| Course Title: | Anatomy & Physiology B | |
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| **Unit 9 Big Idea:** | **The Endocrine System** | |
| **Essential Questions:** | What are the most common endocrine and exocrine glands and how do they function?<br>How does the endocrine system use hormones as chemical signals? | |
| **Standards** | | |
| **HSCE** | **B2.2f** – Explain the role of enzymes and other proteins in biochemical functions.<br>**B2.3B** – Describe how the maintenance of a relatively stable internal environment is required for the continuation of life.<br>**B2.3C** – Describe how stability is challenged by changing physical, chemical, and environmental conditions as well as the presence of disease agents.<br>**B2.3d** – Identify the general functions of the major systems of the human body.<br>**B2.3e** – Describe how human body systems maintain relatively constant internal conditions (temperature, acidity, and blood sugar).<br>**B2.3f** – Explain how human organ systems help maintain human health**.**<br>**B2.6a** – Explain that the regulatory and behavioral responses of an organism to external stimuli occur in order to maintain both short- and long-term equilibrium.<br>**B2.r6b** – Explain that complex interactions among the different kinds of molecules in the cell cause distinct cycles and activities. Note that cell behavior can be affected by molecules from other parts of the organism, such as hormones.<br>**B2.r6c** – Recognize and explain that communication and/or interaction are required between cells to coordinate their diverse activities. | |
| **Chapter 9** | **Assignment** | **Description** |
| | General unit readings and assignments | Students read from the online textbook, explore online resources, engage in videos/simulations |
| | 9.1 | Media activity: Diagraming endocrine function |
| | 9.2 | Modeling activity: Homeostasis and the endocrine system |
| | 9.3 | Quiz |
| | Unit 9 | Unit Review and Test |

| Unit 10 Big Idea: | Blood | |
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| **Essential Questions:** | What are the components of blood and what is their function?<br>How does the blood clotting process occur and why is this important?<br>What are blood types and what is the physiology behind them? | |
| **Standards** | | |
| **HSCE** | **L2.p2A** – Describe how organisms sustain life by obtaining, transporting, transforming, releasing, and eliminating matter and energy.<br>**B2.2f** – Explain the role of enzymes and other proteins in biochemical functions.<br>**B2.3d** – Identify the general functions of the major systems of the human body.<br>**B2.3f** – Explain how human organ systems help maintain human health | |
| **Chapter 10** | **Assignment** | **Description** |
| | General unit readings and assignments | Students read from the online textbook, explore online resources, engage in videos/simulations |
| | 10.1 | Media activity: What's in your blood? |

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| | 10.1-10.2 | Quiz |
| | 10.3 | Practice activity: Blood typing game |
| | Unit 10 | Unit Review and Test |

| **Unit 11 Big Idea:** | **The Cardiovascular System** | |
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| **Essential Questions:** | What is the pathway of blood through the heart, lungs, and rest of the body?<br>What are the structures that transport the blood and what is their physiology?<br>What are the benefits of having a healthy cardiovascular system and what are the drawbacks of having an unhealthy cardiovascular system? | |
| **Standards** | | |
| **HSCE** | **B1.1E** – Describe a reason for a given conclusion using evidence from an investigation.<br>**B2.3d** – Identify the general functions of the major systems of the human body.<br>**B2.3f** – Explain how human organ systems help maintain human health.<br>**HE1.6** – Assess one's personal preference regarding healthy eating and physical activity. | |
| **Chapter 11** | **Assignment** | **Description** |
| | General unit readings and assignments | Students read from the online textbook, explore online resources, engage in videos/simulations |
| | 11.1 | Quiz |
| | 11.2 | Inquiry activity: Circulatory system gizmo |
| | 11.3 | Lab activity: Heart rate and exercise |
| | 11.2-11.3 | Quiz |
| | Unit 11 | Unit Review and Test |

| **Unit 12 Big Idea:** | **The Lymphatic System** | |
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| **Essential Questions:** | What is lymph, how is it formed, and what is its function?<br>How do the circulatory and lymphatic systems work together?<br>What are the body's immune responses and how do they function? | |
| **Standards** | | |
| **HSCE** | **L2.p1D** – Explain how the systems of a multicellular organism work together to support the organism.<br>**B1.1i** – Distinguish between scientific explanations that are regarded as current scientific consensus and the emerging questions that active researchers investigate.<br>**B1.2D** – Evaluate scientific explanations in a peer review process or discussion format.<br>**B2.3B** – Describe how the maintenance of a relatively stable internal environment is required for the continuation of life.<br>**B2.3C** – Describe how stability is challenged by changing physical, chemical, and environmental conditions as well as the presence of disease agents.<br>**B2.3d** – Identify the general functions of the major systems of the human body.<br>**B2.3f** – Explain how human organ systems help maintain human health.<br>**B2.r6e** – Analyze the body's response to medical interventions such as organ transplants, medicines, and inoculations.<br>**HE5.1** – Describe how common infectious diseases are transmitted. | |
| **Chapter 12** | **Assignment** | **Description** |
| | General unit readings | Students read from the online textbook, explore online |

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| | and assignments | resources, engage in videos/simulations |
| | 12.1 | Writing activity: Lymphatic system compare/contrast essay |
| | 12.1-12.2 | Quiz |
| | 12.3 | Discussion activity: The great vaccine debate |
| | Unit 12 | Unit Review and Test |

| **Unit 13 Big Idea:** | **The Respiratory System** | |
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| **Essential Questions:** | What is the anatomy of the respiratory system and what happens during inspiration/expiration?<br>What is the process of gas exchange that occurs in the lungs?<br>What are common respiratory diseases/disorders and how are they caused? | |
| **Standards** | | |
| **HSCE** | **B1.1E** – Describe a reason for a given conclusion using evidence from an investigation.<br>**B2.3d** – Identify the general functions of the major systems of the human body. | |
| **Chapter 13** | **Assignment** | **Description** |
| | General unit readings and assignments | Students read from the online textbook, explore online resources, engage in videos/simulations |
| | 13.1 | Lab activity: Lung capacity activity |
| | 13.1-13.2 | Quiz |
| | 13.3 | Writing activity: Asthma and air quality letter |
| | 13.3-13.4 | Quiz |
| | Unit 13 | Unit Review and Test |

| **Unit 14 Big Idea:** | **The Digestive System** | |
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| **Essential Questions:** | What is the organization and function of the structures in the digestive system?<br>What are nutrients and how does your body use each nutrient?<br>What are common disorders of the digestive system? | |
| **Standards** | | |
| **HSCE** | **L2.p2A** – Describe how organisms sustain life by obtaining, transporting, transforming, releasing, and eliminating matter and energy.<br>**B2.3d** – Identify the general functions of the major systems of the human body.<br>**B2.5D** – Describe how individual cells break down energy-rich molecules to provide energy for cell functions.<br>**HE1.9** – Predict the health benefits of eating healthy and being physically active; and the potential consequences of not doing so. | |
| **Chapter 14** | **Assignment** | **Description** |
| | General unit readings and assignments | Students read from the online textbook, explore online resources, engage in videos/simulations |
| | 14.1-14.2 | Quiz |
| | 14.2 | Inquiry activity: Digestive system gizmo |
| | 14.3 | Writing activity: You are what you eat |
| | 14.3-14.4 | Quiz |
| | Unit 14 | Unit Review and Test |

| **Unit 15 Big Idea:** | **The Urinary System** |
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| **Essential Questions:** | How do the structures of the urinary system filter and secrete urine?<br>What is the general structure and function of the urinary system organs?<br>How does your urinary system maintain a stable internal water balance? | |
| **Standards** | | |
| **HSCE** | **L2.p2A** – Describe how organisms sustain life by obtaining, transporting, transforming, releasing, and eliminating matter and energy.<br>**B1.1i** – Distinguish between scientific explanations that are regarded as current scientific consensus and the emerging questions that active researchers investigate.<br>**B2.3B** – Describe how the maintenance of a relatively stable internal environment is required for the continuation of life.<br>**B2.3d** – Identify the general functions of the major systems of the human body**.**<br>**B2.3e** – Describe how human body systems maintain relatively constant internal conditions (temperature, acidity, and blood sugar).<br>**B1.2D** – Evaluate scientific explanations in a peer review process or discussion format. | |
| **Chapter 15** | **Assignment** | **Description** |
| | General unit readings and assignments | Students read from the online textbook, explore online resources, engage in videos/simulations |
| | 15.1 | Practice activity: Urinary system structures and functions |
| | 15.1-15.2 | Quiz |
| | 15.3-15.4 | Quiz |
| | 15.4 | Discussion activity: Modern organ transplant discussion |
| | Unit 15 | Unit Review and Test |

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| **Unit 16 Big Idea:** | **The Reproductive System** | |
| **Essential Questions:** | What are the main organs of the male and female reproductive system? What is their function?<br>What hormones control actions of the reproductive system (sexual development, pregnancy, birth)? | |
| **Standards** | | |
| **HSCE** | **B2.3d** – Identify the general functions of the major systems of the human body. | |
| **Chapter 16** | **Assignment** | **Description** |
| | General unit readings and assignments | Students read from the online textbook, explore online resources, engage in videos/simulations |
| | 16.1-16.2 | Quiz |
| | 16.3 | Practice activity: Reproductive systems comparison |
| | 16.3-16.4 | Quiz |
| | 16.6 | Writing activity: Prenatal development and risks |
| | 16.5-16.6-16.7 | Quiz |
| | Unit 16 | Unit Review and Test |