

Course Description

This course provides a solid foundation in biology. The major themes are: living systems change through time; living systems interact with their environment and depend on other systems; living systems are related to members of other generations by genetic material passed along during reproduction; growth of an individual conforms to a well-defined pattern of differentiation controlled by the organism's genetic makeup; living systems are complex and highly organized, and they require matter and energy to maintain this organization; and living systems maintain a relatively stable internal environment through their regulatory mechanisms and behavior.

As a science course, biology will involve laboratory experiences and notes/discussion with the aim that students understand the concepts. While biology vocabulary is extensive, it must be learned within the conceptual framework; memorization of definitions is not sufficient for success.

Time management is an important key to success in this class. Students will receive an assignment sheet at the start of each week. This sheet will list the nightly homework expectations. Homework will include:

- reading and answering relevant study questions
- pre-reading instructions for a lab
- making sure the lab notebook is complete after an investigation is finished in class
- writing lab reports (PHABs)
- studying for quizzes and tests

Quizzes will be cumulative from the start of the unit, and thus may include material from more than one chapter. Tests will be given on two to three chapters of material, depending on the unit.

Syllabus (*subject to change*)

Week	Major Topics
1	The Science of Biology
2	The Chemistry of Life
3	The Chemistry of Life
4	Unit Test ; Energy and Life
5	Energy and Life
6	Exchange of Materials
7	Exchange of Materials; Unit Test
8	Autotrophy
9	Autotrophy; Cellular Respiration
10	Cellular Respiration; Unit Test
11	Cell Structure and Function
12	Transport Systems
13	Transport Systems; Unit Test
14	The Cell Cycle
15	Protein Synthesis
16	Protein Synthesis; Unit Test
(semester break)	
17	Animal Development
18	Plant Growth and Development
19	Unit Test ; Reproduction
20	Reproduction

21	Introduction to Genetics
22	Introduction to Genetics; Unit Test
23	Modern Genetics
24	Modern Genetics
25	Population Genetics; Unit Test
26	Origin of Life
27	Ordering Diversity
28	Speciation; Unit Test
29	Nervous Systems
30	Nervous Systems; Behavior
31	Behavior; Immunity
32	Immunity; Unit Test
33	Ecology
34	Ecology; Unit Test ; The Invertebrate Animal
35	The Vertebrate Animal

Grading

A major test at the end of each unit asks students to recall factual information learned and to demonstrate their understanding of the concepts. Students should expect to study for tests primarily by reviewing their class notes and answers to study questions. (40% of term grade)

A quiz is given at least twice within each unit. The quiz will focus on concepts discussed in class and the related vocabulary. Quizzes are cumulative for the unit. (15% of term grade)

The lab notebook, collected at least once per quarter, is primarily graded for organization and completeness. Students should check their notebook for completeness after finishing each lab activity. (5 – 10% of term grade)

Lab reports, usually PHABs, are written for most lab investigations. A separate handout explains the format and grading of a PHAB. (20% of term grade)

A homework assignment sheet is given to students at the start of every week. On a night when textbook reading is assigned, the student is expected to take some basic (not detailed) notes in addition to writing answers to several questions about the reading. Any written assignment is expected to be handed in at the start of class on the day on which it is due. The overall homework grade (calculated at the end of each quarter) considers whether or not written assignments were handed in as well as quality and correctness. Major (long term) assignments count for significantly more points than do one-night assignments; such assignments are infrequent and are announced well in advance. The student also receives a grade for class participation. This reflects the student's constructive contributions to class discussions, willingness to ask and answer questions, attentiveness, and conduct during class and lab. (15 – 20% of term grade)

Each student and his/her parent or guardian is to sign this course description sheet, acknowledging having read it. The return of this signed sheet counts as a homework assignment.

This course syllabus may be viewed on the RCS website through the year.

Student signature

Parent/Guardian signature