



Online Courses for High School Students
1-888-972-6237

BIOLOGY

COURSE DESCRIPTION:

This course is an introduction to general biology and scientific inquiry. It will include the fundamental principles of living organisms, including physical and chemical properties of life, cellular organization and function, the transfer of energy through metabolic systems, cellular reproduction, the classification of living things, and the six kingdoms of life. The main focus is to present biological information in an understandable and straightforward way that will capture the student's interest and deal with current issues and concepts.

PREREQUISITES: None

COURSE LENGTH: Two semesters

REQUIRED TEXT: None

COURSE OUTLINE:

THE NATURE OF SCIENCE & BIOLOGY

- Introduction to Biology
- The Chemistry of Life

PHOTOSYNTHESIS

- Biochemical Reactions: Energy and Enzymes
- Photosynthesis
- Cellular Respiration

CELL STRUCTURE

- Cell Structure
- The Cell Membrane
- Chromosomes and Cell Reproduction
- Meiosis and Sexual Reproduction

GENETICS

- Mendel and Heredity
- The Chromosome Theory of Inheritance
- Human Genetic Traits
- DNA
- Protein Synthesis
- Biotechnology and the Genetics Revolution

EVOLUTION

- Descent with Modification
- Population Genetics

HISTORY OF LIFE

- The Precambrian
- The Paleozoic Era: The Time of Ancient Life
- The Mesozoic Era: The Age of Dinosaurs
- The Cenozoic Era: The Age of Mammals and Birds

BIOLOGICAL DIVERSITY & CLASSIFICATION

- Prokaryotes
- The Protista
- the Plant Kingdom
- Kingdom Fungi
- Kingdom Animalia

PLANT STRUCTURE

- Plant Organs, Tissues, and Cells
- Flowering Plant Reproduction
- Plant Hormones, Nutrition, and Transport

ANIMAL ORGANIZATION

- Animal Tissues
- Animal Organ Systems and Homeostasis
- The Integumentary System: Protection & Senses
- The Circulatory System: Transport of Materials within the Body
- The Lymphatic System and Immunity: The Body's Defense
- The Digestive System: Getting Food and Nutrients into the Body
- The Nervous and Endocrine Systems: Control of the Body
- The Muscular and Skeletal Systems
- The Respiratory and Excretory Systems: Exchange of Materials
- The Reproductive System and Human Development

POPULATION ECOLOGY

- Population Growth
- Community & Ecosystem Dynamics
- The Biosphere and Mass Extinctions
- TaxonomySection 1 Fossils and The Geologic Time Scale