

# Science Standards – Biology I I



## Course Focus (Apply the following for each content standard.)

### BIO2.1 Identify the principles of SDA Christian values in correlation with science.

- BIO2.1.1 Recognize God's power as designer, creator, sustainer, and redeemer in the universe.
- BIO2.1.2 Acknowledge God as the author of all scientific principles and laws regardless of man's interpretation.
- BIO2.1.3 Develop stewardship and service attitudes toward health, life, and earth's environment.
- BIO2.1.4 Apply Biblical principles of Christian morality, integrity, and ethical behavior to all aspects of life.
- BIO2.1.5 Equip students with Christian perspectives on scientific issues.

## Course Abilities (Apply the following to each content standard.)

### BIO2.2 Develop abilities in science.

- BIO2.2.1 Critical and creative thinking skills (analysis, evaluation, divergent questioning, modeling).
- BIO2.2.2 Problem solving (scientific method).
- BIO2.2.3 Cooperative learning.

### BIO2.3 Be able to apply science knowledge and skills to a variety of purposes.

- BIO2.3.1 Recognize scientific principles and laws as tools to solve problems in everyday life.
- BIO2.3.2 Apply the scientific method in analysis of controversial topics, e.g., cloning, global warming, stem cell research.
- BIO2.3.3 Read, write, and interpret scientific documents (lab write-ups, journals, scientific publications).
- BIO2.3.4 Conduct research in the content area.
- BIO2.3.5 Engage in various uses of technology.

## Course Content: Topics: Zoology, Embryology, Immunology, Microbiology, Botany (understand, explore, analyze, apply)

### BIO2.4 Be able to understand major specialty areas of Biology.

- BIO2.4.1 Recognize God as the designer and creator of all life.
- BIO2.4.2 Observe and model organisms representing the major groups of invertebrate and vertebrate animals.
- BIO2.4.3 Describe the processes of gamete production, fertilization, and development.
- BIO2.4.4 Identify the reactions, causes, and results of immune system function.
- BIO2.4.5 Understand the diversity, impact, and diseases of microorganisms .
- BIO2.4.6 Exhibit an understanding of global conservation efforts.
- BIO2.4.7 Demonstrate understanding of simple and complex plant forms.

### BIO2.5 Be able to safely explore Biology concepts.

- BIO2.5.1 Manipulate invertebrate and vertebrate animals.
- BIO2.5.2 Investigate the reproductive processes within organisms.
- BIO2.5.3 Explore immune system disorders.
- BIO2.5.4 Examine the role of microbes in epidemiology.
- BIO2.5.5 Research the impact of plant life on the biosphere.

### BIO2.6 Be able to analyze Biology concepts.

- BIO2.6.1 Ascertain the increasing complexity from invertebrate to vertebrate animals.
- BIO2.6.2 Compare embryological development of different organisms.
- BIO2.6.3 Evaluate immune system responses at the cellular and molecular levels.
- BIO2.6.4 Assess treatment methods and effectiveness in terms of microbial cause.
- BIO2.6.5 Analyze the importance of plant life to human life.
- BIO2.6.6 Validate God as the author of life, while studying major areas of Biology II.

### BIO2.7 Be able to apply the higher concepts of Biology II to life.

- BIO2.7.1 Strengthen belief in God as designer and creator by applying the higher concepts of Biology II.
- BIO2.7.2 Utilize the concepts of Biology II to improve lifestyle choices.
- BIO2.7.3 Apply the study of Biology II to ethical issues regarding life.