Exercise 14: Microscopic Anatomy, Organization, and Classification of Skeletal Muscle

You are responsible for all objectives listed on page 187.

Activity 1: Examining Skeletal Muscle Cell Anatomy
Do part 1, identifying the parts listed. We will not be doing parts 2 and 3.

Activity 2: Observing the Structure of Skeletal Muscle Tissue
Review the prepared slide (#13) from your slide box.

Activity 3: Studying the Structure of a Neuromuscular Junction
Use the prepared slide (#14) from your slide box. And the models provided in class. Identify, draw and label the following using high power (400x). Use pg. 693, plate 4 for reference.
- Axon terminal
- Synaptic cleft (model only)
- Synaptic vesicles (model only)
- Motor end plate (model only)
- Synaptic end bulbs
- Skeletal muscle fiber

Exercise 17: Histology of Nerve Tissue

Objectives:

- Differentiate between the functions of neurons and neuroglia
- List the six types of neuroglia, know their functions, and which part of the nervous system they belong to
- Identify the listed parts of the neuron and know their functions
- Classify neurons according to structure and function
- Describe the structure of a nerve, identifying the connective tissue coverings and knowing their functions

Activity 1: Identifying Parts of a Neuron
Use the following slides to identify, draw and label the structures listed.
- Slide # 19 – nerve smear (400x)
  - cell body of the neuron
  - neuroglia
- Slide # 20 – Medullated nerve fibers (400x)
  - Schwann cells
  - Node of Ranvier

Use the models located in the lab to identify the structures in figure 17.2a & b p. 187) (excluding collateral branch)
Activity 2: *Studying the Microscopic Structure of Selected Neurons*
Use slides #23 - Pyramidal Cells (400x) (where are they found?)
#24 - Purkinje Cells (400x) (where are they found?)

Activity 3: *Examining the Microscopic Structure of a Nerve*
Use slide #21 – nerve cross section (100x)
- Epineurium
- Perineurium
- Fascicle
- Endoneurium