

**Hamilton Heights School Corporation
Curriculum Map
Anatomy & Physiology**

Course Title: Anatomy & Physiology	Quarter 1:	Academic Year: 2025-26
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Essential Questions						
Unit Name	Total Days	Standards Number	Knowledge Objectives	Skills Objectives	Specific Assessments	Specific Resources
Intro Anatomy and Body Systems	10-15	AP.2.1 AP.2.3 AP.2.4	<ul style="list-style-type: none"> ● Describe various levels of structural organization within the human body ● Define and identify the importance of homeostasis to human health 	<ul style="list-style-type: none"> ● Lab & Dissection étiquette ● Use proper anatomical terminology to describe directional terms, regions, planes, and cavities ● Identify correct organ systems for various organs 	Body Systems, Planes, and Cavities Exam	Body Systems Project Frog Dissection
Cells & Tissues	10-12	AP.1.1 AP.1.2 AP.1.3 AP.1.5 AP.2.1 AP.2.2 AP.3.1 AP.3.2	<ul style="list-style-type: none"> ● Describe the structure of the plasma membrane ● Identify major organelles of a cell, their structure, and their function 	<ul style="list-style-type: none"> ● Diagram and identify mitotic stages 	Mitotic Stages Quiz Cellular Structure and Function Exam	Cell Mitosis Lab Vaccine Case Study Human Cheek Cell Lab

Skeletal System	20-23	AP.4.1 AP.4.2 AP.4.3	<ul style="list-style-type: none"> • Explain the functions of the skeletal system • Differentiate between compact and cancellous bone • Identify microscopic bone structures • Explain the process of bone formation and growth 	<ul style="list-style-type: none"> • Distinguish and identify bones with the axial and appendicular skeleton • Locate and name major bones of the human skeleton 	Skull Practical Exam Appendicular Bones Quiz Skeletal System Exam	Skull Models Skeleton Models
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Course Title: Anatomy & Physiology	Quarter 2:	Academic Year: 2025-26
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Essential Questions						
Unit Name	Total Days	Standards Number	Knowledge Objectives	Skills Objectives	Specific Assessments	Specific Resources
Muscular System	15-20	AP.5.1 AP.5.2 AP.5.3 AP.5.4 AP.5.5 AP.5.6	<ul style="list-style-type: none"> • Describe similarities and differences between the three types of muscle • Identify major structures of a skeletal muscle fiber • Describe the events leading to and after a muscle contraction at the cellular level • Identify major human muscles including their name, origin, insertion, antagonist(s), and primary action 	<ul style="list-style-type: none"> • Diagram and explain the function of the neuromuscular junction • For simple actions, identify major muscle action and antagonist(s) 	Cellular Muscle Structure Exam Muscle Identification Quiz Muscle Movements Practical Exam	Tired Swimmer Case Study Muscle Fatigue Lab

<p>Nervous System</p>	<p>15-20</p>	<p>AP.6.1 AP.6.2 AP.6.3 AP.6.4</p>	<ul style="list-style-type: none"> ● Name and describe the functions of the two major divisions of the nervous system ● Describe the structure and function of neurons and their components ● Describe the function of various glial cells ● Explain how a nerve impulse is generated and conducted ● Name the major parts of the brain and spinal cord and their functions ● Contrast the structure and function of the autonomic and somatic nervous system 	<ul style="list-style-type: none"> ● Explain a brain disorder and its effects on the rest of the body ● Demonstrate reflex actions and arcs ● Dissect and identify components of a whole brain 	<p>Neurons and Glial Cell Quiz</p> <p>Brain Disorder Project</p> <p>Nervous System Exam</p>	<p>Sheep Brain Dissection</p>
<p>Somatic and Special Senses</p>	<p>5-10</p>	<p>AP.7.1 AP.7.2 AP.7.3</p>	<ul style="list-style-type: none"> ● Distinguish between somatic and special senses ● Name the five kinds of receptors and explain their functions ● Explain the relationships between smell and taste and the mechanism for each ● Name the parts of the ear and their functions ● Describe how input sensory information is received and converted by the CNS 	<ul style="list-style-type: none"> ● Dissect and identify part of the eye and describe its function 	<p>Eye Lab Practical Exam</p> <p>Ear Quiz</p> <p>Senses Exam</p>	<p>Cow Eye Dissection</p>

Essential Questions						
Unit Name	Total Days	Standards Number	Knowledge Objectives	Skills Objectives	Specific Assessments	Specific Resources
Endocrine System	10-12	AP.8.1 AP.8.2 AP.8.3 AP.8.4 AP.8.5	<ul style="list-style-type: none"> Name and locate the major endocrine glands and tissues of the body Differentiate between the effects of steroid and non-steroid hormones List hormones produced by the endocrine glands and physiological effects Describe the function of the hypothalamus 	<ul style="list-style-type: none"> Describe pathological consequences of hypersecretion and hyposecretion of various hormones Describe and give an example of a negative feedback mechanism in hormonal production and control 	Endocrine System Exam	
The Blood	5-8	AP.9.1 AP.9.2 AP.9.3	<ul style="list-style-type: none"> List the functions of blood Describe the structure, function, and life cycle of erythrocytes Identify the various types of leukocytes and their roles Describe the components of plasma and their functions Describe the events of hemostasis Identify a few disorders of the blood 	<ul style="list-style-type: none"> Explain the basis of ABO and Rh incompatibilities for blood transfusions Perform a differential white blood cell count and give examples of disorders that produce abnormal blood test values 	Blood Exam	

Cardiovascular System	15-20	AP.10.1 AP.10.2 AP.10.3 AP.10.4 AP.10.5 AP.10.6	<ul style="list-style-type: none"> Describe the structure and function of the heart Describe the flow of blood through the heart Explain how the conducting system of the heart works Distinguish between an artery, vein, and capillary based on structure, location, and function Describe the exchange of material across the capillary membrane Locate major arteries and veins 	<ul style="list-style-type: none"> Dissect and identify major structures of the heart Explain the mechanism and flow of blood from arteries to veins to the heart Be able to take blood pressure and heart rate and various activities 	Heart Anatomy Quiz Cardiovascular System Exam	Cow Heart Dissection Blood pressure and Heart Rate Lab Blood Typing Lab
Immune System	5-10	AP.11.1 AP.11.2	<ul style="list-style-type: none"> Distinguish between innate and adaptive defenses Differentiate between antibody and antigen Compare functions of B and T lymphocytes 		Immune System Response Project	

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Essential Questions

Unit Name	Total Days	Standards Number	Knowledge Objectives	Skills Objectives	Specific Assessments	Specific Resources
Digestive System	10-12	AP.12.1 AP.12.2 AP.12.3	<ul style="list-style-type: none"> Describe the location and functions of the alimentary canal Explain the difference between mechanical and enzymatic digestion Explain the role of the accessory organs in the digestive process Describe the functions and location of various digestive enzymes List the major functions of the liver Describe the functions of the small and large intestines Describe the diseases/disorders of the digestive system 	<ul style="list-style-type: none"> Label the parts of a tooth and describe the functions of different teeth Describe the processes of carbohydrate, lipid, and protein digestion, absorption, and metabolism Investigate the action of enzymatic enzymes on various nutrients 	<p>Food Allergy Project</p> <p>Digestive System Exam</p>	
Respiratory System	10-12	AP.13.1 AP.13.2 AP.13.3 AP.13.4	<ul style="list-style-type: none"> Name the structures and describe the functions of the upper and lower respiratory tracts Describe the mechanisms responsible for inspiration and expiration Explain how alterations in blood CO₂ levels, blood pH, and blood O₂ levels effect on respiration Discuss the role of hemoglobin in the transport of gases Identify respiratory problems and causes of conditions 	<ul style="list-style-type: none"> Identify various air volumes during normal and forceful breathing efforts Label major respiratory system structures Trace the movement of air through the respiratory tract 	Respiratory System Exam	Air Volume (VO ₂ Max)

<p>Urinary System</p>	<p>10-12</p>	<p>AP.14.1 AP.14.2 AP.14.3 AP.14.4 AP.14.5</p>	<ul style="list-style-type: none"> ● List the organs of the urinary system and state the function of each ● Describe the structure and location of the nephron within the kidney and explain its function ● Identify principal factors that influence filtration pressure and explain how they affect the rate of filtration ● Explain the regulation of urine concentration and volume ● Discuss disorders of the urinary system 	<ul style="list-style-type: none"> ● Trace the path of blood through the renal blood vessels ● Trace the path of filtrate through the renal tubule ● Locate and identify anatomical features of a kidney ● Conduct urinalysis tests and use them to determine the substance present in a urine specimen 	<p>Anatomy of the Kidney Quiz</p> <p>Urinary System Exam</p>	<p>Sheep Kidney Dissection</p> <p>Urinalysis Lab</p>
<p>Reproductive System</p>	<p>10-12</p>	<p>AP.15.1 AP.15.2 AP.15.3 AP.15.4 AP.15.5</p>	<ul style="list-style-type: none"> ● Name the parts of the male and female reproductive system and their functions ● Describe the structure of the testes and ovaries ● Describe the route sperm cells follow from their production to outside the body ● List the major events of the menstrual cycle ● Discuss disorders of the reproductive system 	<ul style="list-style-type: none"> ● Describe the process of ovulation and fertilization ● Trace the pathway of an egg throughout the menstrual cycle ● Locate and name the structures of the male and female reproductive systems ● Describe the role of the various hormones and how they regulate maturation, menstruation, and fetal development 	<p>Female Reproductive Anatomy Quiz</p> <p>Male Reproductive Anatomy Quiz</p> <p>Reproductive System Exam</p>	