

HONORS BIOLOGY COURSE SYLLABUS

Room: H114
Email: wolfed@fulton.k12.ga.us
Class Website:
www.chattcougar.com

Mission Statement: Chattahoochee High School "A community dedicated to learning and committed to excellence"

Text Book: Nowicki, S. (2008). *Biology*. Evanston, IL: McDougal Littell

Text Book Cost: \$76.96

Text Book Online Resources: http://www.classzone.com/cz/books/bio_07/

Course Description: The Biology curriculum continues students' investigations of the life sciences that began in Grades K-8 (see Fulton County System-wide Science Vertical Instructional Framework.) The course is designed to provide students with the necessary knowledge and skills to become literate, knowledgeable, and proficient in biology. Biology extends the life sciences to more abstract concepts including interdependence of organisms, the relationship between matter, energy, and organisms, the behavior of organisms, and evolution. These concepts are investigated through laboratory experiences and fieldwork designed for students to develop appropriate knowledge and skills in science as inquiry. There will be an **end of the year course test** this semester covering material from both semesters. This test will be administered during the week of **April 25 -29**. Honors classes will move at a faster pace, will require more independent study, will study topics in greater depth, and will include more enrichment topics/activities than a regular class.

Textbook: Students are financially responsible for all books issued by CHS. Textbooks may not be left in classrooms and teachers are not responsible for the whereabouts of your book. The copy which was issued must be turned in at the end of the course. You will not receive credit for turning in another student's book and may not turn in replacement books. The cost of replacement will be assessed to any student that fails to turn in the book they were issued or turns in a damaged book. Any textbook turned in without the Fulton County barcode sticker on the inside cover of the book will result in a fine. The student will be charged the replacement cost for the text.

Outcome Expectations: At the end of this course students should be able to:

1. Use appropriate scientific tools to observe, record, organize, analyze, interpret, write, and present the results of scientific investigations clearly and accurately.
2. Relate the importance of the chemistry of life to cellular structures and functions in both prokaryotic and eukaryotic cells.
3. Describe and explain the role of DNA and RNA in transfer of traits to successive generations under both asexual and sexual situations.
4. Explain the evolutionary basis of modern classification.
5. Trace the history of the theory of evolution and evaluate the role of natural selection in the development of the theory.
6. Relate the complexity of organisms to how they obtain, transform, transport, release, and eliminate matter and energy.
7. Investigate and assess interdependence between organisms and the flow of matter within ecosystems.

Grade Determination: Fulton County grading scale will be used. (A = 90 to 100, B = 80 to 89, C = 70 to 79, F = below 70)

Area	Percentage
Homework	10%
Laboratory work and Performance Assessments	20%
Tests and Quizzes	55%
End of Course Test	15%

The following objectives are critical science process skills not associated with any particular unit. They represent objectives that are regularly addressed and applied throughout the year.

- GPS - SCSH1: Importance of curiosity, honesty, openness, and skepticism in science.
- GPS - SCSH2: Use standard safety practices in all scientific investigations
- GPS - SCSH3: Identify and investigate problems scientifically
- GPS - SCSH4: Use tools and instruments for observing and measuring in scientific investigations
- GPS - SCSH5: Demonstrate the computation and estimation skills necessary for analyzing data and developing reasonable explanations
- GPS - SCSH6: Communicate scientific investigations and information clearly
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GPS Standards: The Georgia Performance Standards for biology can be found at the State of Georgia's Performance Standards website (<http://www.georgiastandards.org/science.aspx>) or you may contact the teacher for a hard-copy of the standards.

Unit	Chapter(s)	Duration	Georgia Performance Standards
Genetics	7, 8, 9	5 weeks	GPS – SB2: Students will analyze how biological traits are passed on to successive generations. <ol style="list-style-type: none"> Distinguish between DNA and RNA. Explain the role of DNA in storing and transmitting cellular information. Using Mendel's laws, explain the role of meiosis in reproductive variability. Describe the relationships between changes in DNA and potential appearance of new traits including <ul style="list-style-type: none"> Alterations during replication. Insertions Deletions Substitutions Mutagenic factors that can alter DNA. High energy radiation (x-rays and ultraviolet) Chemical Compare the advantages of sexual reproduction and asexual reproduction in different situations. Examine the use of DNA technology in forensics, medicine, and agriculture.
Evolution	10, 11, 12	5 weeks	GPS – SB5: Students will evaluate the role of natural selection in the development of the theory of evolution. <ol style="list-style-type: none"> Trace the history of the theory. Explain the history of life in terms of biodiversity, ancestry, and the rates of evolution. Explain how fossil and biochemical evidence support the theory. Relate natural selection to changes in organisms. Recognize the role of evolution to biological resistance (pesticide and antibiotic resistance).
Diversity & Classification	17, 18, 19 (portions of chapters 20-27)	5 weeks	GPS – SB3: Students will derive the relationship between single-celled and multi-celled organisms and the increasing complexity of systems. <ol style="list-style-type: none"> Explain the cycling of energy through the processes of photosynthesis and respiration. Compare how structures and function vary between the six kingdoms (archaebacteria, eubacteria, protists, fungi, plants, and animals). Examine the evolutionary basis of modern classification systems. Compare and contrast viruses with living organisms.

Biology Extensions and Enrichment	Supplemental material & portions of chapters 20-27	2 weeks	<i>(This is not an official GPS unit and will be covered after the EOCT if time permits)</i>
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****NOTE: Due to content requirements and student achievement, this course outline is subject to change to best address the needs of individual classes.**

Tests and Quizzes: A written test is given at the completion of each unit. Tests include information from class notes, the textbook, lab activities, worksheets, and demonstrations that were completed during a unit. Quizzes carry half the weight of a test, and are given approximately twice per semester. Test make-ups will be according to Fulton County Policy. Make-ups are to be scheduled individually with the instructor.

Homework: Homework will be given on a daily basis. Often, homework will consist of reading selected sections from the textbook. You can check www.chattcougar.com for homework assignments.

Laboratory Activities: Lab activities will be performed approximately once a week. You will be responsible for performing the lab in class and completing the necessary lab report. A lab assessment will be given based on the labs done in class. Labs must be MADE UP PROMPTLY. See me for scheduling a lab make-up time.

Extra Help: There will be review sessions on test mornings, starting at 7:50. There will be no extra credit projects, and your lowest test grade will NOT be dropped, so be prepared, and complete all assignments on time.

Honor Code Violation: The honor code policy is strictly enforced. Any act of cheating, "either by giving or receiving information on a gradable experience", will be considered a violation. An honor code violation "may be used by the faculty in making future recommendations, specifically, membership in honor clubs (NHS and Beta Club)." I will inform your parents of the violation and you will receive a grade of zero. Please refer to your handbook for more specifics.

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:

- changing desktop settings or control panels
- removing or damaging mouse tracking balls, keys, cables, connectors, network jacks, or any other hardware
- modifying computer software
- damaging computer discs, CD-ROMS, or other media

Recovery Policy: Recovery is an opportunity for a student to demonstrate competence and mastery of objectives. In order to be eligible for recovery, a student must have completed all assigned work and demonstrated a genuine effort, including attendance. Students are responsible for contacting the teacher concerning recovery opportunities. Teachers will establish, at their discretion and the concurrence of the department head, a reasonable time period for recovery work to be completed during the semester. All recovery work must be completed prior to the last 10 school days of the semester. There will be only one recovery opportunity per failed major assignment or test.

CHATTAHOOCHEE HIGH SCHOOL RECOVERY GUIDELINES:

Recovery is available to students with a cumulative grade below 74% after a minimum of two (2) major grades. The maximum grade a student can earn for a recovery activity is 70%. There will be only one recovery opportunity per failed major assignment or test. The individual teacher will determine the means of recovery. THE STUDENT MUST INITIATE THE PROCESS WITHIN FIVE (5) DAYS OF NOTIFICATION OF A FAILING GRADE ON A MAJOR ASSIGNMENT/TEST.