

Department: Science

Course Title: *ACADEMIC BIOLOGY*

Course #: 511

DESCRIPTION OF COURSE:

Students will gain a thorough understanding of concepts and techniques of modern biology. Topics include: cell structure and function; the cell cycle and cellular division; the chemistry and function of biological macromolecules; the activities that occur within ecosystems; methods of maintaining homeostasis; the role of DNA in protein synthesis, genetics and evolution; classification; Mendelian and Nonmendelian genetics; human genetic disorders; applications of modern biotechnology; and principles of evolution. The Scientific Method will be employed to solve laboratory experiments. Assessments include laboratory reports, research, projects, quizzes, and tests.

REQUIRED TOPICS OF STUDY	SUGGESTED INSTRUCTIONAL TIME	STANDARDS/ ASSESSMENT ANCHORS
<i>Laboratory Safety; Introduction to Biology; Scientific Method; Introduction to Evolution</i>	<i>5-6 Days</i>	<i>Standards: 3.2.10.B;C;D Anchors: S11.A.1; S11.A.2; S11.A.3</i>
<i>Characteristics of Life; Classification</i>	<i>5 Days</i>	<i>Standards: 3.3.10.A Anchors: S11.B.1; S11.B.2; S11.A.3</i>
<i>Chemistry and Biochemistry</i>	<i>10-12 Days</i>	<i>Standards: 3.4.10.A; 3.3.10.B Anchors: S11.C.1; S11.B.1</i>
<i>Cell Biology</i>	<i>10-12 Days</i>	<i>Standards: 3.3.10.A;B Anchors: S11.B.1.1; S11.A.1.1</i>
<i>Bioenergetics</i>	<i>5 Days</i>	<i>Standards: 3.3.10.B Anchors: S11.B.1</i>
<i>Cell Division</i>	<i>10 Days</i>	<i>Standards: 3.3.10.C Anchors: S11.B.1; S11.B.2</i>
<i>Genetics and Biotechnology</i>	<i>20 Days</i>	<i>Standards: 3.3.10.C Anchors: S11.B.2; S11.A.3.2</i>
<i>Molecular Biology</i>	<i>10 Days</i>	<i>Standards: 3.3.10.C Anchors: S11.B.1.1; S11.B.2</i>
<i>Evolution</i>	<i>5 Days</i>	<i>Standards: 3.3.10.D Anchors: S11.B.2.1</i>
<i>Ecology</i>	<i>5 Days</i>	<i>Standards: 3.3.10.C;D Anchors: S11.B.3</i>

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INSTRUCTIONAL RESOURCES:

Biology

by Miller & Levine.

Course Title/ct
3/07 FOR HS