INTELLECTUAL VIRTUES
ACADEMY

2020-2021
Biology Syllabus
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Course Description

Biology is the study of living things with the use of observation, experimentation, and interactive class experiences that will broaden the students' appreciation for the world they live in. In this class, students will be expected to engage in a variety of hands-on activities designed to not only help them learn the class material, but to also help them develop critical thinking skills along with their intellectual character. Students will be diving into a variety of topics that will help them understand the way the world works and their place in it. These topics range from discussions about DNA and genetics to ecology and evolution. A main focus in this class will be for students to better learn how to analyze data and draw logical conclusions from specific evidence.

"Never mistake activity for achievement." **– John Wooden**

Intellectual Virtues and Biology

In this class, curiosity will be greatly encouraged. Students will be given opportunities to develop curiosity about the world around them by, in some cases, simply asking "Why?" Science is all about trying to better understand, and the way we better understand is by observing, asking questions, and developing procedures to try to answer these questions. Another major component of science is being ok with being wrong. When your data doesn't support your hypothesis, it is important to remember that this in and of itself, is not a bad thing. Being wrong simply allows us to reassess, develop a new hypothesis, and try again. Through this process, we can try to better answer the questions we ask, which leads to discovery.

"Failure is not fatal, but failure to change might be." **– John Wooden**

Units of Study

Schoolwide Essential Question: "Who Am I? Who Are We?" (9th)			
Enduring Understanding: As a scientist, you will use critical thinking and collaboration to create innovative solutions to problems affecting our community and world.			
Unit/Theme & Timeline	**Driving Questions**	**Benchmarks of Understanding**	**Project/Formative Assessments**
Intro to Biology	Why is it important to learn science? How have humans impacted the environment?	Observations vs Inferences; Scientific Method; Implicit Bias; Human Impacts	Scientific Racism Project; Human Impacts Project
Chemistry and the Importance of Water	What makes you at the most basic level? What do atoms and molecules have to do with the human body? Why is water so important to survival?	Chemical Bonds; Physical/Chemical Properties of Water	Properties of Water Lab; Water on Mars Project; Irrigation Project
Oxygen, Carbon Dioxide, and the Atmosphere	What makes life possible? Why are biochemical processes and reactions necessary for the function of the human body?	Photosynthesis and Cellular Respiration	Changing the Martian Atmosphere Project; Photosynthesis Lab; Mars Agricultural Project
Demographics and Genetics	How are traits passed down through generations? How can changing gene pools affect the traits of future generations?	Heredity; Predicting Genetic Outcomes; Population Genetics	Make a Baby Lab; Mars Demographics Project; Future Martian Society Project
Evolution: Human and Otherwise	What did Darwin say? What is the evidence? How do species evolve?	Darwin and Natural Selection; Evidence for Evolution; Mechanisms of Evolution	Evidence for Evolution Research Project; Martian Evolution Project
Martian Ecology	How will colonizing Mars change the Martian ecosystem? How can we prevent making the same mistakes on Mars as we did on Earth?	Biotic/Abiotic Factors; Limiting Factors; Species Interactions	Martian Ecosystem Project

"It's what you learn after you know it all that counts."**– John Wooden**

Grade Weights:

Labs/Projects - 60%

Engagement - 10%

Notebook Checks - 10%

Semester Final Project - 20%

“Don’t measure yourself by what you have accomplished, but by what you should have accomplished with your ability.” **– John Wooden**

Projects/Performance Assessment:

Students can expect that each unit will consist of at least one major lab/project and various smaller assignments. The labs and projects will be designed to help students look at the material in a different way as well as develop their written and verbal communication skills. Students will often be asked to think outside the box and dive deeper into the hows and whys of the material through these labs and projects. Students will be allowed to redo projects/labs for a partial increase in their grade.

“Success comes from knowing that you did your best to become the best that you are capable of becoming.” **– John Wooden**

In-class learning:

Learning in this class will consist of a variety of different strategies including readings, thinking routines, labs, activities, videos, discussions, presentations, and more. Students are expected to be engaged in all learning activities and to stay on task. Everything that is done in class is designed for students to take ownership of their education and to help them interact with the material in a variety of ways.

“Do not let what you cannot do interfere with what you can do.” **– John Wooden**

Home Thinking:

While most of the learning will go on in class, there will be times when students will be expected to continue that learning outside of class. Home thinking will consist of specific assignments meant to help extend and reinforce the material being covered in class and may also consist of continuing assignments and activities that began during class time but were not finished.

“Just try to be the best you can be; never cease trying to be the best you can be. That’s in your power.” **– John Wooden**

Materials

The following materials are recommended:
-Unruled Composition Notebook
-Pencils, pens, paper, and erasers
-Colored pencils/crayons/markers

"Be prepared and be honest." **– John Wooden**

Academic Integrity

Cheating or plagiarism takes place when a student turns in the work of another while presenting it as his or her own. Tests in class or out of class must be the student's own work, unless students are instructed otherwise by their teacher. Copying or allowing someone to copy during tests constitutes cheating and will result in a failure on that test for the student(s) involved. A student plagiarizes when they submit work as their own that is taken from other sources without naming that source. This can occur if a student copies all or part of a paper directly from another student, a book, or internet. If it is determined a student plagiarized a piece of work, the student will receive no credit for the work. The incident will also be reported to administration for disciplinary action.

Students are encouraged to ask teachers ahead of time whenever they have questions regarding plagiarism. Each teacher has a cheating/plagiarism policy that is communicated to students at the start of the year. In general, after a first offense, the teacher will inform the advisor and Director and a conference will take place. If the action occurs more than once, the student(s) will be referred directly to the Director for more severe consequences.

Instructional Policies:

For a full list of the Academy policies, please see the handbook or our website. In addition to the school policies, this class includes the following additional policy:

- Each class period will start at the tardy bell. You must be in the classroom when the tardy bell rings or you will be marked tardy.
- Once the tardy bell has rung, please take your seat and get out the materials that you will need for the day. The list of materials will be up on the board. If there is homework due, please hand it in to the designated area before doing anything else. Remember, if homework is not handed in before class starts, it is considered late.
- **BE RESPECTFUL!** Respect your classmates, your teacher, and yourselves. If you use this general rule as a guide, you will be very successful in my class. This means not talking while others are talking, raising your hand before you speak, and being prepared.
- If you have any questions that are not answered during class, feel free to talk to me after class or send me an email. I check my email frequently but will stop checking it by 7:00pm so please email me before then if you expect a response that day.

- Do not pack up to leave until you are dismissed. Some days we may end early and some days we may end late. If you start packing up to leave before you are dismissed, you will be the last to leave the class.
- **1, 2, 3 Policy** You will receive two warnings (verbal or nonverbal) for behavior that disrespectful. This includes but is not limited to talking out of turn, being off task, being unprepared, and being defiant. If the behavior isn't changed after the second warning, a specific intervention will be employed. This process will repeat before the student is given a referral.
- **Laptop Use Policy:** Laptops are to be used as directed. Misuse of laptops, such as playing games, social media, web browsing, etc will result in the following consequences: 1st offense = verbal warning. 2nd offense = student must use paper for note-taking for the remainder of the day. 3rd offense = student must use paper for note-taking for the remainder of the chapter.

"Be more concerned with your character than your reputation, because your character is what you really are, while your reputation is merely what others think you are." **– John Wooden**

Communication:

I will try to make myself as available as possible. If you need to get in touch with me, please send me an email at joseph.garcia@academylongbeach.org. I will be sure to respond within 24 hours of receiving your email. You can also email me to set up a phone conversation or a face-to-face meeting.

"It takes time to create excellence. If it could be done quickly, more people would do it." **– John Wooden**

The Academy

Biology Syllabus

I have read the Biology and understand it to the best of my ability. I agree to abide by these guidelines.

STUDENT NAME:_____ **DATE:**_____

PARENT/GUARDIAN:_____ **DATE:**_____