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):

1. **PREPARED** and **PUNCTUAL**: Come to class every day, on time and be engaged !
2. **ORGANIZED**: Turn in assignments and homework on time. Get help from me before an assignment is due. Use your planner and don't hesitate to email questions or ask for help.

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

Cell Phones: 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. **Cell phone use during direct instruction is not allowed.**

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%

Formative Assessments: Classwork/ Homework (30%): Includes daily assignments, labs, projects
Summative Assessments: 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 up to the end of the unit. 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, classification of living things	Cow eye dissection Intro to Microscopes lab Pond Water lab Bacteria inquiry lab
Cells	Structure and function of eukaryotic cells Cell organelles	Cell type projects Cells Eukar About Cell comparison lab Cell pod project
Cell Cycle and Cancer	Mitosis, cell cycle, Cancer	Onion cell mitosis lab Henrietta Lacks video & reading
Nervous System	Homeostasis, feedback loops, diffusion and osmosis	*Daphnia* inquiry lab Taste test lab Eggsperiment Osmosis mini-labs
DNA and Gene Expression	DNA structure and function, Protein synthesis, mutation, genetic engineering	DNA extraction lab DNA models DNA secret message Rice Crispy treats protein lab
Genetics	Mendelian genetics, Punnett squares, modern genetics, pedigrees	Reebop Lab Blood Typing Lab *Gattaca*
Evolution	Evidence for evolution, Theory of Natural Selection	Skull-a-Palooza Horse Fossil Lab Geologic Timeline activity Comparative Anatomy lab Frog dissection
Ecology & Cell Energy	Ecosystems, trophic pyramids, movement of energy, carbon cycle Photosynthesis, Cellular Respiration	Eco-Walk Gorge field trip 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)

_____ _____

date date

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

Thanks

Please turn this page over to sign the Lab Safety Contract

RHS Science Department - Laboratory Safety Agreement

I, _____ agree to abide by the
Student Name
following safety rules whenever working in the science laboratories.

I will:

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.

_____ _____

(Student Signature) (Parent Signature)

_____ _____

date date