

BIOLOGY

San Ramon Valley High School
August 2012 - June 2013

Instructor Name and Contact Information

Instructor Name: Mrs. Dearborn Ramos
Email: dramos@srvhs.org

Website

Schoolloop - All assignments, handouts, projects, and due dates of projects and tests will be posted online

Office Hours

Tuesdays A period or by Appointment

Prerequisites

Completion of Algebra 1, concurrent enrollment in Geometry

Textbook

Prentice Hall Biology – Miller and Levine

San Ramon Valley Unified School District Course Description

(9-12) Biology is a lab-based college prep course that focuses on the major concepts of life science, methods of science, and inquiry-based learning. Students will gain an understanding of many biological concepts including: science process, genetics, biochemistry, cell biology, human physiology, ecology, and evolution. Learning activities include but are not limited to: analysis of scientific text, technical writing, individual and collaborative research, computer based applications, and discussions.

College Requirement Satisfied:

CSU/UC: Section "D"

California Standards Covered in this Course:

Biology follows the California State Science Content Standards for Biology/Life Science. Emphasis in this course is on the skills identified in the Course outline below. A full description of the Standards can be accessed at: <http://www.cde.ca.gov/be/st/ss/documents/sciencstnd.pdf>

Course Outline (Skills Taught):**Investigation and Experimentation**

- Develop meaningful questions and conduct careful investigations.
- Select and use appropriate tools and technology to perform tests, collect data, analyze relationships, and display data.
 - Microscopy, Tools in Biotechnology, Graphing through computer based spreadsheets
- Analyze the experiment in order to identify potential sources of error. Formulate ideas to minimize uncontrolled variables.
- Solve mathematically based problems.
- Investigate a science-based societal issue by researching the literature, analyzing data, and communicating the findings. Apply scientific knowledge to societal issues in order to guide individual decision making.

Scientific Process

- Formulate hypotheses, differentiate between types of variables, distinguish between hypothesis and theory

- Scientific knowledge is distinct from other disciplines. It is based on repeatability, testability, and observable evidence from the physical and natural world. Science constantly evolves as new information emerges.

Biochemistry

- Understand basics of chemistry as they apply to organic molecules and biological processes

Cell Biology

- Differentiate between different types of cells
- Identify and describe structure and function of cell organelles

Genetics

- Nucleic Acids and Protein Synthesis
 - Describe the structure and function of nucleic acids and proteins
 - Understand the flow of information from DNA to RNA to Protein to Trait
 - Articulate sources of genetic variation (mutations, meiosis, sexual reproduction)
- Mendelian Genetics
 - Predict the probable outcome of a genetic cross

Ecology

- Recognize and explain the sequence of how energy flows and matter cycles through the abiotic and biotic components of an ecosystem
- Analyze how stability of an ecosystem is impacted by biodiversity, alteration of habitat, human activity, and changes in population size

Evolution

- Apply genetic principles to demonstrate that populations evolve by natural selection in constantly changing environments
- List several sources of evidence for evolution from various branches of science

Physiology

- Understand that actions of all human body systems work together to promote homeostasis and combat disease

ELA/History/Other Science Tie-In:

- Analyze situations and solve problems that require combining and applying concepts from more than one area of science.
- Using equations and mathematical operations.
- Addressing societal issues as they connect to biological concepts.
- Reading for technical content, central ideas, biases, following multi-step procedures, and decoding words and symbols.
- Support or refute hypotheses based on data and evidence
- Writing structured technical reports
- Using accepted conventions of grammar
- Use technology to gather relevant information from multiple sources and use proper citation techniques to avoid plagiarism

Attendance - Tardies

You are expected to come to class every day on time which means you are in your seats and prepared with material ready when the bell rings. Attendance will affect your participation grade.

Mrs. Ramos Policy

- 1st tardy - Warning
- 2nd tardy - 3 points will be deducted from your participation grade
- 3rd tardy - 3 points will be deducted from your participation grade; you will come in at the beginning of lunch for as many minutes as you were late, write a plan of action describing how you will be on time in the future, and your parent will be notified.

Official School Policy

Three tardies to any one class is considered equivalent to one illegal absence “cut”

Attendance - Illegal Absence “cut”

Definition of a cut: any unexcused absence not cleared by a parent/ guardian, teacher, or coach within 24 hours of missed class.

Mrs. Ramos Policy

Students may not make up work for illegal absence.

Each illegal absence will deduct 5 points from your participation grade

Official School Policy

1st illegal absence "cut": Teacher may assign consequence.

2nd illegal absence: Saturday School.

3rd illegal absence: Possible drop from class with loss of credit.

Absent work

You will be allowed to make up work for **excused absences within two days of the absence.**

Classroom Rules

1. BE SAFE! (Review your lab behavior and safety rules)
2. BE RESPECTFUL AND RESPONSIBLE (Review your classroom etiquette and academic responsibility)
 - **District policy states that harassment in or out of the classroom is not to be tolerated. Harassment based on race, ethnicity, able-bodiedness, sexuality, perceived sexuality, gender, gender expression, monetary standing, religion or faith-base, or any other factor will be reported to the administration and dealt with accordingly. This includes slang such as 'that' s so gay' or 'that' s retarded.' Both are considered hate speech.**
3. Be on time and prepared for class
4. No gum, food or drink
5. No electronics unless instructed otherwise (all cellular devices must be turned off and put away in a backpack upon entering class, failure to do so will result in an AM detention and possible removal from the course without credit).
 - At instructed times we will be working with technology on our cell phone and Ipads. Only at this time will these devices be allowed to be out and in use. Look for the technology icon on the board.
 - **Cell phone/ Electronic Policy** - during inappropriate times
 - 1st offense - 3 points off of participation; taken away and brought to the office for the day
 - 2nd offense - 3 points off of participation; taken away and brought to the office for a day; a detention
 - 3rd offense - 3 points off of participation; taken away and brought to the office for a day; a Saturday School

Methods of Evaluation for Determining Grades

Points will be weighted in the following categories:

- 30% Standard assessments (quizzes, projects, etc.)
- 20% Midterm/Final
- 20% Lab Work
- 25% Homework and Classwork (Binder and notebook checks)
- 5% Participation

Classroom Participation

50 points of classroom participation will be given automatically.

3 points will be lost each time a classroom rule is broken

3 points will be lost each time a student has an unexcused tardy

3 points will be lost each time a cell phone or electronic device is used during the "No Technology Periods"

5 point will be lost for an unexcused absence

Lab clean up

For all lab work, groups will receive **half credit** on reports if lab stations are not left **EXACTLY** as they are found (materials cleaned up and put in appropriate locations, lab manuals stacked in numerical order, etc) and groups will receive **no credit** on reports if any materials are missing

Make Up Work

Late work is accepted up to two weeks after the due date for **half credit**. (Please note: make-up work will not be permitted if work is missed due to an unexcused absence or tardy).

Grades:

<u>Percentages</u>	<u>Letter Grade</u>	<u>Percentages</u>	<u>Letter Grade</u>
93 - 100%	A	73 - 76%	C
90 - 92%	A-	70 - 72%	C-
87 - 89%	B+	67 - 69%	D+
83 - 86%	B	63 - 66%	D
80 - 82%	B-	60 - 62%	D-
77 - 79%	C+	0 - 59%	F

Course Goals

Our class will:

1. Use scientific thinking and processes to solve "real world" problems.
2. Be familiar with the natural world and recognize its diversity and the individual's role in it.
3. Communicate understanding of the connections between the major concepts of science.
4. Take responsibility for individual and social decisions based on scientific understanding.
5. Understand that science, math, and technology are interrelated human activities with inherent strengths and limitations.
6. Successfully complete individual and group problem-solving activities and projects.
7. Pass all of our state standards.

Textbook/ Materials

- Miller and Levine, Biology, 2002
- Supplementary Materials (handouts, labs, etc.)
- Binder with separate sections for handouts, homework and class work, and quizzes and tests.
- Lab notebook (bound) (First one will be provided)
- Pen and pencil
- Highlighters and or colored pens and pencils are recommended
- Calculators may be required for some labs and quizzes, advanced notice will be given.

Lab Donation

A lab donation of **\$40.00** is requested by the 1st week of class; your donation is vital to our ability to keep this a hand-on science course. These funds will purchase lab materials used during this school year. Kindly make checks payable to **SRVHS Science (checks only)**.

We will also accept donations of supplies such as: office supplies, Kleenex and paper towels, and scientific equipment (such as microscopes, balances, and glassware). If you are interested in donating computer equipment please check out the district requirements for donated machines PC or Mac. The district link is: <http://www.srvusd.k12.ca.us/DISTRICT/DEPARTMENTS/Technology/guidelines%5Ffor%5Fdonated%5Fequipment/>

Academic Honesty

Take pride in your work and encourage others to do so as well. Cheating, copying, academic theft or dishonesty and plagiarism, will not be tolerated and will result in a zero for the assignment, lab, or test. Subsequent offenses will lead to removal from the course with a zero and possible suspension or expulsion. No talking is permitted during tests or quizzes, unless it is a partner or group assignment. Note on plagiarism: in the science community we share information and resources with each other, but we always cite our references. Be sure to include citations and reference pages on appropriate projects.