Gadsden City High School
Pacing Guide - 18 Weeks
Course: Human Anatomy and Physiology
Grades 10-12

Week #	ALCOS Standard	Resources**
1	1. Develop and use models and appropriate terminology to identify regions, directions, planes, and cavities in the human body to locate organs and systems.	Textbook : Chapter 1 & CSI (Case Study Investigation) Lab : Autopsy of a Dill Pickle http://www.theforensicteacher.com/Free_articles_files/picklelabsheets.pdf
2	2. Analyze characteristics of tissue types (e.g., epithelial tissue) and construct an explanation of how the chemical and structural organizations of the cells that form these tissues are specialized to conduct the function of that tissue (e.g., lining, protecting).	Textbook : Chapter 3 & CSI (Case Study Investigation) ASIM Lab : Vertebrate Tissues (I1Tissue)
3	3. Obtain and communicate information to explain the integumentary system's structure and function, including layers and accessories of skin and types of membranes. a. Analyze the effects of pathological conditions (e.g., burns, skin cancer, bacterial and viral infections, chemical dermatitis) to determine the body's attempt to maintain homeostasis.	Textbook : Chapter 4 & CSI (Case Study Investigation) Skin Disorder Project

4	3. Obtain and communicate information to explain the integumentary system's structure and function, including layers and accessories of skin and types of membranes. a. Analyze the effects of pathological conditions (e.g., burns, skin cancer, bacterial and viral infections, chemical dermatitis) to determine the body's attempt to maintain homeostasis.	Textbook : Chapter 4 Case Studies - Melanoma and Burn Sun Safety Quiz http://www.cancer.org/healthy/toolsandcalculators/quizzes/sun-safety/index Guest Speaker - Dermatologist
5	4. Use models to identify the structure and function of the skeletal system (e.g., classification of bones by shape, classification of joints and the appendicular and axial skeletons). a. Obtain and communicate information to demonstrate understanding of the growth and development of the skeletal system (e.g., bone growth and remodeling). b. Obtain and communicate information to demonstrate understanding of the pathology of the skeletal system (e.g., types of bone fractures and their treatment, osteoporosis, rickets, other bone diseases).	Textbook : Chapter 5 & CSI (Case Study Investigation) ASIM Labs : Skeletal System Articulations (I12aArti) Bones of the Human Skeleton (I12aBone)
6	4. Use models to identify the structure and function of the skeletal system (e.g., classification of bones by shape, classification of joints and the appendicular and axial skeletons). a. Obtain and communicate information to demonstrate understanding of the growth and development of the skeletal system (e.g., bone growth and remodeling). b. Obtain and communicate information to demonstrate understanding of the pathology of the skeletal system (e.g., types of bone fractures and their treatment, osteoporosis, rickets, other bone diseases).	Textbook : Chapter 5 ASIM Lab : Comparing Anatomy-Male vs. Female Skeleton (I12dComAnat) Cutting Edge Business http://epibone.com/ Bone Fracture Lab https://www.teachengineering.org/activities/view/cub_biomed_lesson01_activity2

7	5. Develop and use models to illustrate the anatomy of the muscular system, including muscle locations and groups, actions, origins and insertions. a. Plan and conduct investigations to explain the physiology of the muscular system (e.g., muscle contraction/relaxation, muscle fatigue, muscle tone), including pathological conditions (e.g., muscular dystrophy).	Textbook : Chapter 6 & CSI (Case Study Investigation) Muscle ID Project LTF Lab : Chicken Wing Dissection Muscle Slides - Cardiac, Smooth, & Skeletal Muscle Review Games : http://www.anatomyarcade.com/games/gamesMuscular.html
8	13. Obtain, evaluate, and communicate information to support the claim that the endocrine glands secrete hormones that help the body maintain homeostasis through feedback loops. a. Analyze the effects of pathological conditions (e.g., pituitary dwarfism, Addison's disease, diabetes mellitus) caused by imbalance of the hormones of the endocrine glands.	Textbook : Chapter 7 & CSI (Case Study Investigation) LTF Lab : It's a Balancing Act
9	6. Obtain, evaluate, and communicate information regarding how the central nervous system and peripheral nervous system interrelate, including how these systems affect all other body systems to maintain homeostasis. a. Use scientific evidence to evaluate the effects of pathology on the nervous system (e.g., Parkinson's disease, Alzheimer's disease, cerebral palsy, head trauma) and argue possible prevention and treatment options. b. Design a medication to treat a disorder associated with neurotransmission, including mode of entry into the body, form of medication, and desired effects.	Textbook : Chapters 8 & 9 & CSI (Case Study Investigation) ASIM Lab : Nerve Lab (I13CraNr) LTF Labs : Making Sense of it All Popcorn and Dice and Everything Nice

10	6. Obtain, evaluate, and communicate information regarding how the central nervous system and peripheral nervous system interrelate, including how these systems affect all other body systems to maintain homeostasis. a. Use scientific evidence to evaluate the effects of pathology on the nervous system (e.g., Parkinson's disease, Alzheimer's disease, cerebral palsy, head trauma) and argue possible prevention and treatment options. b. Design a medication to treat a disorder associated with neurotransmission, including mode of entry into the body, form of medication, and desired effects.	Textbook : Chapters 8 & 9 Cow Eye Dissection Sheep Brain Dissection OR Virtual Brain Dissection http://www.indiana.edu/~anat215/virtuallab/
11	9. Develop and use a model to explain how the organs of the respiratory system function. a. Engage in argument from evidence describing how environmental (e.g., cigarette smoke, polluted air) and genetic factors may affect the respiratory system, possibly leading to pathological conditions (e.g., cystic fibrosis).	Textbook : Chapter 10 & CSI (Case Study Investigation) LTF Lab : A Litter a Lung Measuring Lung Capacity https://www.biologycorner.com/worksheets/lungcapacity.html
12	7. Use models to determine the relationship between the structures in and functions of the cardiovascular system (e.g., components of blood, blood circulation through the heart and systems of the body, ABO blood groups, anatomy of the heart, types of blood vessels). a. Engage in argument from evidence regarding possible prevention and treatment options related to the pathology of the cardiovascular system (e.g., myocardial infarction, mitral valve prolapse, varicose veins, arteriosclerosis, anemia, high blood pressure). b. Design and carry out an experiment to test various conditions that affect the heart (e.g., heart rate, blood pressure, electrocardiogram [ECG] output).	Textbook : Chapter 11 & CSI (Case Study Investigation) ASIM Labs : Blood Pressure (I6BP) Blood Typing (I8a Blood) Homeostasis (M9Homeo) LTF Lab : It's a Matter of the Heart (Sheep Heart Dissection) Blood Cell Identification Website http://www.purposegames.com/game/white-blood-cell-identification-quiz

13	12. Obtain and communicate information to explain the lymphatic organs and their structure and function. a. Develop and use a model to explain the body's lines of defence and immunity. b. Obtain and communicate information to demonstrate an understanding of the disorders of the immune system (e.g., acquired immunodeficiency syndrome [AIDS], severe combined immunodeficiency [SCID]).	Textbook : Chapter 12 & CSI (Case Study Investigation) LTF Lab : Specific Immune Response Virtual Lab http://www.hhmi.org/biointeractive/immunology-virtual-lab Immunology Resource http://immunelymphatic.weebly.com/
14	8. Communicate scientific information to explain the relationship between the structures and functions, both mechanical (e.g, chewing, churning in stomach) and chemical (e.g., enzymes, hydrochloric acid [HCl] in stomach), of the digestive system, including the accessory organs (e.g., salivary glands, pancreas). a. Obtain and communicate information to demonstrate an understanding of the disorders of the digestive system)e.g., ulcers, Crohn's disease, diverticulitis).	Textbook : Chapter 13 & CSI (Case Study Investigation) LTF Labs : Yeast Cells and the Digestion of Nutrients Chew on This
15	11. Use models to differentiate the structures of the urinary system and to describe their functions. a. Analyze and interpret data related to the urinary system to show relationship between homeostatic imbalances and disease (e.g., kidney stones, effects of pH imbalances).	Textbook : Chapter 14 & CSI (Case Study Investigation) ASIM Lab : Urinalysis (I10Urine) LTF Lab : Urinalysis
16	10. Obtain, evaluate, and communicate information to differentiate between the male and female reproductive systems, including pathological conditions that affect each. a. Use models to demonstrate what occurs in fetal development at each stage of pregnancy.	Textbook : Chapter 15 & CSI (Case Study Investigation) LTF Lab : Sperm Race Fetus Models

17	10. Obtain, evaluate, and communicate information to differentiate between the male and female reproductive systems, including pathological conditions that affect each. b. Use models to demonstrate what occurs in fetal development at each stage of pregnancy.	Textbook : Chapter 15
18	Review all standards to prepare for Final Exam	Fetal Pig Dissection Lab Practicum

The pacing guide has been devised to allow time for testing or individual adjustment.

****The resources in this pacing guide are suggested resources. Teachers may use their own resources.**

****Textbook references in this pacing guide refer to the adopted Human Anatomy and Physiology textbook, Shmaefsky, Brian R. *Applied Anatomy & Physiology A Case Study Approach*, 2nd edition and associated supplemental materials.**