

## Quick Study Guide

**Topic:** Neuroscience and Behavior

**Related Course(s):** Psych 1100, 2800, 3000, 3200

## The Nervous System – Key Terms

### THE NERVOUS SYSTEM

#### Central and Peripheral Nervous Systems

**Central nervous system** (CNS) is composed of the brain and spinal cord. The **spinal cord**, which is about the thickness of a pencil, contains a bundle of neurons that leaves the brain and runs down the length of the back. The spinal cord is the primary means for transmitting messages between the brain and the rest of the body. It also controls some simple behaviors on its own, without any help from the brain.

A **reflex** is an automatic, involuntary response to an incoming stimulus.

**Sensory (afferent) neurons** transmit information from the perimeter of the body to the central nervous system.

**Motor (efferent) neurons** communicate information from the nervous system to muscles and glands.

**Interneurons**, or association neurons, process information in the CNS and transfers the information from one neuron to the other within the CNS.

**Peripheral nervous system:** the peripheral nervous system encompasses all the parts of the nervous system other than the brain and spinal cord.

There are two major divisions—the somatic division and the autonomic division.

**Somatic Nervous System** specializes in the control of voluntary movements and the communication of information to and from the sense organs.

**Autonomic Nervous System** controls the parts of the body that keep us alive, our “automatic” functions such as the heart, blood vessels, glands, lungs, and other organs that function involuntarily without our awareness.

The autonomic division breaks down into 2 parts:

**Sympathetic division** is the part of the autonomic division of the nervous system that acts to prepare the body for action in stressful situations, engaging all the organism’s resources to respond to a threat. This is often called the “fight-or-flight” response.

**Parasympathetic division** acts to calm the body after the emergency has ended. The sympathetic and parasympathetic divisions work together to regulate many functions of the body.