



Reseda High School Police Academy Honor's Biology A/B

Course Description:

The major purpose of this laboratory-based college preparatory course is to provide students with an understanding of the basic biological concepts while integrating *law and law enforcement themes*. The main focus is on active student participation in laboratory investigations and the development of critical thinking skills.

Learning Themes:

Unit 1: Investigation and Experimentation

California Content Standard: I&E. Scientific progress is made by asking meaningful questions and conducting careful investigations. (I&E. a-d, f, g, i-n)

What is science?

How do scientists work?

Tools and Procedures

U.S. Constitution and the Miranda Rights

Unit 2: Chemistry of Life

California Content Standard: 1. The fundamental life processes of plants and animals depend on a variety of chemical reactions that occur in specialized areas of the organism's cell. (1.b,h)

The Nature of Matter

Properties of Water

Carbon Compounds

Drug Enforcement Agency

Chemical Reactions and Enzymes

Unit 3: Cell Structure and Mitosis

California Content Standard: 1. The fundamental life processes of plants and animals depend on a variety of chemical reactions that occur in specialized areas of the organism's cell. (1.a,c,j)

Eukaryotic Cell Structure

Cell Boundaries

Border Patrol

The Diversity of Cellular Life

Cell Growth

Cell Division

Regulating the Cell Cycle

Unit 4: Photosynthesis / Cellular Respiration

California Content Standard: 1. The fundamental life processes of plants and animals depend on a variety of chemical reactions that occur in specialized areas of the organism's cell.(1.f,g,i)

Energy and Life

Photosynthesis: An Overview

The Reactions of Photosynthesis

Chemical Pathways

The Krebs Cycle and Electron Transport

Alcohol, Tobacco and Firearms

Unit 5: DNA and Protein Synthesis

California Content Standard: 1. The fundamental life processes of plants and animals depend on a variety of chemical reactions that occur in specialized areas of the organism's cell.(1.d,e) 4. Genes are a set of instructions encoded in the DNA sequence of each organism that specify the sequences of amino acids in proteins characteristic of that organism. (4.a-f). 5. The genetic composition of cells can be altered by incorporation of exogenous DNA into the cells. (5.a-e)

DNA

Chromosomes and DNA Replication

RNA and Protein Synthesis

Mutations

Gene Regulation

Federal Bureau of Investigation

Unit 6: Meiosis and Genetics

California Content Standard: 2. Mutation and sexual reproduction lead to genetic variation in a population.(2.a-g) 3. A multicellular organism develops from a single zygote, and its phenotype depends on its genotype established at fertilization. (3.a-d)

Gregor Mendel

Probability and Punnett Squares

Women in Law Enforcement

Mendelian Genetics

Meiosis

Linkage and Gene Maps

Human Heredity

Human Chromosomes

Human Molecular Genetics

Unit 7: Evolution

California Content Standard: 7. The frequency of an allele in a gene pool of a population depends on many factors and may be stable or unstable over time. (7.a-f). 8. Evolution is the result of genetic changes that occur in constantly changing environments. (8.a-g)

The Puzzle of Life's Diversity

Evolution of Multicellular Life

Ideas That Shaped Darwin's Thinking

Patterns of Evolution

Darwin Presents His Case

Genes and Variation

Evolution and Genetic Change

Process of Speciation

The Fossil Record

Earth's Early History

Central Intelligence Agency

Unit 8: Ecology

California Content Standard: 6. Stability in an ecosystem is a balance between competing effects. (6.a-g)

What is Ecology?

Biomes

Energy Flow

Drug Trafficking

Cycles of Matter

Aquatic Ecosystems

The Role of Climate

How Populations Grow

What Shapes an Ecosystem?

Human Population Growth

Unit 9: Physiology

California Content Standard: 9. As a result of the coordinated structures and functions of organ systems, the internal environment remains relatively stable despite changes in the outside environment. (9.a-i) 10. Organisms have a variety of mechanisms to combat disease. (10.a-f)

Human Body Systems

Divisions of the Nervous System

The Senses

Drugs and the Nervous System

The Skeletal System

The Muscular System

The Integumentary System

The Circulatory System

The Respiratory System

The Process of Digestion

The Endocrine System
Infectious Disease
The Immune System
Immune System Disorder
The Excretory System

Grading

All assignments are given a points value. Your grade is based on your total number of points as a percentage of the total points possible. Examinations are worth half of your grade. The other half is composed of class-work, homework, labs, and projects. Expect to do your very best!

A ≥ 90%; B ≥ 80%; C ≥ 70%; D ≥ 60%; F < 60%

Attendance, Cooperation and Work Habits

All students are expected to attend class daily. This is a laboratory based class and missed days will result in missed laboratory activities that cannot be made up. Any laboratory or class assignments that are missed due to an excused absence will be made up with a relevant written and oral report and must be completed within three days of returning to school.

Exams must be made up the day you return to school. Missed quizzes will result in a zero with the following quiz counting double. Missing more than two quizzes in a semester will result in a written and oral report on the quiz subject matter for each missed quiz. Quiz make-ups must be turned in within one day of returning to school.

Cooperation and respect are expected at all times. Compliance with laboratory and classroom rules is required. Excellent behavior is an essential part of any law-enforcement preparation.

Assignment Types

*Oral Presentations *Projects *Laboratory Reports *Exams *Quizzes
*Reading *Research Reports *Homework *Written Practice

Homework Policy

Homework is assigned on a regular basis. Expect to have either written or reading homework. Reviewing Biology at least 30 minutes EVERY evening is STRONGLY recommended. Even if you do not have written homework, you will ALWAYS have homework in Biology: reading.

All student work must be done by each individual student. CHEATING of any kind will not be tolerated. Any incidence of cheating will result in parent conferencing, a zero on the assignment (for all students involved) and a “U” in both work habits and cooperation.

Reseda High School ESLRS

In Biology, students do a great deal of work in cooperative learning groups. This type of activity helps students internalize the idea that science involves teamwork and helps students achieve the Reseda High School ESLRS. Graduating students will be:

- *Effective Communicators
- *Critical Thinkers
- *Self-Directed Learners
- *Responsible Citizens
- *Healthy Individuals