

# Anatomy and Physiology I

## Learning Guide: Brain

**Overview** – The brain is an amazingly complex organ vital to maintaining homeostasis and cognitive function. This module will endeavor to present this portion of the central nervous system in a manner easily grasped by the student. We begin by looking at the brain's lower parts (the brain stem) and working toward the higher regions (such as the cerebral cortex). Throughout, we will focus on the function of individual brain parts and how the different parts integrate and work together.

### Learning Objectives

- Identify the major parts of the brain and equate them with their particular functions.
- Integrate how different brain parts work together to evaluate and respond to sensory information.
- Describe the anatomy and function of the cerebellum in motor activity.
- Explain how the thalamus and limbic system evaluate incoming sensory information and elicit an autonomic body response.
- Describe how the neural pathways involve memory and multifaceted learning.

**Getting Started** – This module is not as long as one might expect. The material will be presented with stories and illustrations that underscore the functions of the central nervous system's various components and how components work collectively. Listen to the lecture carefully as you consider the different parts of the brain. Be prepared to learn a unique vocabulary.

**Exam** – The exam on the brain will employ various questions and is typical in its presentation. The brain is typically assessed in conjunction with the spinal cord and the autonomic nervous system.

**Laboratory** – the laboratory involves a dissection of the brain. Below are tools to aid in this exercise:

- [Brain Dissection List](#) – This is a shore list that identifies the brain parts you are responsible for and provides basic functions.
- [Brain Images](#) – Photographs of labeled brain dissections. This serves as a lab manual.

- [Video of the Brain Dissection](#) – Here is a video of a Brain dissection that covers what you need to know. This is particularly important if your course is online.

**Laboratory Exam Modalities** – The laboratory portion is simply going to be a part of the Brain Exam. However, the handling of the laboratory portion of this module will vary depending on the exam's modality.

- **In-Class** – A brain will be dissected and labeled for you during the brain exam. Here is a [LINK](#) that shows the typical presentation of the laboratory material with "flags" A - H affixed to various brain parts. You will provide both the Name and Function of each labeled part. This portion is
- **Online** - In an online presentation, you will rely on a video presentation to walk you through the parts of the brain. A detailed image bank is present for study purposes (see the above links). A "mini-lab practical" will be included in your exam so you can identify the brain structures in terms of name and function. This will consist of several close-ups and very clear images, and you will provide the Name and Function of each part. This portion is all "fill-in-the-blank."

**Final Point** – Grasping the essential workings of the brain can be introduced at a level that everyone can understand. The challenge will be equating the functions of the specific parts of the brain with their unusual terminology. As you listen to the presentation, carefully relate what you hear to the vocabulary on your handout.