

Biology

Curriculum Map 2026-2027

First Semester				
UNIT 1		UNIT 2		
Cells		Genetics		
GMAS WEIGHT: 20%		GMAS WEIGHT: 23%		
8 Weeks		9 Weeks		
Unit Dates 8/3/2026-10/02/2026		Unit Dates 10/05/2026-12/11/2026		
ASSESSMENT WINDOW				
9/28- 10/02		12/07-12/11		
Standards	Standards	Standards		
Structure & Function	Energy	Molecular (Part 1)	Molecular (Part 2)	Mendelian
SB1a SB1c SB1d	SB1e	SB2a <i>*structure and replication *</i> SB2b SB2c SB1b <i>*mitosis and binary fission*</i>	SB2a <i>*transcription & translation*</i> SB2b SB2c	SB1b <i>*meiosis*</i> SB3a SB3b SB3c

Second Semester				
UNIT 3	UNIT 4	UNIT 5	EOC Review	Capstone
<i>Ecology</i>	<i>Evolution</i>	<i>Classification & Phylogeny</i>	<i>EOC Review</i>	<i>Culminating Capstone</i>
<i>GMAS WEIGHT: 27%</i>	<i>GMAS WEIGHT: 17%</i>	<i>GMAS WEIGHT: 13%</i>		
<i>6 Weeks</i>	<i>4 Weeks</i>	<i>2 Weeks</i>	<i>2 Weeks</i>	<i>4 Weeks</i>
Unit Dates 1/5/2027-2/12/2027	Unit Dates 2/22/2027-3/19/2027	Unit Dates 3/22/2027-4/2/2027	Unit Dates 4/12/2027-4/23/2027	Unit Dates 4/26/2027-5/21/2027
ASSESSMENT WINDOW				
2/08- 2/12	3/15- 3/19	3/29- 4/02		
Standards	Standards	Standards	Standards	Standards
SB5a SB5b SB5c SB5d SB5e	SB6a SB6b SB6c SB6d SB6e	SB4a SB4b SB4c	Concept review and test-taking strategies	This unit includes days for GMAS review and testing

First Semester	
Unit 1 – Cells	Unit 2 – Genetics
<p>SB1 Obtain, evaluate, and communicate information to analyze the nature of the relationships between structures and functions in living cells.</p> <ul style="list-style-type: none"> a. Construct an explanation of how cell structures and organelles (including nucleus, cytoplasm, cell membrane, cell wall, chloroplasts, lysosome, Golgi, endoplasmic reticulum, vacuoles, ribosomes, and mitochondria) interact as a system to maintain homeostasis. c. Construct arguments supported by evidence to relate the structure of macromolecules (carbohydrates, proteins, lipids, and nucleic acids) to their interactions in carrying out cellular processes. d. Plan and carry out investigations to determine the role of cellular transport (e.g., active, passive, and osmosis) in maintaining homeostasis. e. Ask questions to investigate and provide explanations about the roles of photosynthesis and respiration in the cycling of matter and flow of energy within the cell (e.g., single-celled alga). (Clarification statement: Instruction should focus on understanding the inputs, outputs, and functions of photosynthesis and respiration and the functions of the major sub-processes of each including glycolysis, Krebs cycle, electron transport chain, light reactions, and Calvin cycle.) 	<p>SB1. Obtain, evaluate, and communicate information to analyze the nature of the relationships between structures and functions in living cells.</p> <ul style="list-style-type: none"> b. Develop and use models to explain the role of cellular reproduction (including binary fission, mitosis, and meiosis) in maintaining genetic continuity. <p>SB2. Obtain, evaluate, and communicate information to analyze how genetic information is expressed in cells.</p> <ul style="list-style-type: none"> a. Construct an explanation of how the structures of DNA and RNA lead to the expression of information within the cell via the processes of replication, transcription, and translation. b. Construct an argument based on evidence to support the claim that inheritable genetic variations may result from: <ul style="list-style-type: none"> • new genetic combinations through meiosis (crossing over, nondisjunction); • non-lethal errors occurring during replication (insertions, deletions, substitutions); and/or • heritable mutations caused by environmental factors (radiation, chemicals, and viruses). c. Ask questions to gather and communicate information about the use and ethical considerations of biotechnology in forensics, medicine, and agriculture. (Clarification statement: The element is intended to include advancements in technology relating to economics and society such as advancements may include Genetically Modified Organisms.) <p>SB3. Obtain, evaluate, and communicate information to analyze how biological traits are passed on to successive generations.</p> <ul style="list-style-type: none"> a. Use Mendel’s laws (segregation and independent assortment) to ask questions and define problems that explain the role of meiosis in reproductive variability. b. Use mathematical models to predict and explain patterns of inheritance. (Clarification statement: Students should be able to use Punnett squares (monohybrid and dihybrid crosses) and/or rules of probability, to analyze the following inheritance patterns: dominance, codominance, incomplete dominance.) c. Construct an argument to support a claim about the relative advantages and disadvantages of sexual and asexual reproduction.

Second Semester		
Unit 3 – Ecology	Unit 4 – Evolution	Unit 5– Classification & Phylogeny
<p>SB5 Obtain, evaluate, and communicate information to assess the interdependence of all organisms on one another and their environment.</p> <ol style="list-style-type: none"> Plan and carry out investigations and analyze data to support explanations about factors affecting biodiversity and populations in ecosystems. Develop and use models to analyze the cycling of matter and flow of energy within ecosystems through the processes of photosynthesis and respiration. <ul style="list-style-type: none"> Arranging components of a food web according to energy flow. Comparing the quantity of energy in the steps of an energy pyramid. Explaining the need for cycling of major biochemical elements (C, O, N, P, and H). Construct an argument to predict the impact of environmental change on the stability of an ecosystem. Design a solution to reduce the impact of a human activity on the environment. Construct explanations that predict an organism’s ability to survive within changing environmental limits (e.g., temperature, pH, drought, fire). 	<p>SB6 Obtain, evaluate, and communicate information to assess the theory of evolution.</p> <ol style="list-style-type: none"> Construct an explanation of how new understandings of Earth's history, the emergence of new species from pre-existing species, and our understanding of genetics have influenced our understanding of biology. Analyze and interpret data to explain patterns in biodiversity that result from speciation. Construct an argument using valid and reliable sources to support the claim that evidence from comparative morphology (analogous vs. homologous structures), embryology, biochemistry (protein sequence) and genetics support the theory that all living organisms are related by way of common descent. Develop and use mathematical models to support explanations of how undirected genetic changes in natural selection and genetic drift have led to changes in populations of organisms. Develop a model to explain the role natural selection plays in causing biological resistance (e.g., pesticides, antibiotic resistance, and influenza vaccines). 	<p>SB4 Obtain, evaluate, and communicate information to illustrate the organization of interacting systems within single-celled and multi-celled organisms.</p> <ol style="list-style-type: none"> SB4.a Construct an argument supported by scientific information to explain patterns in structures and function among clades of organisms, including the origin of eukaryotes by endosymbiosis. Clades should include: <ul style="list-style-type: none"> archaea bacteria eukaryotes fungi plants animals Analyze and interpret data to develop models (i.e., cladograms and phylogenetic trees) based on patterns of common ancestry and the theory of evolution to determine relationships among major groups of organisms. Construct an argument supported by empirical evidence to compare and contrast the characteristics of viruses and organisms