Pre-AP Biology 2024-25 Fall Semester
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Canvas:	https://gcs.instructure.com/courses/321041	**Remind 101**	Text **@ecgbio** to the number: **81010**
Textbook:	Campbell Biology in Focus, 3rd Edition	**Help Sessions:**	Monday 8:15-9:00 AM Other mornings and/or lunch periods by appointment

COURSE DESCRIPTION:
The course description and goals for the NC Department of Public Instruction Essential Standards for Biology can be found at: NCDPI Biology Support Document 2023. An outline of the essential standards is also located in this syllabus. The required NC End-of-Course exam will assess students' mastery of these standards.

While this class is not an AP level course, we will utilize some AP Biology curriculum materials. Students will have required reading and assignments from an AP level textbook and are expected to come to class prepared for discussion and to ask questions about the assigned content. Additionally, we will expand some content areas beyond what is required in a typical honors-level biology course.

SUPPLIES	GRADING POLICY
Chromebook or personal laptop/tablet Spiral-bound composition book Three-ring binder (can be used for other classes) Graph paper Pencils and pens	**Unit Assessments/Major Unit Projects: 60%** **Quizzes: 20%** ***All other assignments: 20%** ***Not all assigned work will receive a grade**

STUDENT EXPECTATIONS:
1) **Be responsible** – Come prepared for class, having completed the assigned work. Take responsibility for your learning.
2) **Be respectful** – We will practice kindness in this classroom. Respect yourself, your classmates, your instructors, and school property. This includes being on time for class and consuming all food prior to entering classroom.
3) **Be reflective –** A reflective attitude is helpful in school and in adulthood. *Is what I am doing producing the desired results? What is expected of me? How can I improve my work? Am I getting what I need in school? What steps could I take to get the results I desire?*

CELL PHONE POLICY:
Students should turn cell phones off or silence them and put them in their backpacks (not in pockets, on the desk, etc.). When cell phones may be used for instructional purposes, the teacher will instruct students to retrieve them.

MAKE UP WORK IS THE RESPONSIBILITY OF THE STUDENT.
If you are absent for any reason, YOU are responsible for asking what you have missed the day you return and arranging to make up the work. It is not the responsibility of the instructor to remind you that you have missed work. All handouts and homework assignments will be available in the classroom or on Canvas. All work missed must be made up within *three calendar days* (NOT class meeting days) of the date the student returns to school. When absent the day of a major test, the test is to be made up on the date of return unless there are extenuating circumstances. Being absent on the day before a test or quiz does not excuse a student from taking the assessment on the day of return.

LATE ASSIGNMENTS:
Late work is accepted (up to 5 days past due) with a grade reduction of 10% per day. Assignments overdue by more than 5 days will not receive credit. Extenuating circumstances will be considered on a case-by-case basis**. If you find you are getting behind in the class, please communicate with me so we can work out a plan.**

COURSE OUTLINE AND SEQUENCE:

NC Essential Standards (Organized by order taught and assessed)	Tentative Dates for Unit Tests
UNIT 1: Macromolecules **Bio 4.1 Understand how biological molecules are essential to the survival of living organisms.** 4.1.1 Compare the structures and functions of the major biological molecules as related to the survival of living organisms. 4.1.2 Summarize the relationship among DNA, proteins, and amino acids in carrying out the work of cells and how this is similar in all organisms. 4.1.3 Explain how enzymes act as catalysts for biological reactions.	**August 16**
UNIT 2: Cell Structure and Transport **Bio.1.1 Understand the relationship between the structures and functions of cells and their organelles.** 1.1.1 Summarize structure and function of organelles in eukaryotic cells and ways in which these organelles interact with each other to perform the functions of the cell. 1.1.2 Compare prokaryotic and eukaryotic cells. 1.1.3 Explain how instructions in DNA lead to cell differentiation and result in cells specialized to perform specific functions in multicellular organisms. **Bio 1.2 Analyze the cell as living system.** 1.2.1 Explain how homeostasis is maintained in a cell and within an organism	**August 30**
UNIT 3: Cellular Energy **Bio.4.2 Analyze the relationships between biochemical processes and energy use in the cell.** 4.2.1 Analyze photosynthesis and cellular respiration in terms of how energy is stored, released, and transferred within and between these systems. 4.2.2 Explain ways that organisms use released energy for maintaining homeostasis (active transport).	**September 11**
Unit 4: Cell Cycle 1.2.2 Analyze how cells grow and reproduce in terms of interphase, mitosis and cytokinesis. 1.2.3 Explain how specific cell adaptations help cells survive in particular environments. **Bio 3.1 Explain how traits are determined by the structure and function of DNA.** 3.1.1 Explain the double-stranded, complementary nature of DNA as related to its function in the cell.	**September 24**
UNIT 5: Protein Synthesis and Gene Expression 3.1.2 Explain how DNA and RNA code for proteins and determine traits. 3.1.3 Explain how mutations in DNA … lead to changes in function and phenotype. 1.1.4 Explain how instructions in DNA lead to cell differentiation and result in cells specialized to perform specific functions in multicellular organisms. ***** **** Repeat and Review from Unit 2***	**October 10**

UNIT 6: Genetics **Bio. 3.2 Understand how the environment, and/or the interaction of alleles, influences the expression of genetic traits.** 3.2.1 Explain the role of meiosis in sexual reproduction and genetic variation. 3.2.2 Predict offspring ratios based on a variety of inheritance patterns. 3.2.3 Explain how the environment can influence the expression of genetic traits.	**October 25**
UNIT 7: DNA Technology **Bio 3.3 Understand the application of DNA Technology.** 3.3.1 Interpret how DNA is used for comparison and identification of organisms. 3.3.2 Summarize how transgenic organisms are engineered to benefit society. 3.3.3 Evaluate some of the ethical issues surrounding the use of DNA technology (cloning, GMOs, stem cells, Human Genome project)	**November 6**
UNIT 8: Evolution **Bio3.4 Explain the theory of evolution by natural selection as a mechanism for how species change over time** 3.4.1 Explain how fossil, biochemical, and anatomical evidence support the theory of evolution. 3.4.2 Explain how natural selection influences the changes of species over time. 3.4.3 Explain how various disease agents (bacteria, viruses, chemicals) can influence natural selection. **Bio 3.5 Analyze how classification systems are developed based upon speciation.** 3.5.1 Explain the historical development and changing nature of classification systems. 3.5.2 Analyze the classification of organisms according to their evolutionary relationships (incl dichotomous keys and phylogenetic tress).	**November 22**
UNIT 9: Ecology **Bio.2.1 Analyze the interdependence of living organisms within their environments.** 2.1.1 Analyze the flow of energy and cycling of matter… significance to maintaining the health and sustainability of an ecosystem. 2.1.2 Analyze survival and reproductive success of organisms in terms of behavioral, structural, and adaptations. 2.1.3 Explain various ways organisms interact with each other and with their ecosystems resulting in stability within ecosystems. 2.1.4 Explain why ecosystems can be relatively stable over hundreds or thousands of years, even though populations fluctuate. **Bio.2.2 Understand the impact of human activities on the environment (one generation affects the next).** 2.2.1 Infer how human activities may impact the environment. (Includes NC specific content.) 2.2.2 Explain how the use, protection and conservation of natural resources by humans impact the environment from one generation to the next.	**December 10**

END OF COURSE (EOC) EXAM:
This course has a required state End-of-Couse exam (EOC) given at the end of the semester. The EOC is the final exam for the course and counts 20% of the final course grade.

MOCK FINAL EXAM:
If time permits, there will be a cumulative mock EOC exam administered prior to the actual EOC exam. This will count as a regular unit test grade in the fourth quarter.

EARLY COLLEGE AT GUILFORD HONOR CODE FOR GRADES 9 AND 10
The Early College at Guilford is a unique educational institution that combines freedom and responsibility. In order to honor that freedom, students take on the responsibility of conducting themselves in such a way that reflects academic integrity both inside and outside the classroom. This honor code represents an underlying principle of ECG student life. It requires that students accept honesty and integrity as both individual and corporate values.

The core beliefs that underlie this code are:

Students function best in an educational environment untainted by academic dishonesty.
Trust is a vital element of the teacher-student relationship.
Widespread Honesty and Integrity enrich the quality of an educational environment.

The Early College at Guilford Honor Code

On my honor as a member of The Early College at Guilford Community I have neither given nor received any unauthorized assistance on this work, nor have I tolerated others' use of unauthorized assistance.

(Please reference student handbook for other specific information regarding the honor code)