2015 Science Standards—Biology I

**COURSE FOCUS (Apply the following for each content standard.)**

**BIO1.1 Identify SDA Christian principles and values in correlation with science.**

BIO1.1.1 Recognize God’s power as Designer, Creator, Sustainer, and Redeemer in the universe.

BIO1.1.2 Acknowledge God as the Author of all scientific principles and laws regardless of man’s interpretation.

BIO1.1.3 Develop stewardship and service attitudes toward health, life, and earth’s environment.

BIO1.1.4 Apply Biblical principles of Christian morality, integrity, and ethical behavior to all aspects of life.

BIO1.1.5 Equip students with Christian perspectives on scientific issues.

**COURSE ABILITIES (Apply the following to each content standard.)**

**BIO1.2 Develop abilities in science.**

BIO1.2.1 Develop critical and creative thinking skills (analysis, evaluation, divergent questioning, modeling).

BIO1.2.2 Understand and utilize the scientific method of problem solving.

BIO1.2.3 Utilize the principles and methodologies of cooperative learning.

**BIO1.3 Be able to apply science knowledge and skills to a variety of purposes.**

BIO1.3.1 Recognize scientific principles and laws as tools to solve problems in everyday life.

BIO1.3.2 Apply the scientific method in analysis of controversial topics, e.g., cloning, global warming, stem cell research.

BIO1.3.3 Read, write, and interpret scientific documents (lab write-ups, journals, scientific publications).

BIO1.3.4 Conduct research in the content area.

BIO1.3.5 Engage in various uses of technology.

**COURSE CONTENT: Cell Structure and Processes, Genetics, Taxonomy, Ecology (Understand, explore, analyze, apply.)**

**BIO1.4 Be able to understand basic biological concepts.**

BIO1.4.1 Acknowledge God as Creator of life while recognizing divergent theories.

BIO1.4.2 Demonstrate understanding of cellular structures and processes.

BIO1.4.3 Describe the dynamics of genetics and biotechnology.

BIO1.4.4 Investigate taxonomy and the relationships among living organisms.

BIO1.4.5 Comprehend the interdependence between organisms and their environment.

**BIO1.5 Be able to safely explore biological concepts using the scientific method.**

BIO1.5.1 Manipulate cellular models and samples.

BIO1.5.2 Test concepts of Mendelian inheritance and evaluate genetic manipulation.

BIO1.5.3 Classify, compare, and examine organisms.

BIO1.5.4 Investigate relationships between organisms within their niche.

BIO1.5.5 Research the dynamics, organization, and problems in earth’s biomes.

**BIO1.6 Be able to analyze biological data.**

BIO1.6.1 Compare and contrast cell diagrams and processes.

BIO1.6.2 Draw conclusions about genetic trends and the ethical ramifications of biotechnology.

BIO1.6.3 Evaluate the rationale for the current system of taxonomy.

BIO1.6.4 Determine how the relationships between organisms affect the balance of the ecosystem.

BIO1.6.5 Assess the environmental issues facing local ecosystems and earth’s biomes.

BIO1.6.6 Validate God as the Author of life, while evaluating aspects of divergent theories of origin.

**BIO1.7 Be able to apply the principles of biology to health, life, and earth’s environment.**

BIO1.7.1 Develop a personal ethical value system regarding a world view of life.

BIO1.7.2 Utilize biological concepts to influence lifestyle choices.

BIO1.7.3 Minimize damage to the environment by practicing good stewardship.