

BIOLOGY

TEXT

Biology, Glencoe

PREREQUISITES

None

OBJECTIVES

- Help students develop a better understanding of the life process, how it affects our lives and the role we play in influencing the world around us
- Improve students' processes of inquiry
- Have students handle materials and equipment in a productive manner and to measure, organize and communicate scientific information
- Plan a research topic and meet deadlines
- Design hands-on labs and be able to adjust parameters of an experiment to implement the scientific method
- Encourage attitudes of curiosity, wonder and appreciation of science

CONTENT

- Introduction to the Study of Life
 - Characteristics of Living Organisms
 - Developing a Theory
 - Testing a Theory
- The Cell
 - Chemistry in Biology
 - Cell Structure
 - Cellular Energy
 - Cellular Reproduction
- Genetics
 - Sexual Reproduction and Genetics
 - Inheritance and Heredity
 - Molecular Genetics
- Ecology
 - Principles of Ecology

Communities, Biomes, and Ecosystems
Population Ecology
Biodiversity and Conservation

- Human Body

Integumentary, Muscular, and Skeletal Systems
Nervous System
Circulatory, Respiratory, and Excretory Systems
Digestive and Endocrine Systems
Human Reproduction and Development

- History of Biological Diversity

Formation of Life
Processes of Evolution
Organizing Life's Diversity

- Kingdoms of Life

Eubacteria
Archeabacteria
Eukarya

SKILLS

- Deductive reasoning
- Note taking
- Notebook/Lab book organization/maintenance
- Scientific method/hypothesizing
- Laboratory equipment manipulation/application
- Compare/contrast skills
- Reading comprehension/summarization
- Research paper organization/format

METHODS

This is a lecture/laboratory course. Lecture material is reinforced with "hands on" laboratory experiments. Students engage in class and small group discussions and activities.

GRADING/CREDITS

Grades are based on:

- 30% Daily class work and Lab Assignments

- 20% Homework
- 20% Quizzes
- 20% Final exam
- 10% Research paper

All assigned work is given a point value and together with test scores is averaged for an overall percentage. All work must be completed to earn full credit.

INDIVIDUALIZATION

Using various texts and supplementary materials the course can be adapted to any level of study. Students are encouraged to pursue individual research projects and lab activities.

ABSENCES/TARDIES

Students must come to class prepared and on time. Work missed must be made up. Excessive absences and tardiness will result in lowered credit.