Anatomy and Physiology - Unit 1 - Organization of the Human Body

Unit Focus

The unit is focused on the discovery of how healthcare professionals communicate with each other about how the human body is organized. Students will investigate the meanings and applications of various directional and landmark vocabulary that will be important to know in subsequent units. Students will be expected to apply their understanding of feedback mechanisms and homeostasis gained from a prior course in Biology as they investigate how each body system is reliant upon other body systems in order to function properly. The culminating assessment for this unit will be a student-created reference website that clearly explains a specific body system and correctly and appropriately uses anatomical terms. Important to note, this course is largely a student-directed, self-paced investigation of body systems of the students' choosing. Some units incorporate dissections, others do not. However, throughout the course, there will be an ongoing teacher-led dissection that will allow students the opportunity to examine all of a mammal's body systems. If students prefer not to dissect or not to look at the teacher-led dissection, alternate learning experiences will be provided.

Stage 1: Desired Results - Key Understandings

Standard(s)

Next Generation Science
High School Life Sciences: 9 - 12

- Develop and use a model to illustrate the hierarchical organization of interacting systems that provide specific functions within multicellular organisms. *HS-LS1-2*

Next Generation Science Standards (DCI)
Science: 10

- Systems of specialized cells within organisms help them perform the essential functions of life. *LS1.9.A1*
- Multicellular organisms have a hierarchical structural organization, in which any one system is made up of numerous parts and is itself a component of the next level. *LS1.9.A3*
- Feedback mechanisms maintain a living system's internal conditions within certain limits and mediate behaviors, allowing it to remain alive and functional even as external conditions change within some range. Feedback mechanisms can encourage (through positive feedback) or discourage (negative

Transfer

T1 Make observations and ask questions to define a problem based on prior knowledge and curiosity that stimulates further exploration, analysis, and discovery.
T2 Communicate effectively based on purpose, task, and audience to promote collective understanding and/or recommend actions.

Meaning

Understanding(s)	Essential Question(s)
U1 The scientific/medical community use very specific terms to describe the location of organs/structures in the human body. **U2** All body systems are functional reliant on all other body systems. **U3** Homeostasis is maintained through the proper functioning of all body systems and is essential for health.	**Q1** How does structure relate to function? **Q2** How does having a standard set of terms that reference the various body planes and landmarks help people in the medical field? **Q3** How does the organization of the human body allow for the required physiological processes to occur? **Q4** How can I use landmarks and reference points to explain the position of a structure in a body? **Q5** How do systems interact to allow for proper functioning of an organism?

Acquisition of Knowledge and Skill

Knowledge	Skill(s)
K1 Students will know the name and location of various landmarks on the human body, including but not limited to: cephalic, frontal, orbital, nasal, buccal, oral, cervical,	**S1** Apply understanding of the medical terms and landmarks to various body systems.

Stage 1: Desired Results - Key Understandings		
feedback) what is going on inside the living system. *LS1.9.A4* **Madison Public Schools Profile of a Graduate** *Collaboration/Communication* • Product Creation: Effectively use a medium to communicate important information. (POG.3.2)	thoracic, sternal, axillary, abdominal, umbilical, pelvic, inguinal, pubic, deltoid, brachial, antecubital, carpal, digital, etc. **K2** Body systems rely on each other to function properly. **K3** Vocabulary: anatomical position, supine, prone, superior, inferior, posterior, anterior, medial, lateral, proximal, distal, sagittal, coronal, frontal, and transverse.	**S2** Create a website that correctly uses medical terminology and that can be used as a reference for others to learn about the interdependence of body systems.