# Mr. Nobbe’s Syllabus: Biology

**Overview:**

Welcome to the wonderful and exciting world of scientific exploration. We will be investigating several big ideas in biology. You will discover the commonality and differentiation of life on earth. You will explore how traits are inherited, evolve, mutate, and affect other species around them. You will see the interconnectedness of all life, from a microscopic bacteria cell to multicellular blue whale, and much more. This class is an advanced high school class and it is expected that all students enrolled will diligently study and take the extra steps to perform their best to maintain an A to B average in class.

| **1st semester:**  1st 9 weeks:   * Biomolecules * Enzymes * Cells   2nd 9 weeks:   * Cell respiration and photosynthesis * Mitosis and Meiosis * Protein synthesis | 2nd semester:  3rd 9 weeks:   * Mutations * Mendelian Genetics and Punnett squares * Modern genetics: beyond Mendel   4th 9 weeks:   * Evolution * Ecology * Biotechnology |
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**Textbook:**

Biology Textbook Savvas

**Warrior Way:**

**Be present:**

* Please be in the classroom door when the tardy bell starts to ring.

**Be Pro-Active:**

* Ask questions, raise your hand, participate, and don’t be afraid to ask for help.

**Be respectful:**

* Respect other students and their personal space
* Refrain from interrupting others, talking out of turn, spraying unwanted perfume and deodorizers in the classroom, writing notes, dropping books, making fun of others, or making noises
* Use school appropriate language and gestures
* Stay in your seat unless you have permission from the teacher to get up
* Always treat others the way you want to be treated
* Get to know each other and strive to work together

**Be responsible:**

* Bring all materials to class (textbooks, writing utensil, science notebook and binder, highlighter, and erasers).
* Write down agenda and due dates of assignments
* Turn in all work on time, study for tests and quizzes, ask for help and stay for tutoring if you don’t understand, and let the teacher know if there is a problem
* Take responsibility for your actions, good and bad.

**Be positive:**

* Always look for ways to be better, productive, helpful, and studious.

**Behavior consequences:**

Please refer to your student handbook for all expectations:

On the third log of breaking the rules, or not following any of the expectations, a phone call home or email will occur. This includes tardiness, late work, poor grades, and attitude as well.

**Grading:**

1. **Redo’s:**
   1. At teacher discretion
   2. Student has to show sincere effort(completing assigned work) in preparing for the assessment
   3. The original test score will be averaged with the retake, and that score then replaces the original.
   4. In order to retake, students will need to do corrections, get extra help through FIT or homeroom and be prepared to do better
   5. Retakes will need to be redone in a timely fashion
2. **Late work:**
   1. **Is not accepted**
   2. The teacher reserves the right to make exceptions based on individual student circumstances
3. **Absences:**
   1. All assignments missed during an absence must be made up
   2. Assignments that are due the day you missed will be due the next class period you attend
   3. If work was assigned while you were absent you will have as many class periods as you missed to turn in your work
   4. If you need to leave school early before this period it is your responsibility to get all assignments before you leave.
4. **Extra credit:**
   1. Will not be offered
5. **Assessment Weights:**

| **Minor: 30%** | **Major: 60%** |
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| * Vocab quiz * Exit tickets * Graphic organizers * Below/Approaching Proficiency Quiz * Quizzes * In-class projects/Models   + Ex: Biomolecules   + Ex: Meiosis and Mitosis Models * Lab/Activities not involving full lab report * In class group work * Online Models   + Ex: Cell membrane model | * Unit Tests * Lab Reports * Major Projects:   + Ex. 3D-Cell model * Research Reports * Presentations * Summative Assessment |

1. **Grading scale:**

A 92.5-100

A- 92.4-90

B+ 89.5-86.5

B 86.49-82.5

B- 82.49-79.5

C+ 79.49-76.5

C 76.49-72.5

C- 72.49-69.5

D+ 69.49-66.5

D 66.49-62.5

D- 62.49-59.5

F 59.49 and under

1. Grades can be accessed by going to CPMS web page

**Biology EL Weights:**

| 2023-2024 Semester 1Biology: Essential Learning Concepts | | | |
| --- | --- | --- | --- |
| **EL** | **Weight** | **Standards** | **Description** |
| **1** | 18% | LST.7.1, LST.7.2, LST.7.3 | **Experimental Design:**  Students will be able to conduct and interpret the results from a valid experiment. |
| **2** | 18% | HS-LS1.6, HS-LS1.3 | **Biomolecules:** Students will be able to compare and contrast the shape and function of the essential biomolecules (carbohydrates, lipids, proteins, and nucleic acids). Students will be able to determine how the shape of an enzyme determines its function. |
| **3** | 18% | HS-LS1-3, HS-LS1-2 | **Cell Structure and Transport:** Students will be able to distinguish the role of different organelles in a eukaryotic or prokaryotic cell and will relate them to their overall function in the cell.Student will be able to relate the structure of the cell membrane and recognize how that structure allows different substances to move across the membrane with or without energy. |
| **4** | 18% | HS-LS1-7, HS-LS1-5,  HS-LS1-3, HS-LS2-5 | **Cell Energy:** Students will be able to illustrate how photosynthesis and cellular respiration form a cycle (one process uses the products of the other). |
| **5** | 18% | Hs-LS1-3, HS LS1-1 | **DNA and Protein Synthesis:** Students will be able to model DNA structure and explain the purpose of DNA replication. Students will model the processes of transcription and translation and explain the importance of each process in the production of proteins. |

| 2023-2024 Semester 2Biology: Essential Learning Concepts | | | |
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| **EL** | **Weight** | **Standards** | **Description** |
| **5** | 18% | LST.7.1, LST.7.2, LST.7.3 | **Experimental Design:**  Students will be able to conduct and interpret the results from a valid experiment. |
| **6** | 18% | HS-LS3-1  HS-LS3-2  HS-LS3-3  HS-LS1-4 | **Cell Division:** Students will differentiate between the overall processes of mitosis and meiosis and their products. |
| **7** | 18% | HS-LS3-3, LS3-2, LS3-1 | **Genetics:** Students will be able to predict possible outcomes based on observed patterns of heredity. |
| **8** | 18% | HS-LS4-1, HS-LS4-2,  HS-LS4-3  HS-LS4-4  HS-LS4-5  HS-LS2-8 | **Evolution:** Students will communicate scientific information that common ancestry and biological evolution are supported by multiple lines of evidence. Students will evaluate evidence to explain the role of natural selection as an evolutionary mechanism that leads to the adaptation of species. |
| **9** | 18% | HS-LS2-1  HS-LS2-2  HS-LS 2-3  HS-LS2-4  HS-LS2-6  HS-LS2-7  HS-LS4-6 | **Ecology:** Students will analyze the factors that affect populations and their interdependence on each other. Students will demonstrate how energy flows through an ecosystem. Students will analyze how human activities can affect the biodiversity in an ecosystem. |

**Supplies**

| **Supplies Needed by Monday August 3rd:**   1. Mechanical pencils or pens 2. Science three ring binder 2 inch or 3 inch wide 3. Science notebook or binder paper    1. Must attach to binder can be wide rule or college rule    2. **1 needed each semester** 4. 4 dividers for binder 5. Highlighter 6. Glue sticks, tape, color pencils or markers 7. scissors 8. ruler 9. Calculator 10. **Earbuds** | **Supplies form each period:**     * 7th period: 1-2 boxes of tissue, Dry erase markers * 8th period: 1-2 boxes of tissue, Dry erase markers |
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**Contact information:**

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