



HONORS BIOLOGY SCIENCE SYLLABUS
Mrs. Bradshaw
2017-2018
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Course Description: The objective of this course is to develop an understanding of biological concepts using the scientific process. All major concepts of biology including cells, growth, reproduction, heredity, evolution, genetics, genetic engineering, bioenergetics, classification, ecology, and current topics in life sciences are studied as they apply to organisms such as plants and animals. Explorations and application of key concepts will be conducted through lab experiments and various learning strategies including self-questioning and visual learning approaches. A rigorous curriculum includes application of higher level thinking skills and writing proficiency related to Molecular Genetics, Cellular Energetics, and Biodiversity in addition to content prescribed by the GPS.

Text: Holt Biology (replacement cost \$33)

Survival of the Sickest by Sharon Moalem (replacement cost \$15)

(Students are responsible for books that they check out. They will be given an Indebtedness notice if not returned by the end of the year which will need to be cleared to be able to march in graduation ceremony.)

Supplies: pen/pencil; (2) 1 subject spiral notebook with front pocket; calculator; composition notebook for science fair projects; personal glue stick and markers

I will be using a variety of media to present the information—textbooks, videos, speakers, demonstrations, labs, and anything else that I might discover that might increase your learning and enjoyment level. I am a firm believer that if you are having a good time in class, you will learn far more than if you were...say...asleep or absent.

Biology Standards

SB1. Obtain, evaluate, and communicate information to analyze the nature of the relationships between structures and functions in living cells

SB2. Obtain, evaluate, and communicate information to analyze how genetic information is expressed in cells.

SB3. Obtain, evaluate, and communicate information to analyze how biological traits are passed on to successive generations.

SB4. Obtain, evaluate, and communicate information to illustrate the organization of interacting systems within single-celled and multi-celled organisms.

SB5. Obtain, evaluate, and communicate information to assess the interdependence of all organisms on one another and their environment

SB6. Obtain, evaluate, and communicate information to assess the theory of evolution.

Evaluation: Each student will be graded according to their ability to execute the objectives of course components. The components of this course will be weighted in the following manner as determined by TCCHS science department

Benchmark	10%
Tests	40%
Labs/Projects	30%
Class Work	20%

Standardized Testing:

Milestone-this is a comprehensive exam that measures student achievement in the area of Biology. It is based on the Georgia Performance Standards (GPS). The Milestone will comprise 20 % of the student's' final grade.

Course Outline

Nine Weeks	Standards	Unit Topics
First Nine Weeks	Intro to Biology: Living organisms and virus (SB4c) and Evolution of virus (SB4c) Cells: Macromolecules (SB1c) and Enzymes (SB1c); ProKaryotes and Eukaryotes and Cell structures and organelles (SB1a); -Cell Membrane and Cell Transport (SB1a,SB1d)	
Second Nine Weeks	Cells: Cellular Energy (SB1e); Cancer/Cellular Reproduction (SB1b) {mitosis,binary fission} Genetic information in cells: DNA/RNA structure (SB2a); DNA replication (SB2a); Synthesising of proteins (SB2a); Gene Mutations (SB2b); Karyotypes/Biotechnology (SB2c) <i>embedded in 2nd and 3rd nine weeks</i>	
Third Nine Weeks	Genetics: Sexual Reproduction variability (SB3a), (SB3c) {mitosis vs meiosis}; Mendel's Laws (SB3 a,b); Dihybrid Crosses (SB3b); Non-mendelian genetics (SBb); Karyotypes/Biotechnology (SB2c); Chromosomal Mutations (SB2b) Evolution; Genetic Drift (SB6d), Speciation (SB6b); Natural Selection and adaptations (SB5e); Evolution (SB6d, SB6a); Evidence (SB6c); Biological Resistance (SB6e)	
Fourth Nine Weeks	Organization: -classification (SB4a); speciation (SB4b) Ecology: patterns populations biodiversity (SB5a); energy flow (SB5b); {photosynthesis and respirations (SB1e)}; ecosystem stability (SB5c); human impact (SB5d); adaptations (SB5e)	

Grading Policy

Each nine weeks will be a final grade that will be averaged at the end of the year for the final grade. Biology has an EOCT test at the end of the year and will count 20% of the final grade.

The due date for assignments will be the deadline for turning in the assignment. If you are absent on the due date, the assignment will be due the first day you return to class. 10 points will be deducted for each day the assignment is late.

Reading in the Content Area

As part of our content standards, all students will be required to read content related material to enhance the curriculum. Reading requirements include current science article and *Survival of the Sickest* by Sharon Moalem. This will be assigned during the 3rd nine weeks grading period. An outside project and reading assignment will be required.

The class has a requirement of a long term project. Students can either complete science fair or Exploravision project. This project is broken up over the 1st and 2nd nine weeks. Each assignment will be given a specific due date and assignment weight. An outline for each grading period will be provided.

Class Expectations: They are pretty simple. All school policies apply as well.

1. **Respect Everyone.** When someone is talking, don't talk. If you have something to say, please raise your hand. No cursing or profanity. You must respect everyone's right to learn and CAN NOT interfere with that process. Respect other's things (if it is not yours don't touch it). #BENICE
2. **Do your best work and be responsible.** Turn it in on time! If you ever feel that something is not your best, see me and we can find an alternative assignment. #QUITCHEATING #WORK HARD
3. **Bring all materials to class.** Be prepared to learn when the bell rings. The warm up will begin with the bell. Tardies are a big deal! I will dismiss you at the end of the period. Use the restroom before class. #NOTARDIES #NOFREEDAYS
4. **Listen to rules and follow them.** This is important on lab days. #LABDAYSRULE #BESAFE
5. **Keep in touch.** If you don't understand something, ask. #IDONTBITE
6. **Food and cell phones are not permitted.** Please do not bring food into the classroom – safety reasons and insects. #NOTYOURMOM #ONLYWITHPERMISSION #NOTEXTING #NOPICS

If you choose to break a rule:1st time is a warning (Student/Teacher conference)2nd time is Parent Contact and detention3rd time is referral**Rewards for good behavior**

Praise!

Positive Notes or emails Home

Candy or Sweet treats!

Make up work-It is important that you are here as much as possible. Make up work is a pain to make up. It can be done by appointment BEFORE OR AFTER SCHOOL

Teacher Web site: Information about test dates, projects, PowerPoints, etc. will be available for you to check throughout the year. To access web site – www.thomas.k12.ga.us -> schools -> TCCHS -> TCCHS web page -> click teacher.

Outside assignments: Participation in Exploravision or Science Fair competition is required for this class. This independent learning experience is designed to challenge students to be creative, to learn to organize their time and resources, to develop and follow protocols, and to draw reasonable conclusions from observations. The project is included in the course grading and will affect the final average of the student. Any components of this project that are not completed in a timely manner will be penalized in the grading. Further details and a timeline will be provided as they are available from the Georgia Regional Science and Engineering Fair directors of ABAC. Students are also encouraged to participate in Science Olympiad competition. The due dates are below:

Exploravision Group of 2-4 www.exploravision.org	Science or Engineering Project Individual or team of 2 http://www.societyforscience.org/isef/	Due date & assignment
Create and explore a vision of future technology by combining imagination with the tools of science. See above website for more information.	Design and conduct an experiment to answer a question or solve a problem. Engineering projects set a goal and build a prototype. See above website for more information.	
TOPIC Select group and identify topic. Write a paragraph explaining your topic (the technology, the problem it could solve and a short explanation).	TOPIC Work individually or with a partner. Describe topic and a rough research plan. (Describe in general terms what you will do.)	Friday, August 18 Daily grade (no other work will be accepted until the topic has been approved)
HISTORY, PRESENT, DESIGN PROCESS, & BIBLIOGRAPHY. Follow formatting guidelines given to you. You will resubmit these sections, be sure to save your work electronically. SUBMITTED through TURNITIN	PROJECT INTRODUCTION Write a summary of background research relating to your topic and design your experiment. This should be written in proper MLA or APA format and include a bibliography. SUBMITTED through TURNITIN	Friday, September 1 Test Grade
FUTURE This is the most important part of the Exploravision paper. Describe your vision for your project. Use original drawings whenever possible.	RESEARCH PLAN & FORMS Complete official forms including the research plan. Be sure to include proper signatures and correct dates.	Friday, September 15 Lab Grade
Revised FUTURE, BREAKTHROUGHS, & CONSEQUENCES Follow guidelines. SUBMITTED through TURNITIN	RESULTS Display data in appropriate tables AND graphs.	Friday, October 20 Lab Grade
COMPLETE PROJECT DESCRIPTION All written parts in proper format. SUBMITTED through TURNITIN	RESEARCH REPORT Follow guidelines.	Friday, November 10 Test Grade
ABSTRACT Describe your project in 150 words or less. SUBMITTED through TURNITIN	ABSTRACT Complete all aspects of the abstract in 250 words or less.	Friday, November 17 Daily Grade
WEB PAGE GRAPHICS (5) Follow directions provided.	DISPLAY Turn in an attractive and well organized backboard describing your work.	Friday, December 1 Lab Grade
TCCHS Science Fair, Friday, December 8		

Please sign below indicate you and your parents have read the above information. Please keep this in your folder.

Teacher: I will be fair and consistent in administering the discipline plan and grades for my students.

Signature: _____ Date: _____

Student: I have read the classroom discipline plan and syllabus, and I understand it fully. I will honor it and will support it while in the classroom.

Signature: _____ Date: _____

Parent: My child has discussed the classroom discipline plan and syllabus with me. I understand and support it. **I also understand that a long term project (science fair or exploravision) is required and have received the outline.**

Signature: _____ Date: _____