AHHS Biology YAG - 2024-2025

First Semester: 1st Quarter	
TEKS	**Introduction to the Nature of Science (2 days)** Students will be able to describe and apply the scientific process during lab investigations.
B.1F; B.4C; B.5ABD	**Unit 1 - Cellular Biology (8 days)** Students will understand the structures and function of cell components, including the protein and lipids in cell membranes. Students will use microscopes to explore the diversity of life while comparing prokaryotic and eukaryotic cells, as well as, viruses.
B.1B B.1C B.1D B.1E	**Unit 2 - Cell Processes for Homeostasis (4 days)** Students will understand how cells transport molecules, with a special focus on carbohydrates and water.
B.1G; B.5C; B.11AB	**Unit 3 - Cell Energetics & Enzymes (6 days)** Students will use models to explain how energy is conserved and transferred during photosynthesis and cellular respiration.

First Semester: 2nd Quarter	
TEKS B.3A; B.4B; B.6A,C; B.7A	**Unit 4: DNA & The Cell Cycle (8 days)** Students will explore how nucleic acids are structured and function to specify traits. They will be able to explain the importance of the cell cycle in cell specialization and growth of organisms; Mitosis.
B.1G; B.2A; B.7AB	**Unit 5: Role of DNA & Protein Synthesis (4 days)** Students will explain gene expression and the purpose and process of transcription and translation using models of DNA and RNA
B.2B; B.3BC; B.6B; B.7ABC B.2AC; B.3AB; B.8AB	**Unit 6: Genetics and epigenetics (8 days)** Students will be able to explain how steps during meiosis allow for diversity of living things. They will explore the mechanisms of genetics, including the principles of Mendelian and Non-Mendelian Genetics.

Second Semester: 3rd Quarter	
TEKS B.1H; B.4A; B.7D; B.9AB	**Unit 7 - Molecular Technologies (2 days)** Students will explain how PCR and gel electrophoresis are used in current research & engineering practices.
B.3B; B.10ABCD	**Unit 8 - Evolution (12 days)** Students will be able to describe & evaluate evidence of evolution, the mechanisms of evolution, and how it unifies and diversifies life.
B.1AF; B.5D; B.12AB	**Unit 9 - Plant & Animal System Interactions (6 days)** Students will connect how plant structures perform functions of transport, reproduction, and response. They will analyze how animal systems perform regulation, nutrient absorption, reproduction, and defense from injury or illness.

Second Semester: 4th Quarter	
TEKS B.1AB; B.2D; B.3C; B.13ABCD B.4BC; B.5D; B.6B; B.7D; B.13D	**Unit 10 - Ecology (~8 days)** Students will be able to explain the interdependence & interactions occur within an environmental system. **Current Developments in Biology** Students will apply biology knowledge to explore, explain, and present on current issues.

***GT students will be given the opportunity to realize potential through a curriculum that offers both depth and complexity.**
Depth - Students will research science phenomenon, as well as, design and engineer models to support biological themes of structure and function. Students will document and present current research using appropriate note-taking methods and technologies. They will collect, record, organize, display data, then apply it to real life events. Student will be encouraged to develop significant, open-ended research question(s).
Complexity – Interdisciplinary connections will not only frame lessons, but continue throughout biology, communicating research and data through graphs and reports. Students will explore biology topics from different perspectives. Students will design investigations, collect data, and represent information using a variety of methods and tools.

This Year at a Glance reflects newly 2024-25 adopted Science TEKS
Biology is a STAAR tested course - April 16th, 2025