Review Sheet for Biology 160 Exam 2

The integument

- Understand the physical structure of skin (cell types, layers, muscle . . .)
- Know the functions of skin
- Know the functions and general structure of the accessory organs of the skin

Skeletal System

- Understand how the skeletal system is involved with maintenance of homeostasis.
- Know the gross and microscopic structures of bones.
- Know the functions of the skeletal system (kind of goes hand in hand with the first point).
- Be familiar with the different types of bones and why they are different (compact vs. spongy).
- Know the different cell types that are found within osseous connective tissue.
- Know the two different means of bone growth/development.
- Understand how bone remodels (not just after injury, but as a normal occurrence and why).
- Know the functional differences between the axial and appendicular skeletal system.
- Be familiar with the relationships between bones and other connective tissues (ligaments, tendons, blood, and adipose).

Articulations

- Know the different types of joints (based on functional & structural differences), and know the examples we discussed in class.
- Know the movements that are allowed at diarthroses (gliding, angular [types], and special movements).

Muscular System

- Know the general functions of muscle tissue/muscular system.
- Be familiar with the differences between skeletal, cardiac and smooth muscle
- Understand how the characteristics of muscle tissue relate to its function.
- Know the organization of muscle (skeletal) from the myofilaments to the muscle body.
- Understand how the force of contraction of an individual sarcomere is transmitted to the insertion of the muscle.
- Understand how the internal organization of muscle fibers (cells) differs from a general cell, and what those differences allow a muscle fiber to do.
- Know the steps of the sliding filament theory (muscle contraction).
- Be familiar with the terms twitch, summation, tetanus (incomplete & complete), and fatigue.
- Understand how ATP is utilized during muscle activity and where ATP comes from.
- Be familiar with the two different types of muscle tissue.
- Understand that muscles may be named for a variety of reasons, and be familiar with them.

Nervous System

- Know the organization of the nervous system.
- Understand how the nervous system and endocrine system achieve their functions.
- Know the general functions of the nervous system & differentiate between the CNS & PNS.
- Know the types of cells found in the nervous system, and group according to location (CNS vs. PNS)
- Know the anatomy of a typical neuron and the classification of neurons (structurally & functionally)
- Understand what membrane potentials are, and how action potentials are created and propagated.
- Understand the differences between action potentials and graded potentials.

This is just a basic guideline (not all inclusive) to get you pointed in the right direction, exams will be mainly from lecture notes, but may also include material from the text.