

# Anatomical terms

SLHS 1402

# Gross Anatomy

- CNS (Central Nervous System): Brain and spinal cord.
- PNS (peripheral nervous system): Body parts with nerves that carry information to and from CNS, including muscular structures.
- Cerebrum: major perceptual, cognitive and linguistic functions.
- Cerebellum: coordination of movements and timing.
- Deep structures and subcortical nuclei: information relay, emotion, memory

# Cerebrum

- Frontal lobes: planning, decision-making, initiative, motor functions;
- Parietal lobes: somatosensory perception;
- Occipital lobes: visual perception;
- Temporal lobes: auditory perception;
- Anterior parts: more active, productive;
- Posterior parts: more receptive, analytical;

Hearing: Temporal

Vision: Occipital

Sensation: Parietal

Motor: Frontal

# Important Brodmann areas for language and communication

- ▣ Primary sensory cortex (postcentral gyrus): 1, 2, 3
- ▣ Primary motor cortex (precentral gyrus): 4
- ▣ Primary visual cortex (medial occipital lobe): 17
- ▣ Primary auditory cortex (**Heschl's gyrus**): 41, 42
- ▣ Sensory association cortex (superior parietal lobe): 5, 7
- ▣ Association language cortex, **Wernicke's area** (superior temporal gyrus): 22
- ▣ Motor speech cortex, **Broca's area** (lower third frontal convolution): 44, 45
- ▣ Supramarginal gyrus: 40
- ▣ Angular gyrus: 39
- ▣ Occipital-temporal lobe border: 37

# Neurons and Synapse

- The nerve cells or neurons constitute the gray matter of the cortex. There are also so-called glia cells, which fulfill more supportive functions. Neuronal activity consists of neurons being activated in patterns for different functions.
- A synapse is the actual transmission of activation between neurons. A neuron can receive activation from a number of axons from different neurons via thousands of synapses.
- Each cell has a certain threshold that determines the level of activation which is needed for the cell to actually be activated. The incoming activation (and inhibition) from different axons is constantly being summed up; when activation reaches the threshold level, the cell is activated and fires activation through its own neuron on to another cell.

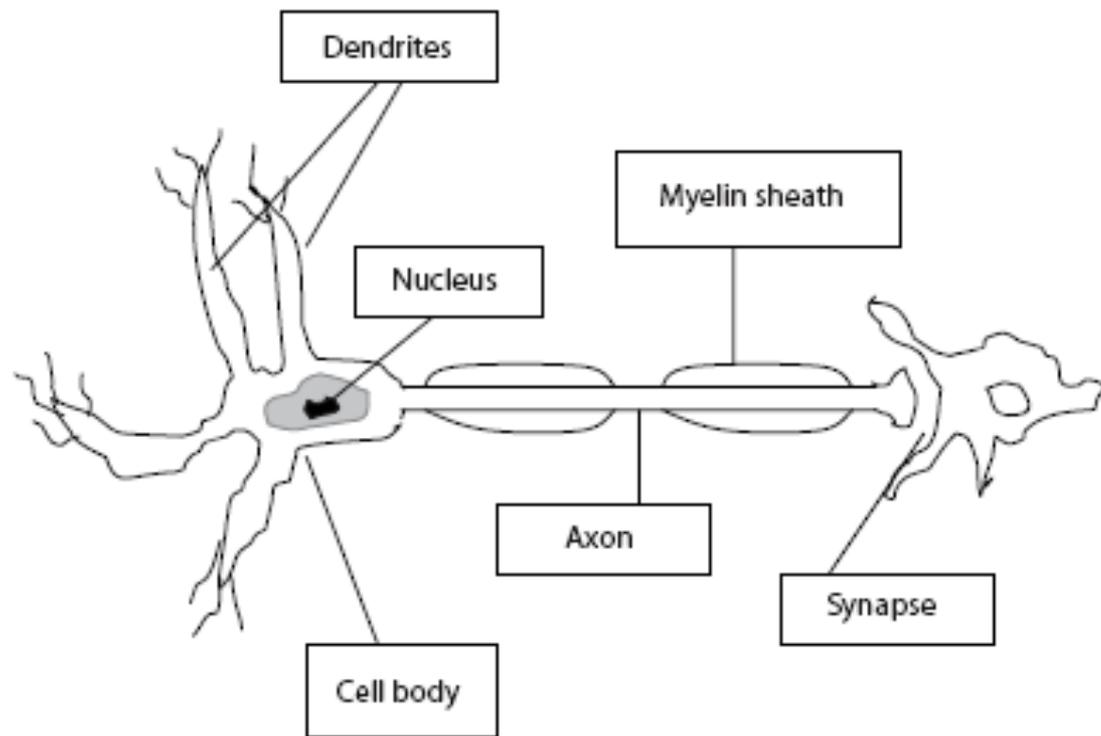


Figure 14.4. Neuron