

Reynolds High School

Building Relationships for Academic Success

Biology 2023-2024

Instructor: Seth Needler Phone: 503-667-3186 x1121 Room Number: 103 Email: sneedler@rsd7.net

Credit: 1.0 Science Credit (0.5 per Semester)

Required Textbooks/Materials: Notebook, pencil, Chromebook

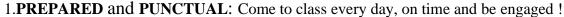
Textbook: What is Life? A Guide to Biology (2010) by Jay Phelan.

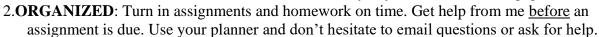
Course Description:

This course is an introduction to and survey of Biology. Topics to be covered are outlined on the following page. The objectives of this course is to provide a solid background in the fundamentals of Biology, while simultaneously enhancing students' laboratory, critical thinking, and vocabulary skills.



Class Expectations (i.e. POWER):





3. **WRITE**: Listen and speak to others, but do your own best work. <u>Copied work will not receive</u> credit.



4.**ENGAGED**: Pay attention. Participate in discussion, whether in small groups or the entire class. Share your opinion, ask questions. Be present!



5.**RESPECT**: Show respect to everyone. Be respectful of others' opinions and perspectives. Allow others to share, but also be generous about sharing your own ideas and insights.

<u>Cell Phones:</u> Cell phones and other electronic devices, including headphones or airpods, must be off and away during class. Cell phones can only be used with permission. <u>Cell phone use during direct instruction is not allowed.</u>

Grading System

Grades will be reported using a traditional A - F grading system, as follows:

A 90 - 100% **B** 80 - 89% **C** 70 - 79% **D** 60 - 69% **F** < 60%

<u>Formative Assessments:</u> Classwork/ Homework (30%): Includes daily assignments, labs, projects

<u>Summative Assessments:</u> Tests/Quizzes/Finals (70%): includes quizzes, unit tests, and Final Exam.

Late Work Policy:

Turning work in on time is highly recommended and is in your best interest. Late work will be accepted <u>up to the end of the unit</u>. If you want to retake a failed test, any late work for the unit must be completed first. Any late work is subject to a point reduction of up to 50% of the grade. If you are quarantined at home during any part of the year, you will be given opportunities to complete any missing work without loss of points.

Course Calendar (*subject to change!)

Unit	Topics	Labs/ Activities/ Projects
What is Life?	Origins of life, characteristics of life,	Cow eye dissection
	classification of living things	Intro to Microscopes lab
		Pond Water lab
		Bacteria inquiry lab
Cells	Structure and function of eukaryotic	Cell type projects
	cells	Cells Eukar About
	Cell organelles	Cell comparison lab
		Cell pod project
Cell Cycle and	Mitosis, cell cycle, Cancer	Onion cell mitosis lab
Cancer		Henrietta Lacks video &
		reading
Nervous System	Homeostasis, feedback loops, diffusion	Daphnia inquiry lab
-	and osmosis	Taste test lab
		Eggsperiment
		Osmosis mini-labs
DNA and Gene	DNA structure and function, Protein	DNA extraction lab
Expression	synthesis, mutation, genetic engineering	DNA models
		DNA secret message
		Rice Crispy treats protein lab
Genetics	Mendelian genetics, Punnett squares,	Reebop Lab
	modern genetics, pedigrees	Blood Typing Lab
		Gattaca
Evolution	Evidence for evolution, Theory of	Skull-a-Palooza
	Natural Selection	Horse Fossil Lab
		Geologic Timeline activity
		Comparative Anatomy lab
		Frog dissection
Ecology & Cell	Ecosystems, trophic pyramids,	Eco-Walk
Energy	movement of energy, carbon cycle	Gorge field trip
	Photosynthesis, Cellular Respiration	Yeast lab

Students! Please detach and turn in this page for credit. You may keep the front page for your reference.

Parent Contact Information Please provide the information below so that we can contact you if needed. 1. Student Name (print) _____ 2. Student email (print) _____ 3. Parent Name (print) _____ 4. Parent email (print) 5. Please choose one of the following two options: I can be reached during normal business hours at this telephone number: I can be reached from _____(a.m./p.m.) until _____ (a.m./p.m) at this number: ()_____. 6. Are you available/interested in helping with a field trip as a chaperone? Yes/no____ 7. Where can the student access the Internet? Home ? School ? Other I have read and I understand the attached course syllabus and student expectations. (Student Signature) (Parent Signature)

Please turn this page over, read the safety rules and sign the agreement.

Thanks

date

Please turn this page over to sign the Lab Safety Contract

date

RHS Science Department - Laboratory Safety Agreement I,		
follow	Student Name ving safety rules whenever working in the science laboratories.	
T	\dot{r} ill:	
1 w 1.	Use the science laboratory for authorized work only.	
2.	Remove contact lenses and wear safety goggles when instructed.	
3.	Study the laboratory investigation before coming to class, if possible. (If in doubt about any procedure, I will ask the teacher.)	
4.	Know how to use safety equipment and the location of the eyewash station, safety shower and fire blanket.	
5.	In case of fire, alert the teacher and leave the laboratory.	
6.	Carefully check for the presence of ignition sources (open flames, etc.) before using flammable materials such as alcohol.	
7.	Report any accident, injury, spill, unsafe procedure or broken glass to the teacher at once.	
8.	Never taste, touch or smell any substance unless specifically directed by the teacher to do so.	
9.	Handle chemicals carefully, check the label of every bottle or jar before removing the contents, and <u>never return chemicals to reagent containers.</u>	
10.	When heating a substance in a test tube, point the mouth of the tube away from all persons.	
11.	Use proper equipment to handle hot glassware.	
12.	Tie back long hair, remove dangling jewelry, roll up loose sleeves, and tuck in loose clothing.	
13.	At the end of the lab, clean the work area, wash and store all materials and equipment, and turn off all water, gas, and electrical appliances.	
	We have read the laboratory safety agreement, the course syllabus, and acknowledge the content.	

(Parent Signature)

date

(Student Signature)

date