

Southern Regional High School

Manahawkin, New Jersey

Course Syllabus

Department: Science

Course: Biocom

Marking Period 1

Topics/Units to be covered:

- Classroom Expectations/Grading/Safety/Universal Measurement
- Characteristics of Living Things and Cellular Organization
- Nature of Matter—atomic structure and polarity
- Trophic Levels
- Food Chains and Food Webs
- Cycles of Matter
- Aquatic Ecosystems
- Community Interactions and Symbiotic Relationships
- Populations
- Humans in Biosphere
- Cell Structure and Function
- Quarterly

Marking Period 2

Topics/Units to be covered:

- Organic Compounds Essential for Life
- Chemical Reaction
- Enzymes
- Cell processes (cell transport and homeostasis)
- Photosynthesis Reaction
- Factors that Affect the Rate of Photosynthesis
- Cellular Respiration Reaction
- Relationship between photosynthesis and respiration
- Cell Growth
- Stages of Cell Division
- Phases and Events of Meiosis and Genetic Variability
- Comparison of Mitosis and Meiosis
- Quarterly

Marking Period 3

Topics/Units to be covered:

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- Structural, functional, and biochemical nature of DNA
- Events and Mechanisms of DNA replication
- History of Genetics and DNA
- DNA and RNA similarities and differences
- Process of Protein Synthesis
- Mutations and their Effects
- Mendel's Research
- Use of Punnett Squares
- Non-mendelian Inheritance
- Quarterly

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Marking Period 4

Topics/Units to be covered:

- Human Genetic Disorders
- Genetic Engineering—Selective Breeding, DNA Analysis and Genetically Modified Organisms
- Importance of Biotechnology
- History of Darwinian Evolution
- Theory of Natural Selection
- Taxonomy and the Organization of Life
- Evolution of Populations
- Final Exam