

Curriculum Map - Human Physiology

| Month | Content | Skills | Assessment |
|-----------|--|--|--|
| September | <ul style="list-style-type: none"> • Levels of structural organization • Directional terminology • Body regions/cavities • Cell & organelles • Movement of substances through the cell membrane | <ul style="list-style-type: none"> • Classify the levels of structural organization. • Identify & label body regions & planes of section. • Identify cell organelles & describes their function. • Differentiate between diffusion, osmosis, filtration, & dialysis. | <ul style="list-style-type: none"> • Tests, quizzes • Labs • Homework • Movement through membranes lab |
| October | <ul style="list-style-type: none"> • Tissues - connective, epithelial, nervous, bone • Integumentary system (skin) | <ul style="list-style-type: none"> • Identify & describe the function of various tissues comprising the human body. • Identify & describe the layers of the skin & structures within. • Discuss the function of the skin & associated structures. • Discuss diseases/disorders affecting the human integumentary system. | <ul style="list-style-type: none"> • Tests, quizzes, practical exams • Labs • Homework |
| November | <ul style="list-style-type: none"> • Composition & structure of bone | <ul style="list-style-type: none"> • Identify & describe the function of structures that comprise bone. | <ul style="list-style-type: none"> • Tests, quizzes • Lab practicals, labs • Homework • Bone composition lab |

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| November (continued) | <ul style="list-style-type: none"> • Human skeleton | <ul style="list-style-type: none"> • Identify specific bones & anatomical landmarks of the skeleton. • Differentiate articulations of the skeleton. • Compare & contrast the human & cat skeleton. • Discuss diseases associated with the human skeleton (causes, symptoms, diagnosis, treatment). | <ul style="list-style-type: none"> • Cat skeleton lab |
| December | <ul style="list-style-type: none"> • Muscle tissue • Human muscular system • Diseases of the nervous system | <ul style="list-style-type: none"> • Label structures that comprise the sarcomere & muscle macrostructure. • Identify the muscles & associated structures of the human muscular system. • Differentiate the kinesthiology of individual muscles. • Compare & contrast the muscular systems of the cat & human. • Identify the muscles of the cat. • Discuss diseases affecting the human muscular system (causes, symptoms, diagnoses, treatment) | <ul style="list-style-type: none"> • Tests, quizzes • Lab practicals • Labs • Homework • Muscular system of the cat lab • Cat lab practical |

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| January | <ul style="list-style-type: none"> • Structure & function of the neuron | <ul style="list-style-type: none"> • Label & describe the function of the structures of the neuron. • Illustrate the sodium-potassium pump & explain the depolarization/repolarization process. • Compare neurotransmitters. | <ul style="list-style-type: none"> • Tests, quizzes • Lab practicals, labs • Homework |
| February | <ul style="list-style-type: none"> • Anatomy of the human nervous system • Subdivisions of the peripheral nervous system • Diseases of the nervous system • Sense organs | <ul style="list-style-type: none"> • Identify & label structures of the central & peripheral nervous system. • Compare & contrast the antagonistic activity of the sympathetic & parasympathetic nervous system. • Discuss diseases of the nervous system (causes, symptoms, diagnosis, & treatment). • Identify & label structures associated with the ear & eyes & state their function. • Discuss the relationship between taste & the olfactory sense. • Perform & evaluate tests pertaining to the senses & nervous function. | <ul style="list-style-type: none"> • Sheep brain lab • Cat nervous system • Tests, quizzes • Lab practicals, labs • Homework • Sheep eye lab • Nervous system lab |

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| February (continued) | <ul style="list-style-type: none"> • Endocrine system | <ul style="list-style-type: none"> • Identify & label the glands of the human endocrine system. • State the hormones they produce & their effect on the human body. • Discuss the effects of anabolic steroids on the human body. • Compare & contrast the endocrine system's & the nervous system's control of homeostasis. • Discuss diseases affecting the endocrine system. | |
| March | <ul style="list-style-type: none"> • Blood tissue • Heart • Circulatory system | <ul style="list-style-type: none"> • State the parts of the blood & their function. • Determine blood disorders based on blood cell counts. • Explain the blood clotting process. • Identify & label structure associated with the heart. • Describe the conductive system of the heart. • Interpret an electrocardiogram. • Compare & contrast the structure & function of arteries, capillaries, & veins. • Distinguish between pulmonary & systemic circulation. • Identify & label major arteries & veins. • Determine blood pressure. • Discuss diseases affecting the human circulatory system. | <ul style="list-style-type: none"> • Tests, quizzes • Labs • Homework • Sheep heart lab • Lab practical • ECG lab • Arteries & veins practical • Blood pressure lab |

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| April | <ul style="list-style-type: none"> • Lymphatic system • Immune system • Respiratory system • Comparative anatomy of the cardiovascular & respiratory systems • Effect of smoking on the lungs | <ul style="list-style-type: none"> • Identify & label structures of the human lymphatic system. • Describe the function of associated structures. • Discuss diseases affecting the lymphatic system. • Explain the function & physiology of the immune system/immune response. • Differentiate between active & passive immunity. • Discuss disorders of the immune system and mechanisms of diseases. • Identify & label structures of the human respiratory system. • Describe the function of associated structures. • Determine vital capacity & maximum oxygen consumption. • Compare & contrast anatomy of the cat & human cardiopulmonary systems. • Communicate the negative health effects of smoking. • Describe diseases affecting the respiratory system. | <ul style="list-style-type: none"> • Tests, quizzes • Labs • Homework • Vital capacity lab • Cat discussion & practical exam |

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| May | <ul style="list-style-type: none"> • Digestive system • Nutrition • Urinary system | <ul style="list-style-type: none"> • Identify & label the structures of the human digestive system. • States the function of each organ of the digestive system. • Discuss the diseases affecting the digestive system. • Compare & contrast the cat & human digestive systems. • Illustrate the basic nutrients & their function. • Describe deficiency diseases & other diseases of the digestive system. • Identify & label the structures of the human urinary system. • Describe the function of the structures associated with the urinary system. • Perform & interpret urinalysis. | <ul style="list-style-type: none"> • Tests, quizzes • Labs • Homework • Cat digestive system • Lab practical • Urinalysis lab |
| June | <ul style="list-style-type: none"> • Reproductive system • Final review | <ul style="list-style-type: none"> • Identify & label the male and female reproductive organs. • Describe the function of structures of the human reproductive systems. • Illustrate the female menstrual cycle. • Discuss diseases affecting the reproductive system. • Compare & contrast the urogenital systems of the cat & human. • Review diagrams & content. | <ul style="list-style-type: none"> • Tests • Quizzes • Labs • Homework • Cat urogenital system lab • Human cadaver lab • Final exam |

