help students develop a conceptual framework for modern biology.
- To help students gain an appreciation of science as process.
- To help students prepare in such a manner that they will feel comfortable in taking and passing the AP Exam.

Skills:

Students will:

- Grasp science as a process rather than as an accumulation of facts.
- Recognize unifying themes that integrate the major topics of biology.
- Apply biological knowledge and critical thinking to environmental and social concerns.

Materials:

- Three ring binder with loose-leaf paper and current unit work. **(required daily)**
- Black pen and pencil **(required daily)**
- Four function calculator **(required daily)**
- Textbook
- Some of the required outside work for this class requires the use of a computer and the internet. If you do not have access to this equipment at home you will need to make arrangements to do some of your work in the media center or public library.

Course Content:
The AP Biology College Board curriculum is framed around four Big Ideas. The Big Ideas are broken down into Enduring Understandings, which are subsequently divided into Essential Knowledge. Below is an outline of the AP Biology curriculum Big Ideas and Enduring Understanding covered in this course:

Big Idea	Enduring Understandings
One: The process of evolution drives the diversity and unity of life.	1.A: Change in the genetic makeup of a population over time is evolution. 1.B: Organisms are linked by lines of descent from common ancestry. 1.C: Life continues to evolve within a changing environment. 1.D: The origin of living systems is explained by natural processes.
Two: Biological systems utilize free energy and molecular building blocks to grow, to reproduce and to maintain dynamic homeostasis.	2.A: Growth, reproduction and maintenance of the organization of living systems require free energy and matter. 2.B: Growth, reproduction and dynamic homeostasis require that cells create and maintain internal environments that are different from their external environments. 2.C: Organisms use feedback mechanisms to regulate growth and reproduction, and to maintain dynamic homeostasis. 2.D: Growth and dynamic homeostasis of a biological system are influenced by changes in the system's environment. 2.E: Many biological processes involved in growth, reproduction and dynamic homeostasis include temporal regulation and coordination.
Three: Living systems store, retrieve, transmit and respond to information essential to life processes.	3.A: Heritable information provides for continuity of life. 3.B: Expression of genetic information involves cellular and molecular mechanisms. 3.C: The processing of genetic information is imperfect and is a source of genetic variation. 3.D: Cells communicate by generating, transmitting and receiving chemical signals. 3.E: Transmission of information results in changes within and between biological systems.
Four: Biological systems interact, and these systems and their interactions possess complex properties.	4.A: Interactions within biological systems lead to complex properties. 4.B: Competition and cooperation are important aspects of biological systems. 4.C: Naturally occurring diversity among and between components within biological systems affects interactions with the environment.

The Seven Science Practices:
A practice is a way to coordinate knowledge and skills in order to accomplish a goal or task. The science practices enable students to establish lines of evidence and use them to develop and refine testable explanations and predictions of natural phenomena. These science practices capture important aspects of the work that scientists engage in, at the level of competence

expected of AP Biology students.

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

The Science Practices are used throughout the course. All activities and class work will be connected to at least one science practice and one learning objective and that will be clearly communicated to students so they can see the science practices and learning objectives as the framework around which the learning of the course takes place.

Laboratory Program:
Students will be engaged in investigative laboratory work for a minimum of 25% of instructional time. Some of these labs will be inquiry based, student directed investigations. These labs will be spread throughout the school year.

Case studies will also be used. Case studies recount real life situations that present students with a dilemma or uncertain outcome. By placing students in real situations, and asking them to make critical decisions, case studies force students to connect their knowledge of facts with the need for evaluative skills. Students may be asked to ask questions, hypothesize, analyze, do additional research, record data, and complete an assessment.

Classroom Procedures
- Be responsible for your own property and behavior.
- Observe and follow rules stated in the student handbook.
- Be prepared for class daily.
- Be on time for class. Tardy is defined as “not in your seat when the final bell rings” (please see your student handbook for the school’s tardy policy.) The school’s tardy policy is enforced.
- Turn in work on time. Late work is 20% off per day.
- No eating or drinking in class. (exception PLAIN water)
- No defacing desks, tables, walls, floors, posters, etc; throwing objects, or any behaviors that result in interference with learning.
- Do no touch any equipment unless instructed to do so by the teacher.
- Keep the classroom neat and orderly. This includes proper lab clean up and putting chairs back.
- You are expected to remain in class the entire period; please take care of restroom breaks before you come to class. Do not put away your class materials or “pack-up” until the bell rings.

- Read, understand, sign and follow the Safety Contract.
- Be courteous and respectful to the teacher and your classmates. Every student in the classroom is entitled to a safe and respectful environment. This will be adhered to without exception on a daily basis.
- Students are expected to pay attention during class and to participate intelligently in class discussions when called upon. (no sleeping)
- Cell phones **may not be used during class** without permission of the teacher. They must be put away and out of sight unless they are being used for instruction at the direction of the teacher.

Make-up Work Guidelines:
It is the student[1]s responsibility to handle scheduling of make-up work. Daily assignments, such as homework, are to be made up the day following the absence. It is the student's responsibility to ask about missing assignments before and after school; not during class.

I will be available for scheduling of make-up assessments, presentations, and labs and expect students to schedule the make-up work promptly. A student who fails to appear for scheduled makeup work will receive a zero.

If a student is absent on any day before a test (including the day before the test) the student is still required to take the test on the given day. If absent on the day of the test, the test will be taken during the next class period the student is present. Exceptions will be made only at the discretion of the instructor.

Technology Code of Ethics:
According to the Fulton County Schools' policy, "students shall not alter or attempt to alter school or private property including technology hardware and software." This includes: (a) changing desktop settings or control panels (b) removing or damaging mouse tracking balls, keys, cables, connectors, network jacks, or any other hardware (c) modifying computer software (d) damaging computer discs, CD-ROMS, or other media.

Academic Honesty:
As explained in the student handbook, cheating is defined as "giving or receiving in any form, information relating to a gradable experience, either during or outside class." Violations of the honor code will result in a zero for the assignment, plus an honor code violation form placed in the student's disciplinary file. Read the student handbook carefully to fully understand what constitutes an honor code violation.

Upon teacher request, students may be required to email essays, research papers, or other written work to turnitin.com. The website checks the submission for plagiarism, provides a receipt for the student to give to the teacher, and reports to the teacher that the student's work was not copied from any source. Students will be trained on the use of turnitin.com in their language arts class. Students who do not have internet access at home may use the computers in the media center.

Northview Policy – Provision for Improving Grades

1. Recovery is for students who, despite a conscientious effort and communication with their teachers, have failed to demonstrate satisfactory understanding of course goals. It is not for the student who has been failing for many weeks and then wishes to recover during the

final days of the course. Opportunities for students to recover from a 74 or below cumulative average will be provided when all work required to date has been completed and the student has demonstrated a legitimate effort to meet all course requirements. Students who have not attempted to complete all course requirements are not eligible for recovery.

2. Students may initiate recovery on major assessments starting with the second major assessment of the semester as long as they have made a legitimate effort to meet all course requirements including attendance. Unexcused absences may prevent this opportunity.

3. So that students stay focused on the content at hand and don't become overwhelmed and fall too far behind, they must initiate recovery on a major assessment within five school days of being informed of the grade on that assessment. Recovery work must be completed within ten school days prior to the end of the semester. The nature and type of recovery assignment is given at the discretion of the teacher.

Parent Communication:
Home Access Center (HAC) allows parents/guardians to access their children's school information via the Internet. Parents and students can see assignments, grades, attendance, and school information. Parents/guardians must report to school to pick up login information.

Evaluation:
Evaluation of this course will consist of written tests & quizzes, laboratory reports, case studies, homework, projects and abstracts from scientific journals. Material for tests will come from class discussions, student readings, case studies, data analysis, and laboratory exercises.

Fulton County Grading Scale will be used.
A = 100 – 90; B = 89-80; C = 79-70; Below 70 is failing

Each semester grade will be determined using the following scale:

Unit Tests	50%
Homework, Class Work, Quizzes	10%
Laboratory Exercises/Reports and Projects	25%
Final Exam	15%

AP Exam
Students are expected to take the AP exam. 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. The exam will be Monday, May 8th,2017 in the morning.