Jonathan Clark

Human Biology Study Guide - Exam III

BIOLOGY OF HUMANS, fifth edition
Goodenough and McGuire

Chapter 5 – Learning Objectives

- What are the functions of the skeletal system?
- What kinds of tissues are found associated with the skeletal system?
- Describe the organization of a long bone.
- How does bone develop? What kind of cartilage is involved?
- List each cell associated with maintenance of bone, and give the function of each.
- What is bone remodeling?
- What are the four things that affect bone remodeling?
- What's the difference between the axial and appendicular skeletons? What are the principle bones of each?
- Describe any skeletal disorders that were discussed in class: what are they, what causes them, and what is the significance of each?

Pay special attention to Figures 1, 3, 4, 5, 6, 13

Chapter 6 – Learning Objectives

- What are the functions of the muscular system?
- Distinguish between antagonistic and synergistic muscle pairs.
- Outline the functions of the biceps and triceps.
- What does the origin and insertion of a muscle refer to?
- Describe the basic structure of a muscle, including the terms muscle, muscle, fiber, sarcomere.
- What is the significance of the following proteins for muscle contraction: actin, myosin, troponin, tropomyosin?
- How is muscle contraction controlled (the role of calcium and ATP)?
- Define the terms atrophy and hypertrophy.
- Describe any muscular disorders that were discussed in class: what are they, what causes them, and what is the significance of each?

Pay special attention to Figures 1, 2, 3, 6, 7, 9

Chapter 7 – Learning Objectives

- What are three types of neurons? Describe the general structure and functions of a neuron.
- What are the ions associated with nervous system impulses?
- What is the significance of neurotransmitters?
- What is a nerve? What is the difference between a nerve and a neuron?

Pay special attention to Figures 1, 2, 3, 7, 8

Chapter 8 – Learning Objectives

- What is the function of the nervous system?
- Describe the overall organization of the nervous system.
- Describe the components of the PNS and CNS.
- What is the spinal cord, and what are its functions? What is a reflex?
- What are the main functional regions of the brain?
- Describe any nervous system disorders that were discussed in class: what are they, what causes them, and what is the significance of each?

Pay special attention to Figures 1, 3, 4, 7, 8, 9

Chapter 9 – Learning Objectives

- What is a receptor?
- Name the different types of receptors in the body. What type of stimulus does each respond to?
- What is the difference between the somatic senses and the special senses?
- Outline the general function of the senses of taste and smell.
- Describe the structures and functions of the ear, as discussed in class.
- Describe the structures and functions of the eye, as discussed in class.
- Describe any sensory disorders that were discussed in class: what are they, what causes them, and what is the significance of each?

Pay special attention to Figures 1, 5, 9, 13, 14; Table 1