

Biology is an in-depth course that furthers mastery of scientific skills, fosters a deep understanding of key concepts, and promotes the application of the scientific method to biological topics.

The course begins with an introduction to the nature of science and biology, including the major themes of structure and function, matter and energy flow, systems, and the interconnectedness of life. Students then apply those themes to the structure and function of the cell, cellular metabolism, and biogeochemical cycles. Building on this foundation, students explore the connections and interactions between living things by studying genetics, ecosystems and natural selection, and evolution. The course ends with an applied look at human biology.

Lab activities reinforce critical thinking, writing, and communication skills and help students develop a deeper understanding of the nature of science.

Biology students are frequently asked to respond to scientific problems and issues via written assignments. Exploration activities challenge Honors students to deconstruct scientific claims, analyze scientific articles, and suggest follow-up experiments or topics for further research. Finally, Project and Checkup activities allow Honors students to use scientific process skills to delve deeper into topics.

This course is built to state standards and the National Science Education Standards (NSES).

Length: Two Semesters

Unit 1: Introduction to Biology

Unit 2: The Chemistry of Biology

Unit 3: Cells

Unit 4: Energy Transfer

Unit 5: Earth's Resources

Unit 6: Semester 1 Review and Exam

Unit 7: DNA and Heredity

Unit 8: DNA to Protein

Unit 9: Ecosystems and Natural Selection

Unit 10: Evolution and Classification

Unit 11: Human Biology

Unit 12: Semester 2 Review and Exam