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| ***I.*** | ***Course Description:*** | Environmental Science is a course that introduces students to a broad view of the biosphere and the physical parameters that affect it. The course incorporates the scientific and engineering practices reflecting the scientific processes used in science, technology, engineering, and mathematics (STEM) fields. The scientific and engineering practices are implemented through a student-centered and collaborative classroom environment that is laboratory-intensive and includes field investigations and case studies. My goal as your teacher is to help you complete classroom assignments, internet activities, hands-on laboratory procedures, and guide you through independent learning activities. I look forward to the semester and I hope you enjoy! This course WILL challenge you, but will also encourage you in your educational endeavors. You need to be organized, work hard, and use your brain. Always remember, SCIENCE IS FUN! |
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| ***II.*** | ***Course Objectives:*** | Students will:  1. Investigate and analyze the use of nonrenewable energy sources (e.g., fossil fuels, nuclear, natural gas) and renewable energy sources (e.g., solar, wind, hydroelectric, geothermal) and propose solutions for their impact on the environment.  2. Use models to illustrate and communicate the role of photosynthesis and cellular respiration as carbon cycles through the biosphere, atmosphere, hydrosphere, and geosphere.  3. Use mathematics and graphic models to compare factors affecting biodiversity and populations in ecosystems.  4. Engage in argument from evidence to evaluate how biological or physical changes within ecosystems (e.g., ecological succession, seasonal flooding, volcanic eruptions) affect the number and types of organisms, and that changing conditions may result in a new or altered ecosystem.  5. Engage in argument from evidence to compare how individual versus group behavior (e.g., flocking; cooperative behaviors such as hunting, migrating, and swarming) may affect a species’ chance to survive and reproduce over time.  6. Obtain, evaluate, and communicate information to describe how human activity may affect biodiversity and genetic variation of organisms, including threatened and endangered species.  7. Analyze and interpret data to investigate how a single change on Earth’s surface may cause changes to other Earth systems (e.g., loss of ground vegetation causing an increase in water runoff and soil erosion).  8. Engage in an evidence-based argument to explain how over time Earth’s systems affect the biosphere and the biosphere affects Earth’s systems (e.g., microbial life increasing the formation of soil; corals creating reefs that alter patterns of erosion and deposition along coastlines).  9. Develop and use models to trace the flow of water, nitrogen, and phosphorus through the hydrosphere, atmosphere, geosphere, and biosphere.  10. Design solutions for protection of natural water resources (e.g., bioassessment, methods of water treatment and conservation) considering properties, uses, and pollutants (e.g., eutrophication, industrial effluents, agricultural runoffs, point and nonpoint pollution resources).\*  11. Engage in argument from evidence to defend how coastal, marine, and freshwater sources (e.g., estuaries, marshes, tidal pools, wetlands, beaches, inlets, rivers, lakes, oceans, coral reefs) support biodiversity, economic stability, and human recreation.  12. Analyze and interpret data and climate models to predict how global or regional climate change can affect Earth’s systems (e.g., precipitation and temperature and their associated impacts on sea level, glacial ice volumes, and atmosphere and ocean composition).  13. Obtain, evaluate, and communicate information based on evidence to explain how key natural resources (e.g., water sources, fertile soils, concentrations of minerals and fossil fuels), natural hazards, and climate changes influence human activity (e.g., mass migrations).  14. Analyze cost-benefit ratios of competing solutions for developing, conserving, managing, recycling, and reusing energy and mineral resources to minimize impacts in natural systems (e.g., determining best practices for agricultural soil use, mining for coal, and exploring for petroleum and natural gas sources).\*  15. Construct an explanation based on evidence to determine the relationships among management of natural resources, human sustainability, and biodiversity (e.g., resources, waste management, per capita consumption, agricultural efficiency, urban planning).  16. Obtain and evaluate information from published results of scientific computational models to illustrate the relationships among Earth’s systems and how these relationships may be impacted by human activity (e.g., effects of an increase in atmospheric carbon dioxide on photosynthetic biomass, effect of ocean acidification on marine populations).  17. Obtain, evaluate, and communicate geological and biological information to determine the types of organisms that live in major biomes. a. Analyze and interpret data collected through geographic research and field investigations (e.g., relief, topographic, and physiographic maps; rivers; forest types; watersheds) to describe the biodiversity by region for the state of Alabama (e.g., terrestrial, freshwater, marine, endangered, invasive). |
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| ***III.*** | ***Classroom Expectations:*** | Adherence to the following guidelines will insure a safe and enjoyable year for everyone:  You are expected to:   * **Be Prepared** (bring your book notebook, homework, pen and pencil to each class.) * **Be On Time** (don’t be tardy; turn in assignments when they are due; late work is usually equal to no work.) * **Be “Present”** (pay attention in class; share your ideas, thoughts, and insights.) * **Be Respectful** (treat other people and the room itself with consideration.) * **Be Honest** (do your own work with pride; tell the truth)   All gum, candy, food, drinks, electronic devices, etc. should be put  away during class.  \*Choosing not to follow these classroom guidelines will result in the following:  1. Student conference  2. Parent notification/conference  3. Before/after school detention  4. Office referral |
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| ***IV.*** | ***BJ Grading Policy:*** | All grades will be placed into weighted categories, and quarter grades will be computer calculated by the following percentages:  1. Examinations/quizzes/major projects – 70%  2. Labs/Homework/Classwork/Daily Participation – 30%  Your final exam will count 20% toward your semester grade. |
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| ***V.*** | ***BJ Make-up Test Policy:*** | If a test or quiz is missed, the student will need to contact Coach Hollingsworth to set up a time for the make-up. |
| ***VI.*** | ***Virtual Learning Expectation*** | 1. Check Schoology daily and keep up with all virtual assignments. 2. Check the weekly overview each week to see when live sessions are scheduled. 3. Communicate regularly with Coach Hollingsworth if you have any questions, concerns, or issues with course work 4. Participate!   Additional virtual expectations are listed on Coach Hollingsworth’s website. |
| ***VII.*** | ***Materials and Supplies Needed:*** | *Per Individual:*  2 inch three ring binder Pens or Pencils  Loose leaf paper |
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***Concerning electronic devices utilization****:*

1. Under no circumstances are student devices to be wired to the network or have print capabilities.

2. No flash drives, jump drives, or other USB devices will be allowed.

3. Neither the teacher, nor the school is responsible for broken, stolen, or lost devices.

4. Devices will be used at the individual discretion of the teacher.

***Note:***

1. The academic misconduct policy of the school will be followed in this course.

2. The attendance policy of the school will be followed for this course.

3. Any student who receives failing grades during this course is urged to discuss this with the teacher immediately.