Biology Syllabus 2015-16

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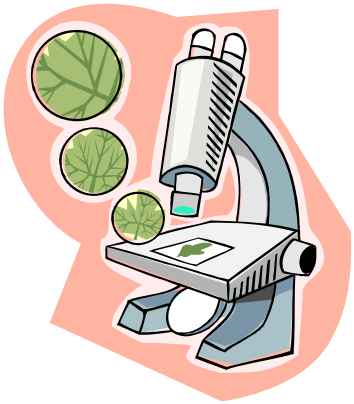

Course Description:
This year long course includes the study of the methods of science, ecology, cell structures, functions and processes, basic organic chemistry, cell energy, heredity, evolution and the diversity of organisms.. Emphasis is placed on scientific inquiry and critical thinking. A variety of instructional methods will be used including computer-based instruction, learning centers, projects, discussions, and laboratory investigations. There will be an **End Of the year Course Test in the spring** worth 20% of the grade and will cover material from both semesters.
Materials Needed: Three ring binder with dividers and paper, and a writing instrument

Units of Study:

Georgia Performance Standards (GPS) (www.georgiastandards.org/science.aspx)	Unit	Textbook Correlation	Approximate Pacing
SCSh1: Students will evaluate the importance of curiosity, honesty, openness, and skepticism in science. **SCSh2:** Student will use standard safety practices for all classroom laboratory and field practice investigations. **SCSh3**: Students will identify and investigate problems scientifically. **SCSh4:** Students will use tools and instruments for observing, measuring, and manipulating scientific equipment and materials. **SCSh5:** Students will demonstrate the computation and estimation skills necessary for analyzing data and developing reasonable scientific explanations. **SCSh6:** Students will communicate scientific investigations and information clearly. **SCSh7:** Students will analyze how scientific knowledge is developed **SCSh8:** Students will understand important features of the process of scientific inquiry.	Scientific Inquiry and Laboratory Safety	Chapter 1 and Ancillary Materials	1 week (and ongoing throughout the semester)
Standard SB4: Assess the dependence of all organisms on one another and the flow of energy and matter within their ecosystems.			
Element A: The student will investigate relationships among organisms, populations, communities, ecosystems, and biomes. **Element B:** The student will explain the flow of energy and matter through ecosystems **Element C:** Relate environmental conditions to successional changes in ecosystems. **Element D:** Assess and explain how human activities influence the environment.	Ecology	Chapters 4,5, and 6	3 ½ weeks (2 tests)
Standard SB1: Students will analyze the nature of the relationships between structures and functions in			

living cells.			
Element C: Identify the function of the four major macromolecules of life **Element B:** Explain how enzymes function as catalysts	Chemistry of life	Chapter 3	2 weeks (1 test)
Element A: Explain the role of cell organelles for both prokaryotic and eukaryotic cells, including the cell membrane, in maintaining homeostasis and cell reproduction **Element D:** Explain the impact of water on life processes (i.e., osmosis, diffusion)	Cell Structure and Function Cell Energy	Chapters 7 and 8 Chapter 9 Chapters 10 and 11	3 weeks (2 tests) 1 ½ weeks (1 test) 2 weeks (1 test)
Standard SB2: Analyze how biological traits are passed on to successive generations.			
Element A: distinguish between DNA and RNA **Element B:** explain the role of DNA in storing and transmitting cellular information c. use Mendel's laws to explain the role of meiosis in reproductive variability **Element E:** compare the advantages of sexual and asexual reproduction in different situations.	DNA, RNA and Heredity	Chapters 13 and parts of 14	2 ½ weeks (1 test)
END OF FIRST SEMESTER UNITS OF STUDY			
Standard SB2. Students will analyze how biological traits are passed on to successive generations.			
Element C: Using Mendel's laws, explain the role of meiosis in reproductive variability. **Element D:** Describe the relationships between changes in DNA and potential appearance of new traits including Alterations during replication., Insertions, Deletions, Substitutions, Mutagenic factors that can alter DNA. Like High energy radiation (x-rays and ultraviolet) and Chemical	Heredity	Chapters 12 and 15	3 weeks (TBD)
Standard SB5. Students will evaluate the role of natural selection in the development of the theory of evolution.			
Element A: Trace the history of the theory. **Element B:** Explain the history of life in terms of biodiversity, ancestry, and the rates of evolution. **Element C**: Explain how fossil and biochemical evidence support the theory. **Element D**: Relate natural selection to changes in organisms. **Element E**: Recognize the role of evolution to biological resistance (pesticide and antibiotic resistance).	Evolution	Chapters 16-19	3 weeks (TBD)
Standard SB3. Students will derive the relationship between single-celled and multi-celled organisms and the increasing complexity of systems. **Standard SB4: Elements e and f.**			
Element A: Explain the cycling of energy through the processes of photosynthesis and respiration. Element B: Compare how structures and function vary between the six kingdoms (archaebacteria, eubacteria, protists, fungi, plants, and animals). Element C: Examine the evolutionary basis of modern classification systems. Element D: Compare and contrast viruses with living things Element E: Relate plant adaptations, including tropisms, to the ability to survive stressful environmental conditions.	Diversity of Organisms	Chapters 20-33 (parts of each chapter)	3 weeks (TBD)

Element F: Relate animal adaptations, including behaviors, to the ability to survive stressful environmental conditions.			

END OF SECOND SEMESTER UNITS OF STUDY (PRIOR TO EOCT)
Additional Units will be done after the EOCT- TBD

Behavioral Expectations

1. Enter the classroom in an orderly and timely manner. When the tardy bell rings you should be in the classroom and go to your seat so that role can be taken. Tardy guidelines are in the student handbook and will be enforced.
2. Bring required materials to class daily. This includes an organized science binder, paper and something to write with to class every day.
3. Do not put away your class materials or "pack-up" until you are completed with your assignment or the bell rings.
4. Refrain from touching any equipment unless instructed to do so by the teacher. Please keep the classroom neat and orderly. This includes proper lab clean up and putting chairs back.
5. Absolutely no food, candy or drinks (including flavored water and drink mixes) in the classroom. **Water is the only thing that is permitted in the classroom**.
6. There are no bathroom privileges during lecture or instructional time unless it is an emergency. Please take care of this before you come to class. You must have a restroom pass in order to leave the room. Absolutely no one is allowed to leave the room the first or last ten minutes of class.
7. Above all we expect a daily display of good manners. 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.

Consequences for failure to follow behavior policy

Problem behavior will be managed by either the classroom teacher or the front office at the discretion of the teacher. Your teacher will discuss this in detail to their individual classes.

Absence from Class—Makeup Work is Your Responsibility

1. If you are absent, you must present an admit slip to your teacher upon returning to class. **Students are not to be admitted to class unless they produce an admit slip.**
2. Students are responsible for make-up work and turning it in a timely manner. Students are given the same number of days to complete make-up work, as the absence, not including the day of return. (handbook)
3. We will be available for scheduling of make-ups and expect students to schedule the make up work promptly. A student who fails to appear for *scheduled* makeup work will receive a zero.
4. 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.

Academic Information

1. **Late Work**

All work is due at the beginning of class on the date it is due. Students **will not** be allowed to go to their lockers to get work that is not in their possession at the beginning of class. Your teacher will discuss with you the late work policy for that class.

1. **Binder**
   Organization is essential. Binder organization will be discussed in class.
3. **Final Exam**
   At the end of the semester you will be given a comprehensive final exam based upon all of the unit tests for that semester. First semester this test is worth 15% of your final grade for the course. During second semester this test is the EOCT and is worth 20% of your final grade.
   Home Access Center: All parents may access student grades at any time using Home Access Center. Please visit the school web site www.northviewhigh.com and go to parent information to register. A few days after you register you may come by the school office to receive your password and begin accessing student grades and attendance.
4. **Grade Determination:**
   Fulton County Grading Scale will be used.A = 100 - 90 B = 80-89 C = 79-70 Below 70 is failing

	First Semester	Second Semester
• Tests	35%	30%
• Quizzes	15%	15%
• Labs	25%	25%
• Homework/Class work	10%	10%
• Final Exam	15%	---
• EOCT	---	20%

5. Extra Credit
Extra credit may be available throughout the semester at the discretion of the teacher and will not be given to individual students. Please take advantage of this opportunity throughout the semester as there will be no late opportunities near the end of the semester.

Science literary standards:

https://www.georgiastandards.org/Common-Core/Documents/CCGPS_9-10_SS-Science-Tech-Literacy_Standards.pdf