

AP Biology Syllabus 2009-2010



Ms. Tucker

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Help Sessions: Wednesdays, 7:30 - 8:30 am or by appointment

Text: *Biology* – Neil A. Campbell, Jane B. Reece, Benjamin Cummings; 7th edition , \$110.00
ISBN (9780805367775)

I. **Course Description** (excerpted from AP Course Description, The College Board)

- **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. Primary emphasis in this course will be on developing an understanding of concepts rather than on memorizing terms and technical details. Cell's structure, chemistry and physiology as well as genetics are taught in the first semester. Second semester encompasses diversity and physiology of organisms as well as ecology. Evolutionary relationships are taught in both semesters.
- **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 social concerns.

II. **Materials**

- 3 ring binder with loose-leaf paper and dividers (**required daily**)
- black pen and pencil (**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 before/after school in the media center or public library.

III. Classroom Procedures

- **The student will:**
 - be responsible for one's own property and behavior.
 - observe and follow rules stated in the student handbook.
 - bring required materials to class daily.
 - turn in work on time.
 - be on time for class. Tardy is defined as "not in your seat when the final bell rings".
 - refrain from eating, drinking, chewing any substance; using electronic devices; defacing desks, tables, walls, floors, posters, etc; throwing objects, or any behaviors that result in interference with learning.
 - refrain from touching any equipment unless instructed to do so by the teacher.
 - read, understand, sign and follow the Safety Contract.
 - **not sleep in class.**
- Failure to follow classroom behavior policy will result in a private detention, phone call of your parents, and/or a trip to the appropriate administrator.

IV. Make-up Guidelines

- On your first day back to class, you must provide proof of excused absence. Unexcused absences receive no credit.
- It is the student'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.

V. 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.

VI. 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 the first week of school. Students who do not have email access at home may use the computers in the media center. *Students who receive an honor code violation will not be eligible for recovery.*

VII. Recovery

Fulton County Policy – Provision for Improving Grades

Opportunities designed to allow students to recover from a low or failing cumulative grade will be allowed when all work required to date has been completed and the student has demonstrated a legitimate effort to meet all course requirements including attendance.

Students should contact the teacher concerning recovery opportunities. Teachers are expected to establish a reasonable time period for recovery work to be completed during the semester. All recovery work must be directly related to course objectives and must be completed ten school days prior to the end of the semester.

Teachers will determine when and how students with extenuating circumstances may improve their grades.

Northview Recovery Procedure

Opportunities for students to recover from a low/failing cumulative grade 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.

Students must contact the teacher concerning recovery opportunities at the time his/her grade falls below 74. 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.

Students requesting recovering first semester must drop the course at the end of the semester.

VIII. Parent Communication

ParentCONNECTxp allows parents/guardians to access their children's school information via the Internet. By signing up over the web and coming to the school to receive a user name and password, parents can see assignments, grades, attendance, and school information. In addition, daily course work will be accessible on my web site.

IX. Evaluation

Evaluation of this course will consist of written tests, laboratory reports, homework and lab quizzes, projects and abstracts from scientific journals. Most tests will have two parts; multiple choice and free response (essay). Material for tests will come from class discussions, student readings, 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:

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

X. 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 10th, 2010, in the morning.

XI. The Laboratory

Laboratory assignments offer the opportunity for students to learn about problem solving, the scientific method, the techniques of research, and the use of scientific literature. As a standard, the AP Biology Development Committee has produced a set of 12 laboratory exercises. In addition to completing the 12 required labs, students will be performing other lab exercises.

Laboratory Topics

- Diffusion and Osmosis
- Enzyme Catalysis
- Mitosis and Meiosis
- Plant Pigments and Photosynthesis
- Cell respiration
- Molecular Biology
- Genetics
- Population Genetics and Evolution
- Transpiration
- Physiology and the Circulatory System
- Behavior: Habitat Selection
- Dissolved Oxygen and Aquatic Primary Productivity

X. Topic Outline For Year

Below is an outline of topics covered in this course complete with percentage goals for each major category. Topics will not be covered in this order. **AP Biology is a rigorous course which demands personal responsibility from the student.** In order for students to plan effectively, they are provided with due dates for all major projects/labs and tests at the beginning of each unit. They are strongly encouraged to complete nightly readings and study each day's lecture notes on their own time.

Topics	Percentage of AP Exam
Chemistry of Life Water Organic molecules in organisms Free energy changes Enzymes	7%
Prokaryotic and eukaryotic cells Membranes Subcellular organization Cell cycle and its regulation	10%
Cellular Energetics Coupled reactions Fermentation and cellular respiration Photosynthesis	8%
Meiosis and gametogenesis Eukaryotic chromosomes Inheritance patterns	8%
RNA and DNA structure and function Gene regulation Mutation Viral structure and replication Nucleic acid technology and application	9%
Early evolution of life Evidence for evolution Mechanisms of evolution	8%
Diversity of Organisms Evolutionary patterns Survey of the diversity of life Phylogenetic classification Evolutionary relationships	8%
Structure and Function of Plants and Animals Reproduction, growth, and development Structural, physiological, and behavioral adaptations Response to the environment	32%
Ecology Population dynamics Communities and ecosystems Global issues	10%