BIO 230.02
Human Anatomy
Chapter 13-Nervous system continued and Chapter 14

Reflex arc- stimulus by a stretch sensory neuron, muscle is quadricep is lengthened and contracted, sent to spinal cord, motor neuron goes out

Cellular Organization in neural tissue

- Functional Classification of Neurons (cont.)
    - **Sensory neurons**
        - Pick up information from **receptors** and send it to the CNS
    - **Motor neurons**
        - Send information to the **effectors** of the periphery or organs
- There are three major types of receptors
    - **Exteroceptors**
        - Provide information about the external environment such as:
            - Touch, temperature, pressure, sight, smell, and hearing
    - **Proprioceptors**
        - Monitor position and movement of the body
    - **Interoceptors**
        - Monitor internal organ activity

Neural regeneration

- Neural Regeneration
    - Steps involved in the limited ability to repair
        - Schwann cells grow into the cut area
        - Axons begin to grow into the Schwann cells

The Nerve Impulse

- A nerve impulse is the **action potential** of a nerve
- The action potential is due to the **exchange of ions** across the membrane
- The ability to conduct the impulse is known as **excitability**
- A **stimulus** is anything that causes an action potential to occur
- The stimulus has to overcome the **threshold level** of that particular neuron
- The threshold level is the amount of stimuli required to create the action potential

The "speed" of the nerve impulse depends on:

- Presence of a myelin sheath: Fast impulse
- Lack of a myelin sheath: Slow impulse
- Axon with a large diameter: Fast impulse, up to 140 m/sec
- Axon with a small diameter: Slow impulse, Less than 1 m/sec