Biopsychology - explores the biological mechanisms that underlie behaviors
Among many things, it studies:
- The structure and function of the nervous system
- How the nervous system interacts with the endocrine system

Cells of the nervous system
- Glial cells - nervous system cells that provide physical and metabolic support to neurons, including neuronal insulation and communication, and nutrient and waste transport
- Neurons - cells in the nervous system that act as interconnected information processors, which are essential for all of the tasks of the nervous system

The synapse
- The synapse is the space between the terminal button of one neuron and the dendrite of another neuron
- Neurotransmitter is a chemical messenger of the nervous system

Neurotransmitters
- Acetylcholine - muscle action and memory
- Beta-endorphin - pain and pleasure
- Dopamine - mood, sleep, and learning
- GABA - brain function, sleep
- Glutamate - memory, learning
- Norepinephrine - heart, intestines, and alertness
- Serotonin - mood and sleep

Part of the nervous system
The nerves system is divided into two major parts:
1 Central Nervous system
2 Peripheral Nervous system

Peripheral Nervous System

Somatic Nervous system	Autonomic nervous system
Cranial Nervous	sympathetic nervous system
Spinal nerves	parasympathetic nervous system

Central nervous system
CNS= Brain + Spinal control

The Spinal cord
- Delivers messages to and from the brain
- Has its own system of reflexes
- Functionally organized into 30 segments, each connected to a specific part of the body through the PNS
- Sensory nerves bring messages in and up to the brain; motor nerves send messages out to the muscles and organs

The Brain
Lateralization - the concept that each hemisphere of the brain is associated with specialized functions
- The eft hemisphere controls the right side of the body
- The right hemisphere controls the left side of the body

The surface of the brain is covered with gyro and slice. A deep sulcus is called fissure, such as the longitudinal fissure that divides the brain into left and right hemispheres

The corpus callosum
The two hemispheres are connected by a thick band of neural fibers known as the corpus callosum

Cerebral Cortex: lobes of the brain
Frontal lobe
- Executive functions that coordinate other brain areas
- Prefrontal cortex - thinking, planning, language
- Broca's area - language production
- Primary motor area - body movement

parietal lobe
- Processes touch information
- Integrates vision and touch
- Somatosensory cortex - essential for processing sensory information from across the body, such as touch, temperature, and pain

temporal lobe
- Processes auditory information, language
- Autobiographical memory
- Auditory cortex - responsible for processing auditory information
- Wernicke's area - understanding speech

occipital lobe
- Processes visual information
- Primary visual cortex - interpreting incoming visual information

The thalamus - serves as the really center of the brain where most senses are routed for processing.

The limbic system
- Amygdala - our experience of emotion and tying emotional meaning to our memories
- Hippocampus - associated with learning and memory
- Hypothalamus - regulates homeostatic processes including body temperature, appetite, and blood pressure

The midbrain - tracks visual stimuli and reflexes triggered by sound

The hindbrain

- Medulla - controls automated processes like breathing, blood pressure, and heart rate
- Pons - connects the brain and the spinal cord
- Cerebellum - controls balance, coordination, movement, and motor skills, and it is though to be important in processing some types of memory.

The endocrine system
- Pituitary gland - serves as the master gland, controlling the secretions of all other glands
- Thyroid - secretes thyroxine which regulates growth, metabolism and appetite
- Adrenal gland - secretes hormones involved in the stress response
- Pancreas - secretes hormones that regulate blood sugar
- Gonad - secretes sex hormones, which are important for successful reproduction, and regulate sexual motivation and behavior