

Honors Physiology
Semester 1 Final
Interview Questions - 2018

Directions: For the semester 1 final, you will be participating in a **one-on-one interview** with Ms. Welsh! Of the 10 questions provided (2 questions per unit), I will ask you 5 at random (one from each unit) - you are expected to carry out a **conversation** showing your understanding and competency of the material. I expect appropriate interview behavior and practices, such as speaking in a clear voice, making eye contact, being prepared/professional, etc. (See rubrics attached!) You are encouraged to prepare answers in advance, however you will **not be allowed notes** in your interview session.

Unit 1 - Intro to Anatomy & Physiology

1. Explain the difference between positive and negative feedback loops in regards to homeostatic imbalances in the human body. Be able to provide an **accurate example of each** feedback loop.
2. Describe the Principle of Complementarity in the study of Anatomy and Physiology. Be able to provide specific examples (that we've discussed *throughout* the semester) of this principle in the human body!

Unit 2 - Histology

1. Explain the relationship between structure and function of **epithelial** tissues of the human body (include key distinguishing characteristics of this tissue, and examples!)
2. Explain the relationship between structure and function of **connective** tissues of the human body. (include key distinguishing characteristics of this tissue, and examples!)

Unit 3 - The Integumentary System

1. What is the overall function of the integumentary system? How do key organs in our integumentary system regulate and maintain **temperature change** in (and outside of) our body?
2. Describe the series of events that occur in a tissue (here, the skin) which is healing from severe damage such as a burn or serious abrasion. (HINT: Recall the steps of tissue repair in Unit 2!)

Unit 4 - The Skeletal System

1. As an athlete 'would you rather' have a sprain (cartilage damage) or a break (bone damage) in terms of healing time and physical therapy/recovery? Why?
2. *Part 1:* Describe the body's response to **low** and **high** levels of blood calcium, respectively. Please include the hormones and cells involved in facilitating this response. *Part 2:* What is the role of calcium in the body? (outside of providing rigid structure in our bones!?)

Unit 5 - The Muscular System

1. Tell the 'story' of Excitation-Contraction Coupling in a skeletal muscle cell. Be sure to include the 6 major steps, and any 'key players' found along the way.
2. Describe the anatomy of a single muscle. Please include structural 'levels' of organization, major membranes, and protein filaments down to the smallest functional unit of the organ.

Looking forward to an **amazing** discussion with you!