Objectives – Muscle
Chapter 10

Reading this chapter should help the student to:

1. Describe the three major muscle types and compare their structure, function and location
2. Use the terms sarcoplasm, sarcoplasmic reticulum, and Sarcolemma when describing a muscle fiber
3. Describe the relationships between a skeletal muscle, muscle fascicles, muscle fibers, myofibrils, and myofilaments
4. Describe the structure and location of the epimysium, perimysium, and endomysium
5. Describe the structure of a sarcomere
6. Describe the ultra-structure (EM) of skeletal and cardiac muscle fibers including the differences between the two
7. Describe the histological structure of a motor end plate and a motor unit
8. Describe the morphology (light and EM) and the function of the intercalated disks in cardiac muscle
9. Describe the arrangement of the contractile units in a smooth muscle fiber.
10. Recognize the different types of muscle in light micrographs and electromicrographs.

Objectives – Nerve Tissue and the Nervous System
Chapter 9

Reading this chapter should help the student to:

1. Describe the anatomical and functional organization of the nervous system
2. Describe, in general terms, the embryonic development of the CNS and the PNS
3. List the cell types that make up nerve tissue and describe the structure, function and location of each
4. State the key differences between gray matter and white matter and describe their respective histological compositions
5. Compare and contrast myelinated and unmyelinated axons
6. Describe the histological structure of the cerebral cortex and of the cerebellar cortex
7. Describe the structure and function of the meninges
8. Describe the structure of a nerve including the name of location of the investments
9. Compare and contrast the spinal and autonomic ganglia
10. Recognize neurons in H&E and metal impregnated sections and interpret their histological features
11. Recognize the type of nerve tissue displayed in a micrograph