



**Adventist Education**

A JOURNEY TO EXCELLENCE

# Biology I

2010

**SECONDARY SCIENCE STANDARDS  
IN SEVENTH-DAY ADVENTIST SCHOOLS**

OFFICE OF EDUCATION | North American Division Seventh-day Adventist Church

# Science Standards—Biology I

## **COURSE FOCUS [APPLY THE FOLLOWING FOR EACH CONTENT STANDARD.]**

### **BI01.1 Identify SDA Christian principles and values in correlation with science.**

- BI01.1.1 Recognize God’s power as Designer, Creator, Sustainer, and Redeemer in the universe.
- BI01.1.2 Acknowledge God as the Author of all scientific principles and laws regardless of man’s interpretation.
- BI01.1.3 Develop stewardship and service attitudes toward health, life, and earth’s environment.
- BI01.1.4 Apply Biblical principles of Christian morality, integrity, and ethical behavior to all aspects of life.
- BI01.1.5 Equip students with Christian perspectives on scientific issues.

## **COURSE ABILITIES [APPLY THE FOLLOWING TO EACH CONTENT STANDARD.]**

### **BI01.2 Develop abilities in science.**

- BI01.2.1 Develop critical and creative thinking skills (analysis, evaluation, divergent questioning, modeling).
- BI01.2.2 Understand and utilize the scientific method of problem solving.
- BI01.2.3 Utilize the principles and methodologies of cooperative learning.

### **BI01.3 Be able to apply science knowledge and skills to a variety of purposes.**

- BI01.3.1 Recognize scientific principles and laws as tools to solve problems in everyday life.
- BI01.3.2 Apply the scientific method in analysis of controversial topics, e.g., cloning, global warming, stem cell research.
- BI01.3.3 Read, write, and interpret scientific documents (lab write-ups, journals, scientific publications).
- BI01.3.4 Conduct research in the content area.
- BI01.3.5 Engage in various uses of technology.

## **COURSE CONTENT: Cell Structure and Processes, Genetics, Taxonomy, Ecology [understand, explore, analyze, apply]**

### **BI01.4 Be able to understand basic biological concepts.**

- BI01.4.1 Acknowledge God as Creator of life while recognizing divergent theories.
- BI01.4.2 Demonstrate understanding of cellular structures and processes.
- BI01.4.3 Describe the dynamics of genetics and biotechnology.
- BI01.4.4 Investigate taxonomy and the relationships among living organisms.
- BI01.4.5 Comprehend the interdependence between organisms and their environment.

### **BI01.5 Be able to safely explore biological concepts using the scientific method.**

- BI01.5.1 Manipulate cellular models and samples.
- BI01.5.2 Test concepts of Mendelian inheritance and evaluate genetic manipulation.
- BI01.5.3 Classify, compare, and examine organisms.
- BI01.5.4 Investigate relationships between organisms within their niche.
- BI01.5.5 Research the dynamics, organization, and problems in earth’s biomes.

### **BI01.6 Be able to analyze biological data.**

- BI01.6.1 Compare and contrast cell diagrams and processes.
- BI01.6.2 Draw conclusions about genetic trends and the ethical ramifications of biotechnology.
- BI01.6.3 Evaluate the rationale for the current system of taxonomy.
- BI01.6.4 Determine how the relationships between organisms affect the balance of the ecosystem.
- BI01.6.5 Assess the environmental issues facing local ecosystems and earth’s biomes.
- BI01.6.6 Validate God as the Author of life, while evaluating aspects of divergent theories of origin.

### **BI01.7 Be able to apply the principles of biology to health, life, and earth’s environment.**

- BI01.7.1 Develop a personal ethical value system regarding a world view of life.
- BI01.7.2 Utilize biological concepts to influence lifestyle choices.
- BI01.7.3 Minimize damage to the environment by practicing good stewardship.