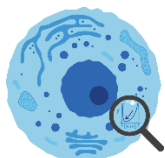


# Biology 2023-2024 Syllabus

In this course, students will conduct laboratory and field investigations, use scientific practices during investigations, and make informed decisions using critical thinking and scientific problem solving. Students will study a variety of topics that include: structures and functions of cells and viruses; growth and development of organisms; cells, tissues, and organs; nucleic acids and genetics; biological evolution; taxonomy; metabolism and energy transfers in living organisms; living systems; homeostasis; and ecosystems and the environment. **The STAAR end-of-course (EOC) assessment will be given for Biology in April 2024.** Link to [McNeil HS 23-24 A/B & Flex Calendar](#)

## Course Overview and Teacher Contact Information



### Cellular Processes

This unit focuses on the molecular basis of life including organic compounds, cellular components, and maintenance of homeostasis. Students will study the role of enzymes and how they regulate all life processes. Students will investigate and explain energy conversions including photosynthesis and cellular respiration.



### DNA Interactions

The purpose of this unit is to explore how DNA is the heritable source of information which allows for the expression of genes into proteins. Topics of study will include DNA replication, cell cycle, meiosis, protein synthesis, and genetics. Students may also investigate and analyze gel electrophoresis.



### Evolution and Biodiversity

The purpose of this unit is to examine mechanisms that drive evolution and biodiversity. Students will use bioinformatics to study evolutionary relationships and create cladograms. They will also calculate allele frequencies to determine if populations are evolving. Students will explore how organisms respond to stimuli.



### Form and Function

The focus of this unit is to understand how systems interact to maintain homeostasis. Topics will include osmoregulation, hormonal control, immunity, communication, and transport in animals and plants. Students will investigate the factors affecting plant transpiration.

## Teacher Contact Information

Teacher	Email	Room(s)
Mr. David Berry	david_berry@roundrockisd.org	F105
Ms. Lauren Griffith	lauren_griffith@roundrockisd.org	F205
Ms. Marinda Katz	marinda_katz@roundrockisd.org	F208
Ms. Shannon Patrick	shannon_patrick@roundrockisd.org	F104
Ms. Erin Martin	erin_martin2@roundrockisd.org	F213
Mr. Alfred Kapa	alfred_kapa@roundrockisd.org	F206

## Textbook & Reference Resources

\*CK-12 *Biology for High School*

CK-12 FlexBooks 2.0

Online textbook

<https://flexbooks.ck12.org/cbook/ck-12-biology-flexbook-2.0/>

\*CK-12 *Biology Advanced Concepts*

CK-12 FlexBooks 2.0

Online textbook

<https://www.ck12.org/book/ck-12-biology-advanced-concepts/>



\*NOTE: CK12 textbooks require written parental permission for students under the age of 13.

## Expectations and Guidelines

### Electronic Devices and Technology Resources

The possession and use of personal electronic devices within the classroom is determined by district policy. If a student uses a personal electronic device without prior approval or for non-instructional purposes during the school day, the device may be confiscated. Students must have a signed user agreement with the applicable rules for use on file with the district.

### **Classroom and Online Expectations**

Every student has the right to an education. The Student Code of Conduct handbook (<https://roundrockisd.org/parents/student-parent-handbooks/>) states certain behaviors and defines standards of acceptable behavior and consequences for violation of these standards. The Schoology Code of Conduct will supplement expectations for the online learning environment. The following minimal rules are established and necessary in order to ensure a good learning environment.

- **Do not impede the learning of yourself or others.**
- **Be respectful of yourself and others.**
- **Be prepared. Bring all the necessary supplies to class.**
- **Be courteous and use appropriate language at all times.**
- **Be on time to class, excessive tardiness will result in parent contact and a possible referral.**

### **Biology Labs and Simulations**

This course requires that 40% of the instructional time be spent in laboratory simulations and hands-on laboratory work, with an emphasis on inquiry-based investigations that provide students with opportunities to demonstrate the foundational biological principles and apply science practices. Students will identify questions they want to answer, design experiments to test hypotheses, conduct investigations, analyze data, and communicate their results. Due to the complexity and uncertainty of labs/supplies, it will not be possible to make up some labs. If you are absent, alternative data may be supplied for use in completing a lab write up. You will still be responsible for the concepts. In order to participate in lab activities, students and parents must review the [Lab Safety Contract](#).

### **Science Department Grading Categories**

40% Summative assignments (Assessments & Major Projects): Unit tests will be administered in the style of the unit Study Guide and typically include multiple choice objective questions, and 1-3 essays/free-response questions.

60% Formative assignments (Quizzes, Labs, and Minor projects, Class/Online Daily work): Students will complete laboratory investigations, quizzes, and minor projects to display mastery of course topics. Learning Checks may be given after each major concept covered in lectures, assigned reading, and presentations. Frequent learning checks and daily assignments are designed to encourage learning at a regular pace and to discourage cramming.

### Science Department Late and Missed Work

If a deadline is missed due to an absence, the student is expected to submit makeup work the next day the student is in attendance (this includes tests, quizzes and daily assignments). Students who are absent for instruction or activities will have one week to make up missed instruction or activities. Students who are absent for 3 or more consecutive days are encouraged to reach out to their teacher to create a plan to make-up missing instruction and assignments. All quiz and test make-ups due to absences are by appointment with your teacher, during Flex or during regularly scheduled tutoring hours.

If a student fails to meet a submission deadline, the student may submit the work to show mastery in a timely manner by no later than the end of the grading period for a maximum grade of 75. A student who does not make up assigned work may receive a grade of zero for the assignment.

### Retesting and Failing Scores

Students can improve any score below a 75 received for an assignment or assessment. Assignments must be resubmitted in a timely manner by no later than the end of the grading period.

Any student who receives a test score of less than 75 has the opportunity to complete an alternative retest assignment. This alternative retest assignment will consist of different questions, using the same unit content. The accuracy grade for the alternative retest assignment will replace the unsuccessful test score, not to exceed a score of 75.

### Honor Code

Students are expected to demonstrate honesty and integrity. Copying work is cheating, and zero credit will be given for plagiarized work. Students and parents must review the consequences for violating this district policy, found in the [Student Code of Conduct](#) and the [McNeil HS Academic Honor Code](#)

### Tutorial Schedule

The instructors are available to clarify information and misconceptions during tutorials and flex time. Students should come prepared with all materials and specific questions or problems to be answered. When in doubt, ask questions during class time.

	Monday	Tuesday	Wednesday	Thursday	Friday
8:30 - 9:00 a.m.		Ms. Martin F213	Ms. Katz F208	Mr. Berry F105	Ms. Katz F208
4:25 - 4:55 p.m.	Mr. Kapa F206	Ms. Griffith F205	Ms. Patrick F104	Mr. Berry F105	By Appointment