



CSD 331: Neurological Bases of Communication and Swallowing Disorders

| 3 credits | Prerequisite(s): CSD 330

Course Catalogue Description

CSD 331: Focused study on the anatomy of the nervous system and how the nervous system supports behaviors inherent to communication and swallowing. Students will be introduced to anatomical terms, structures, and functions. Clinical implications will be linked to class with a focus across the lifespan.

Course Objectives

The student will:

- Describe the subject matter of neuroscience and speech and hearing sciences
- Discuss and understand the relationship between neuroscience and speech and hearing sciences.
- Understand the rationale for and benefits of learning neuroscience
- Explain the components of a neurological examination.
- Describe common neurologic diseases that have clinical relevance
- Explain the basic principles that govern human brain function
- Define technical terms used for directional reference, brain section planes, and anatomic structures.
- Differentiate between the central and peripheral nervous systems and describe the major structures and functions of the central and peripheral nervous systems.
- Outline the classificatory components that categorize the nervous system functions.
- Describe the architectural organization of the cerebral cortex.
- Discuss Brodmann areas with respect to their use in neurolinguistics.
- Appreciate the rationale used for localizing lesions in the nervous system.
- Identify and describe the functions of the internal structures of the cerebral cortex, thalamus, midbrain, pons, and medulla.
- Identify and explain the functions of the gross anatomic structures of the spinal cord; identify and describe internal structures of spinal cord; identify/recognize the shapes of the corticospinal fibers at various neuraxial levels.
- Identify and describe functions of ventricular cavities; recognize shapes of ventricular cavities at different neuraxial levels; describe the functions of cerebrospinal fluid (CSF), the circulation path of CSF, disorders of CSF, and diagnostic significance of CSF.
- Describe the meninges, their locations, and their functions.

****NOTE: THIS IS NOT A COMPREHENSIVE SYLLABUS AND CANNOT BE CONSIDERED FOR KASA REFERENCE****

- Understand the structural complexity and functional connectivity of the brain structures.
- List the cranial nerves, cite their anatomic locations, and describe their sensory and motor functions.
- Describe the anatomy and functions of the autonomic nervous system.
- Identify, describe and understand nerve cell structure and physiology.
- Describe and understand the cerebrovascular system and explain common types of cerebrovascular accidents.
- Understand and describe the auditory system and vestibular system
- Understand and describe the somatosensory system.
- Understand and describe the visual system.
- Understand and describe the motor system (spinal cord, cerebellum, basal ganglia, motor cortex).
- Understand and describe the three phases of swallowing and the basic neurology involved in swallowing function
- Understand and describe the cerebral cortex and higher mental functions.

Course Texts

Required Textbooks

Webb, W. G. (2017). *Neurology for the speech-language pathologist*, 6th ed. St. Louis, MO: Mosby Elsevier.

LaPointe, L.L. (2012). *Atlas of Neuroanatomy for Communication Science and Disorders*. Thieme, New York. ISBN 978-1-60406-649-4

Recommended Textbook

Diamond, M. C. & Scheibel A. B. (1985). *The human brain coloring book*. Oakville, CA: Coloring Concepts.

Other Materials: Additional readings and materials will be posted throughout the term on the course website