Honors Biology 2019-2020

Mrs. Fairweather

1. **Course Description:**

Honors Biology is intended as a tenth grade course for highly motivated students who have demonstrated an interest in science. The Biology EOC exam is required to receive credit for this class. The EOC will be administered in January for first semester students, and in June for second semester students.

Honors Biology is designed to give the student a more challenging and in-depth experience of the *North Carolina Standard Course of Study* in Biology. In Honors Biology, students are expected to work independently on a variety of assignments and accept greater responsibility for their learning. Students enrolled in the honors version of the course will take the same EOC as students enrolled in the standard level version of the course. Students who choose an honors science course are expected to work more independently than students in standard level courses. Because students can be expected to cover the standard level material more independently there will be time for more enrichment topics as specified in the course descriptions for specific honors courses. Students who choose an honors science course will be expected to complete more independent, in-depth scientific investigations and to report on them using a more formal scientific laboratory report format. Students who choose an honors science course will be expected to read and present orally and in writing recent scientific findings.

Many of the materials and activities used for honors courses will also be appropriate for some students enrolled in standard level versions of the course. The difference may be in the level of independence expected of students and the amount of time activities may take.

**II. Course Goals and Objectives**

The major themes of Biology I are broken down into four areas of focus:

* + - Structures and Functions of Living Organisms
    - Ecosystems
    - Evolution and Genetics
    - Molecular Biology

The major themes of the course revolve around these goals from the Essential Standards.

Goal 1.1: Understand the relationship between the structures and functions of cells and their organelles.

Goal 1.2: Analyze the cell as a living system.

Goal 2.1: Analyze the interdependence of living organisms within their environments.

Goal 2.2: Understand the impact of human activities on the environment (one generation affects the next).

Goal 3.1: Explain how traits are determined by the structure and function of DNA.

Goal 3.2: Understand how the environment, and/or the interaction of alleles, influences the expression of genetic traits.

Goal 3.3: Understand the application of DNA technology.

Goal 3.4: Explain the theory of evolution by natural selection as a mechanism for how species change over time.

Goal 3.5: Analyze how classification systems are developed upon speciation.

Goal 4.1: Understand how biological molecules are essential to the survival of living organisms.

Goal 4.2: Analyze the relationships between biochemical processes and energy use in the cell.

Notebooks will be set up with the following tabs/dividers:

* + - Warm-ups
    - STERNGRR/Sci Method
    - Biochemistry
    - Cell Structure
    - Cell Membrane and Transport
    - Bioenergetics
    - DNA Structure, Protein Synthesis, and Mutations
    - Cell Division
    - Genetics
    - Biotechnology
    - Evolution
    - Classification & Representative Organisms
    - Ecology and Human Impact
    - Review

1. **Course Materials**

Textbook: Biology, The Dynamics of Life

Supplies include:

* **2 or 3 inch wide three-ring binder**
* **14 dividers/tabs**
* **Colored pencils**
* **Glue stick and scissors**

**IV. Curriculum Calendar/Timeline**

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| --- | --- | --- |
| Unit | Days Spent | Goals |
| Scientific Method/STERNGRR | 2 | 2.1.2 |
| Biochemistry | 8 | 1.2.1, 4.1.1, 4.1.3 |
| Cell Structure/Microscopy/Reproduction | 7 | 1.1.1, 1.1.2, 1.2.2 |
| Cell Physiology (transport and energy) | 13 | 1.2.1, 4.2.1, 4.2.2 |
| DNA/Protein Synthesis | 8 | 1.1.3, 3.1.1, 3.1.2, 3.1.3, 4.1.2 |
| Biotechnology | 4 | 3.3.1, 3.3.2, 3.3.3 |
| Meiosis | 3 | 3.2.1 |
| Genetics | 4 | 3.2.2 |
| Non-Mendelian Genetics | 4 | 3.2.2 |
| Human Genetics | 4 | 3.2.2, 3.2.3 |
| Evolution | 8 | 3.4.1, 3.4.2, 3.4.3 |
| Classification | 3 | 3.5.1, 3.5.2 |
| Living Organisms | 3 | 1.2.3, 2.1.2 |
| Ecology | 8 | 2.1.1, 2.1.3, 2.1.4 |
| Human Impact | 2 | 2.2.1 |

The midterm assessment will cover approximately the following units: scientific method/STERNGRR; biochemistry; cell structure, microscopy, and reproduction; cell physiology; and DNA structure and replication. The EOC is a cumulative assessment covering all of the above units. Each unit will be assessed formally and informally. Formal assessments include quizzes and tests; informal assessments include lab work and class work.

**V. Assessment**

Assessments for Honors Biology will be given in the form of tests and quizzes. Students should expect to take three to four tests per quarter. Quizzes will be given at the discretion of the teacher. Tests and quizzes will be graded on a point scale. Tests will range from 50-100 points, while quizzes will be no more than 30 points. Assessments will count for 70% of the student’s final grade. Study guides may be given for most tests; but, students should also spend time looking back over at notes from the unit, labs completed within the unit, and class work. Students should expect tests which assess concept mastery, as opposed to fact memorization. A midterm exam and a final exam will be given for the course. The midterm will be taken midway through the course, and will count towards the student’s quarter grade. A state-mandated End-of-Course test will be given at the end of the semester. This will be the final exam for students, and will count for 20% of their final grade.

**VI. General Information**

Powerschool Parent Portal: I will be updating grades regularly, however, it will not be accurate for those assignments that might have been submitted late.

Website: **Students will be expected to print out information from my website on occasion**. All test dates and homework information can be accessed through my website at [www.fairweatherbiology.weebly.com](http://www.fairweatherbiology.weebly.com).

Attendance: Since we are on the block schedule, it is imperative to practice good attendance. If you are absent, please see me within five days of your absence. You may ask your classmates for any missed notes. Because test dates are given at least a week prior to the assessment, all students present in the class will be assessed regardless of absences the day before a test. Any missed quizzes or tests with need to be made up either before or after school.

Tutoring: Tutoring will be available from 2:15-3 on Monday, Tuesday, and Thursday or by appointment. I am also present each morning at 6:30.

Tardies: Tardies will be handled according to the Providence policy.

Grades: Grades will be based on tests, quizzes, homework, class work, and lab work. There will be a state mandated End of Course Test in all biology classes. You can prepare for this exam by accurately completing and reviewing assignments regularly.

Notebook: Your notebook will be a crucial aspect of your course work and grade. You will be required to keep your papers ALL YEAR! Notebooks will be collected at the end of the semester and will not be returned until twelfth grade.

Homework: Homework will be assigned nearly EVERY NIGHT—please see the class website where homework is posted. It is absolutely necessary that you complete and regularly review your homework. Full credit is awarded with ten points, half credit will be awarded to work turned in one day late.

Classwork: Classwork includes lab work, projects and in-class assignments.

Agenda: Each of you will be responsible for purchasing an agenda. All homework is expected to be recorded daily. Planners are also your hall passes and exit of the room will not be permitted without them.

Grading Scale: Tests and Quizzes 70%

Assignments 30%

**VII. Classroom Expectations**

All classroom expectations and consequences will be implemented according to the Providence Handbook.

Expectations:

1. Be prepared with notebook, pencil, pen and planner each day.
2. Be in your seat and completing the warm-up as class starts
3. Be sure that you have printed off any info from the webpage—if instructed.
4. Respect the teacher, fellow classmates and school property while following all aspects of the Rights and Responsibilities Handbook. This includes keeping your desk and lab area CLEAN!

Our overview of Biology will include notes, discussions, lab work, and classwork. I feel that learning is benefited when we are able to apply our knowledge to everyday occurrences and to the real world. I look forward to working with you and your child this year. Please feel free to contact me at any time through my email, [eb.fairweather@cms.k12.nc.us](mailto:eb.fairweather@cms.k12.nc.us).

Sincerely,

Elizabeth Fairweather, M.Ed., NBCT