Form 4 Nature Studies - Biology

2026-2027 Course Syllabus

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<u>The Purpose of this Course</u>:

God's account of the making of the world ends with the filling of a beautiful world with *living things.* In His creation of the rocks and oceans, the sun, moon, and stars, and all the physical world that is necessary for our habitat, we find these all beautiful and to declare God' s glory. This college-preparatory biology course provides a comprehensive introduction to the study of life, including the scientific method, chemistry of life, ecology, cell structure and function, cellular energy, DNA and genetics, evolution, microorganisms, plant biology, and animal biology. Students develop scientific reasoning and laboratory skills through hands-on investigations, experimental design, data collection and analysis, graphing, laboratory reporting, and interpretation of scientific evidence.

The course examines biological systems within the framework of a Christian worldview, emphasizing the relationship between scientific investigation, evidence, and the study of God's creation.

Laboratory activities include investigations involving microscopy, cellular structure and function, diffusion and osmosis, enzymes, cellular energy, genetics, biological classification, plant biology, ecology, and animal biology. Students also complete investigations requiring independent experimental design and interpretation of quantitative data.

Students will:

- Wonder at the wisdom and goodness of God as evident in his creation of the world and of life.
- To understand the world as a creation rooted in the reality of the Triune nature of God. That is, nature being *harmonious* with God's nature.
- Students will understand and properly employ the scientific method.

Grading Breakdown:

Class Preparation and Participation: 40%

This includes: 1) being intentional and exercising critical thinking while completing home reading assignments, as evidenced by bringing relevant questions to class; 2) being an active and a constructive and respectful participant in class discussions; and 3) being prepared for and engaged in class experiments.

Project and Labs: 30%

This includes topic originality and meaningfulness, complexity and effort, depth of research, thoroughness, quality of analysis, reasonableness of conclusions, and written and oral presentation.

Exams: 30%

This includes module tests. While memorization of definitions of technical terms will not be emphasized, you are expected to understand concepts of those terms. The text module Study Guides lists the terms and provides questions that summarize key topics. We will always review the study guide before the test.

Text and Supplies:

- Students will be provided a Student Notebook for Biology to keep.
- SBH loans Apologia *Biology* textbooks for home reading assignments; these will be collected for use in subsequent classes at SBH.
- SBH will generally provide all material and equipment for the classroom demonstrations and experiments. Some laboratory assignments will be assigned at home, however, the materials for the experiments will be household items, or easily acquired on island (eye dropper, plastic cups, a penny, etc.)