Cocke County High School

Biology I
2025-2026 Syllabus

Part 1: Course Information

Instructor Information

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Course Description

Biology I is a one semester course. Students must pass Biology I in order to graduate. There is an EOC (end of course) exam at the end of the semester. This year we will explore the following topics: Scientific processes, Biological Molecules, Cellular Transport, Cells, Cellular Processes, Inheritance and Variation, Biological Change and Ecosystems.

General Education/High School Pathway Area

In order to graduate, students are required to successfully complete Biology I.

Textbook & Course Materials

Required Text: Tennessee Miller & Levine Experience Biology 2026. SAVVAS Learning Company. ISBN: 9798213032048. Textbook may be accessed online through Clever.

Recommended Texts & Other Readings or Resources.

Other readings may be made available either online or in print during the course.

Course Requirements

- 3 ring notebook (1.5 inches or larger)
- Pencil or Pen (dark blue or black ink)
- Colored Pencils
- Ruler
- Transparent tape
- School Glue or glue stick

Course Structure

Course content will be delivered through lecture, discussion, textbook assignments, multimedia presentations, library and internet research, laboratory investigations, student presentations, and other methods.

In order for students to succeed in this course it is vital that they devote much time to reading the text and completing all assignments.

Online Resources

Online textbook: Experience Biology (access through Clever)
Amoeba Sisters: https://www.youtube.com/@AmoebaSisters
Annenburg Learner: http://www.learner.org
Crash Course Biology on YouTube:
https://www.youtube.com/user/crashcourse/search?query=biology
Genetic Science Learning Center:https://learn.genetics.utah.edu/
HHMI Biointeractive: https://www.biointeractive.org/
PhET Interactive Simulations: https://phet.colorado.edu/
NASA Global Climate Change website: https://climate.nasa.gov/
Science News for Students: Science News Explores
TedED: https://www.youtube.com/@TEDEd

Part 2: Student Learning Outcomes

BIO1.LS1: From Molecules to Organisms: Structures and Processes

1) Construct an explanation based on evidence that the essential functions of life are primarily carried out through the work of proteins that are coded for by genes in DNA, as described by the Central Dogma (i.e., transcription, translation).

2) Plan and conduct an investigation to provide evidence that feedback mechanisms maintain homeostasis.

3) Use a model to describe how differentiation in a multicellular organism creates specialized cells that perform diverse functions to work together to meet the needs of the entire organism, including human development

4) Create, or use, a model to describe how the process of photosynthesis converts light energy into the stored chemical energy of bonds created by converting CO2 and H2O into sugar and other organic molecules.

5) Construct an explanation based on evidence that matter taken into an organism can be broken down and recombined to make macromolecules necessary for life functions.

6) Create, or use, a model to describe how cellular respiration transforms stored chemical energy of food resulting in a net transfer of energy. Compare aerobic respiration to alternative processes of glucose metabolism.

7) Construct an explanation from evidence to explain how the integrated functions of the brain in complex animals results in successful interpretation of input and generation of behaviors in response to those inputs.

BIO1.LS2: Ecosystems: Interactions, Energy, and Dynamics

1) Use mathematical and/or computational representations to support explanations of factors that affect carrying capacity of ecosystems at different scales.

2) Create, or use, a mathematical model to describe the transfer of energy from one trophic level to another. Explain how the inefficiency of energy transfer between trophic levels affects the relative number of organisms that can be supported at each trophic level and necessitates a constant input of energy from sunlight and inorganic compounds from the environment.

3) Obtain, evaluate, and communicate information based on evidence to describe how the impact 66 of varying levels of disturbance is related to the resilience of an ecosystem.

4) Design, evaluate, and refine a solution for reducing the impacts of human activities on the environment and biodiversity.

5) Analyze data about the role of group behavior on individual and species' chances to survive and reproduce.

BIO1.LS3: Heredity: Inheritance and Variation of Traits

1) Engage in an argument from evidence that the process of cellular division (mitosis) creates diploid daughter cells that are genetically identical to the diploid parent cells.

2) Engage in an argument from evidence that the process of meiosis exists to create genetic variation in a population from the creation of new combinations of genetic material in each of the haploid gametes.

3) Ask questions to clarify that variation of traits arises from differences in genes (alleles) and how cells regulate gene expression.

4) Construct an explanation based on evidence that genetic variations may result from (a) new genetic combinations via the processes of crossing over and random segregation of chromosomes during meiosis, (b) mutations that occur during replication, and/or (c) mutations caused by environmental factors. Evidence should include that mutations that occur in gametes can be passed to offspring.

BIO1.LS4: Biological Change: Unity and Diversity

1) Analyze and interpret scientific data that common ancestry and biological evolution are supported by multiple lines of empirical evidence (e.g. DNA sequences, amino acid sequences, anatomical structures, the fossil record, biogeography, or order of appearance of structures during embryological development).

2) Apply concepts of statistics (i.e. probability) to support explanations that organisms in a population with an advantageous heritable trait tend to increase in proportion to organisms lacking this trait.

3) Analyze and interpret data that natural selection is influenced by (1) the potential for a species to increase in number, (2) the heritable genetic variation of individuals in a species due to mutation and sexual reproduction, (3) competition for limited resources, and (4) the proliferation of those organisms that are better able to survive and reproduce in the 67 environment.

4) Construct an explanation based on evidence for how natural selection leads to adaptation in populations.

5) Obtain, evaluate, and communicate information about how changes in environmental conditions may result in (1) increases in the number of individuals of some species, (2) the emergence of new species over time, and (3) the extinction of other species.

You will meet the objectives listed above through a combination of the following activities in this course:

Lecture, class discussion, laboratory activities, library and Internet research, student presentations, dissection and other group and individual activities. In order for students to succeed in this course it is vital that they participate in all class activities and complete all assignments.

Part 3: Topic Outline/Schedule

	Unit Number	Unit Title	Standards
1st Nine Weeks	1	Nature of Life	BIO1.LS1.1 BIO1.LS1.5
	2	Ecology	BIO1.LS2.1 BIO1.LS2.2 BIO1.LS2.3 BIO1.LS2.4
	3	Cells	BIO1.LS1.2 BIO1.LS1.3 BIO1.LS1.4 BIO1.LS1.5 BIO1.LS1.6 BIO1.LS3.1

	4	Genetics	BIO1.LS3.1 BIO1.LS3.2 BIO1.LS3.3 BIO1.LS3.4 BIO1.LS1.1 BIO1.LS1.2
2nd Nine Weeks	5	Evolution	BIO1.LS4.1 BIO1.LS4.2 BIO1.LS4.3 BIO1.LS4.4 BIO1.LS3.2 BIO1.LS3.4
	6	Diversity of Life	BIO1.LS4.1 BIO1.LS4.5 BIO1.LS1.2 BIO1.LS1.3 BIO1.LS1.5 BIO1.LS2.5 BIO1.LS1.7
		EOC Review Invertebrate and Vertebrate Organisms	

Part 4: Grading Policy

It is very important for students to master the course content in Biology I, therefore, each student will be asked to correct any class assignment for which they receive a grade lower than 70%. Students should be able to complete all work during class time. Students who do not correct class work or complete assignments during class time will be expected to attend tutoring. Laboratory work is an important part of this class. Students with unexcused absences on lab days will receive a zero for their lab grade. Also students who violate any lab safety policy will receive a zero for that day's lab.

Late Work Policy

Be sure to pay close attention to deadlines—there will be no makeup assignments or quizzes, or late work accepted without a serious and compelling reason and instructor approval. Students who know they will be absent on a project date, should present their project prior to the assignment date to avoid receiving a zero. Students have 3 days after an excused absence to make up any missed work.

Viewing Grades in ASPEN (optional)

Points you receive for graded activities will be posted to the ASPEN GradeBook. Click on the My Grades link on the left navigation to view your points.

Your instructor will typically update the online grades 5 days following the completion of an activity. You will see a visual indication of new grades posted on your ASPEN home page under the link to this course.

Letter Grade Assignment

Student assignments will be weighted as follows:

40 %	Daily classwork and homework
20%	Chapter Tests and Projects
20%	Laboratory activities and hands on activities
20%	Quizzes

Final grades assigned for this course will be based on the percentage of total points earned and are assigned as follows:

Letter Grade	Percentage	Performance
A	90-100%	Excellent Work
B	80-89%	Good Work
C	70-79%	Average Work
D	60-69%	Poor Work
F	0-59%	Failing Work

*****EOC will count as 15% of Second Semester Final Grade*****

Part 5: Course Policies

Attend Class

Students are expected to attend all class sessions as listed on the course calendar.

Participate

Students are encouraged to participate in all classroom activities. Failure to participate in class activities will adversely affect a student's grade.

Build Rapport

If you find that you have any trouble keeping up with assignments or other aspects of the course, make sure you let your instructor know as early as possible. As you will find, building rapport and effective relationships are key to becoming an effective professional. Make sure that you are proactive in informing your instructor when difficulties arise during the semester so that they can help you find a solution.

Complete Assignments

Assignments must be submitted by the given deadline or special permission must be requested from the instructor *before the due date*. Extensions will not be given beyond the next assignment except under extreme circumstances.

All discussion assignments must be completed by the assignment due date and time. Late or missing discussion assignments will affect the student's grade.

Incomplete Policy

Under emergency/special circumstances, students may petition for an incomplete grade. An incomplete will only be assigned in the event of an extreme emergency. All incomplete course assignments must be completed within a time period to be determined based upon the number of missing or incomplete assignments. An extreme emergency may include illness or an accident involving the student or the death of an immediate family member. A family or school trip WOULD NOT BE CONSIDERED AN EMERGENCY. Students should complete assignments BEFORE such an event.

Academic Dishonesty Policy

Academic dishonesty includes such things as cheating, inventing false information or citations, plagiarism and helping someone else commit an act of academic dishonesty. It usually involves an attempt by a student to show possession of a level of knowledge or skill that he/she does not possess.

A student suspected of academic dishonesty may receive an oral reprimand. Parents may be contacted. A grade of zero may be given in which case the student may be allowed to retake a different version of the test or redo the assignment. A student may also be referred to administration for disciplinary action.

Student Testing Code of Ethics and Security

It is important for you as a student to know that the following guidelines are to be strictly followed. This year the TNReady EOC test will count at least 15% of your final semester grade. Your work on this test is very important and it deserves your best effort.

I understand that during testing on the days of the assessment, I am responsible for:

- Not having any electronic devices on me or in my purse/backpack/pockets
    - Including but not limited to cell phones, smart phones, smart watches, etc. **during testing or during breaks.**
    - Best practice is for students to leave devices at home or in their lockers on the day of testing.
    - If I am caught with a device during testing or during breaks, my test may be nullified, resulting in a zero as at least 15% of my semester grade, and any school level disciplinary action as deemed appropriate by the administration.
- Trying my best on the test
    - If I do not attempt to test (I give **no answers or randomly answer** questions) my test score may be nullified, resulting in a zero as at least 15% of my semester grade, and any school level disciplinary action as deemed appropriate by the administration.
    - The testing administrators and proctors in the testing environment will determine if no answers or random answering is taking place.
    - I will focus and put forth effort on the test .
- Being honest and not cheating
    - If I am caught cheating (taking pictures of the test, writing down and passing answers, talking to other students, looking on other computers, using software outside the testing platform), my test may be nullified, resulting in a zero as at least 15% of my semester grade, and any school level disciplinary action as deemed appropriate by the administration.

Important Note: Any form of academic dishonesty, including cheating and plagiarism, may be reported to the office of student affairs.

Course policies are subject to change. It is the student's responsibility to check for corrections or updates to the syllabus. Any changes will be posted in the classroom.