Biology Course Syllabus

Instructor:
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Required Textbook: Miller, Kenneth R., and Joseph S. Levine. "(2019) *Miller & Levine Biology*. Boston, MA: Pearson. $107.47
Digital Textbook and accompanying resources may be access through the school's clever page

Course Description:
The objective of this course is to develop an understanding of biological concepts using the scientific process. Explorations and application of key concepts will be conducted through lab experiments and various learning strategies including self-questioning and visual learning approaches. Students in Biology will be expected to complete a basic curriculum that includes the application of concepts and writing proficiency related to the topics advanced Molecular Genetics, Cellular Energetics, and Biodiversity in line with the content prescribed by the Georgia Science Standards. These objectives adhere to the preservation of the following Georgia Science Standards.

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

Attendance: Attendance is essential for maintaining successful progress in this course. The instructor must inform the student's family in the event of excessive absenteeism. A letter will be mailed to the parent or guardian of any student who reaches 5 unexcused absences during the school year. Subsequent absenteeism will be handled by the administration.

Special Needs Statement:
In accordance with the Americans with Disabilities Act, arrangements will be made for students who require special assistance due to a disability. If you require some assistance, do not hesitate to inform the instructor.

Course Grade Composition:
Each student will be graded according to their ability to execute the objectives of course components. The components of this course will be weighed in the following manner as determined by the Science Department of TCCHS.

Tests 35% Labs and Activities 30% Daily Work and Quizzes 25% Benchmarks 10%

Submitting Assignments:
Students must join our Google Classroom with codes provided on the instructor's school website. All assignments must be submitted through google classroom to be graded and awarded credit. Use the following link to review this process: https://www.youtube.com/watch?v=LsD1QJEN0Yg Please notify the instructor by email with any difficulties in submitting work.

Make-Up Work:
It is the students' responsibility to get any assignments that may be missed during an absence. All assignments are posted through Google Classroom. Please email the instructor with any questions concerning missed assignments.

Reading in Content Area:
All students will be required to read content related materials to enhance the curriculum. The reading requirement is in compliance with county-wide literacy goals. Reading requirements include current articles and completion of "The Immortal Life of Henrietta Lacks" by Rebecca Skloot. According to SCSh9. Students will enhance reading in all curriculum areas by: Reading in all curriculum areas and reading both informational and fictional texts in a variety of genres and modes of discourse.

Standardized Testing:
EOC Milestone – It is a comprehensive exam that measures student achievement in the area of Biology. It will be based on the Georgia Science Standards listed on the first page of this syllabus. The Georgia State Board of Education adopted the Milestone Program to comply with the A^{+} Educational Reform Act of 2000 (O.C.G.A. § 20-2-281). The EOCT will comprise 20% of the students' final grade.

Zoom Classroom Rules and Etiquette

Find a quiet place and mute yourself

Be on time

Come prepared and ready to learn

Use the Raise your hand feature to talk

Be respectful

Physical Classroom Rules:

Students are expected to act in an orderly manner at all times.

Students must show respect for all persons including themselves at all times. Any discrepancy that a student wishes to question or discuss with the instructor must be handled during a one on one basis after class time.

As stated in the student handbook of TCCHS, students are expected to do their own work. For example, cheating consists of intent to deceive the instructor by copying from outside sources or another student. The resulting penalty for cheating will be a zero for the first offense and failure of this course for a second offense.

All students must be punctual. Students are required to be in class during the assigned times, therefore, restroom breaks and class preparation must be handled at the appropriate times. Plan ahead.

Unnecessary talking must not interfere with the teaching- learning process.

School property must be treated with care. Student seating will be maintained in a neat and orderly manner.

Cell phones must not be visible nor disturb class unless being used for educational purposes with teacher permission.

Chromebooks must be brought to class ready to use every day.

Disciplinary consequences include a verbal warning to correct behavior followed by parent contact/ detention. Administrative referral will result if behavior is not amended.

Course Outline:

First 9 weeks 45 days	Second 9 weeks 43 days	Third 9 weeks 48 days	Fourth 9 weeks 44 days
Intro to Biology (7 days) -Living organisms and virus (SB4c) -Evolution of virus (SB4c) **Cells (35 days)** -Macromolecules (SB1c) -Enzymes (SB1c) **(10 days)** -ProKaryotes and Eukaryotes -Cell structures and organelles (SB1a) **(10 days)** -Cell Membrane and Cell Transport (SB1a,SB1d) **(10 days)**	**Cells (15 days)** -Cellular Energy (SB1e) **(7 days)** -Cancer/Cellular Reproduction (SB1b) {mitosis,binary fission} **(4 days)** -Macromolecules review before DNA (SB1c) **(1 day)** **Genetic information in cells (25 days)** -DNA/RNA structure (SB2a) **(2 days)** -DNA replication (SB2a) **(3 days)** -Synthesising of proteins (SB2a) **(7 days)** -Gene Mutations (SB2b) **(7 days)** -Karyotypes/Biotechnology (SB2c) *embedded in 2nd and 3rd nine weeks* ***(5 days)***	**Genetics (20 days)** -Sexual Reproduction variability (SB3a), (SB3c) {mitosis vs meiosis} **(3 days)** -Mendel's Laws (SB3 a,b) **(7 days)** -Dihybrid Crosses (SB3b) **(1 days)** -Non-mendelian genetics (SBb) **(5 days)** -Karyotypes/Biotechnology (SB2c) -Chromosomal Mutations (SB2b) **(3 days)** *Charlie Guard* **Evolution (25 days)** -Genetic Drift (SB6d) -Speciation (SB6b) **(4 days)** -Natural Selection and adaptations (SB5e) **(4 days)** -Evolution (SB6d, SB6a) **(4 days)** -Evidence (SB6c) **(4 days)** -Biological Resistance (SB6e) **(4 days)**	**Organization (10 days)** -classification (SB4a) **(10 days)** -speciation (SB4b) **Ecology (20 days)** -patterns populations biodiversity (SB5a) **(4 days)** -energy flow (SB5b) {photosynthesis and respirations (SB1e)} **(1 days)** -ecosystem stability (SB5c) **(5 days)** -human impact (SB5d) **(10 days)** -adaptations (SB5e)

Advanced Biology Additional Course Requirement:

Science Fair or Exploravision Projects are required for this course. Assignments and due dates will be posted through Google Classroom. Resource Links are provided below

www.exploravision.org

http://www.societyforscience.org/isef/