Course Description:

Neuroanatomy and neurophysiology with a concentration on neurological mechanisms related to speech, language and hearing.

Course Coordinator & Instructor: Melanie Meeker, Ph.D., CCC-SLP
- Office Hours: Only by appointment
- Email: mmeeker@harding.edu

Instructor: Anita Killins, PT, Ph.D, NCS, C/NDT
- Office Hours: Only by appointment
- Email: akillins@harding.edu

Credit Hours: 3

Typical Meeting Times: Friday 8:00 to 12:00* (there are occasional days which are different, please note in the schedule provided as well as the online calendar).

Required Texts:


Student Learning Objectives:

Upon the completion of this course, students will be able to:

1. Describe the organization of the brain, including lateralization, lobes, brainstem, and cerebellum
2. Describe hemisphere dominance for language
3. Explain the function of the cranial nerves associated with human communication
4. Describe the functional categorizations of the nervous system
5. Explain neurons, synapses and their mechanisms of actions
6. Describe the descending and ascending motor and sensory pathways within the brain, spinal cord and brainstem
7. Describe the blood flow to the brain, including the Circle of Willis and the cerebral arteries
8. Discuss the developing and aging brain and associated disorders within each of these populations
9. Explain some of the most common neuropathologies (i.e. stroke, traumatic brain injury, dementia, Parkinson disease etc.) including etiology, neuroanatomical impact, pathology and/or pathophysiology, typical presentation, common test findings, progression, prognosis, speech therapist involvement in patient care and associated interprofessional team involvement in patient care
This course assists the student in meeting the CFCC standards IV-B and IV-C as follows:

*2020 Standards and Implementation Procedures for the Certificate of Clinical Competence in Speech-Language Pathology Standard IV-B. The applicant must have demonstrated knowledge of basic human communication and swallowing processes, including the appropriate biological, neurological, acoustic, psychological, developmental, and linguistic and cultural bases. The applicant must have demonstrated the ability to integrate information pertaining to normal and abnormal human development across the life span. Standard IV-C states The applicant must have demonstrated knowledge of communication and swallowing disorders and differences including the appropriate etiologies, characteristics and anatomical/physiological, acoustic, psychological, developmental, and linguistic and cultural correlates.

*2017 Standards for Accreditation of Graduate Education Programs in Audiology and Speech-Language Pathology, Standard 3.1.2B Foundations of Speech-Language Pathology Practice. The program must include content and opportunities to learn so that each student can demonstrate knowledge of the:

- Discipline of human communication sciences and disorders;
- Basic human communication and swallowing processes, including the appropriate biological, neurological, acoustic, psychological, developmental, and linguistic and cultural bases;
- Ability to integrate information pertaining to normal and abnormal human development across the life span;
- Nature of communication and swallowing processes
  - Elements
    - Articulation;
    - Fluency;
    - Voice and resonance, including respiration and phonation;
    - Receptive and expressive language (phonology, morphology, syntax, semantics, pragmatics, prelinguistic communication, and paralinguistic communication) in speaking, listening, reading, writing, and manual modalities;
    - Hearing, including the impact on speech and language;
    - Swallowing (oral, pharyngeal, esophageal, and related functions, including oral function for feeding; orofacial myology);
    - Cognitive aspects of communication (e.g., attention, memory, sequencing, problem solving, executive functioning);
    - Social aspects of communication (e.g. behavioral and social skills affecting communication);
    - Augmentative and alternative communication.
  - Knowledge of the above elements includes each of the following:
    - Etiology of the disorders or differences
    - Characteristics of the disorders or differences
    - Underlying anatomical and physiological characteristics of the disorders or differences,
    - Acoustic characteristic of the disorders or differences (where applicable),
    - Psychological characteristics associated with the disorders or differences,
    - Developmental nature of the disorders or differences,
    - Linguistic characteristics of the disorders or differences (where applicable)
    - Cultural characteristics of the disorders or differences.
Course Requirements:

1. This course includes laboratory activities associated with the cadaver lab, plastic models and basic screening techniques.

2. Four examinations will be administered. The format of each exam may vary (multiple choice, short answer, fill in the blank, identification short answers etc.) and will be discussed prior to each exam. After the first unit examination, all additional examinations will contain comprehensive material from previous units to ensure a full foundational understanding of material. Each new unit examination after the first examination will contain ~10% review material.

3. Student Presentations and developed handouts will be done throughout the semester covering common pathologies associated primarily with central nervous system pathology. Requirements of this project will be posted online along with a rubric that will be followed for assessment.

4. Team-based learning quizzes will be administered throughout the course (see the schedule for dates of these quizzes). Objectives will be posted for these quizzes each week. These quizzes may be administered at any time during the class period. Students will take an individual quiz (IRAT) first, then take the same quiz again in a team with reveal cards (GRAT). The weighting of the quizzes will be 50:50 unless the individual's score is less than 5/10 in which case the student will only double their individual score for the final quiz grade that week. Some weeks, cases will be introduced and discussed as they relate to neuroanatomy and neurophysiology. Students will be expected to fully participate in these discussions. An absence for a quiz, unless a doctor’s note or excuse is provided in writing, will be worth a grade of “0”. At the end of the semester, one quiz grade will be dropped, so this will accommodate for an unavoidable missed quiz.

5. Each student will participate in the learning/a quiz and teaching labs offered in the classroom and donor lab. Activities will include observation, dissection, identification, examination/screening, and teaching students from one or more other healthcare disciplines.

6. Case Study guiding questions will be assigned (per schedule) for each week to help students apply the material to clinically relevant scenarios.

Changes in Course Requirements:

The instructor reserves the right to change the course assignments and/or testing procedures. However, students will be adequately notified of any changes during class meetings.

Grades:

- 80% Exams and Final (20% each)
- 10% TBL quizzes and 1 practical quiz in donor lab
- 5% Presentations
- 5% Clinical Cases
Professional Conduct:

Please abide by the following rules to allow for the best learning environment for you and your fellow classmates. These rules contribute to an impression of professionalism, something that should be very important to you as you prepare for a professional career.

1. **Cell phone policy:** Turn off your cell phones (any exceptions must be discussed with the instructor). No text messaging allowed, no matter how quiet yours may be. No cell phones or electronic devices during quizzes and exams or you will earn a “0” on your quiz or exam. Do not use cell phone as a watch. **Turn it off and put it away!**

2. **No lap-top usage for surfing the web. No instant-messaging in class time.**

3. **Come to class on time to minimize distractions and be considerate of the rest of the class.** Remain until the class is dismissed. If you have a client immediately following class, you must set up your room and materials before class.

4. **Attend ALL classes. Any class absence must be approved ahead of time for the absence to be considered excused.** Any work due remains due on that day so, if you are absent, submit assignments early or send them with a classmate. Permission must be obtained before submitting any assignment after the specified due date.

**Graduate/Professional Dress Code:** All members of the Harding community are expected to maintain standards of modesty and decency in dress appropriate to the Christian lifestyle and consistent with professional employment expectations. For these reasons, students are expected to adhere to an established dress code. Additional standards of dress may be required by professional and clinical environments. Please check the CSD Student Handbook and CSD Clinic Handbook for additional information.

**Students with Disabilities:** It is the policy for Harding University to accommodate students with disabilities, pursuant to federal and state law. Therefore, any student with a documented disability (e.g. physical, learning, or psychological) who needs to arrange reasonable accommodations, must contact the instructor and the Disabilities Office at the beginning of each semester. (If the diagnosis of the disability occurs during the academic year, the student must self-identify with the Disabilities Director as soon as possible in order to put academic accommodations in place for the remainder of the semester.)

The Disabilities Office is located in Room 219 in the Student Center, telephone (501) 279---4019. Since some graduate courses are taught at different sites and students will not have access to the Disabilities Office located on Harding University's Searcy campus, the student must self-identify with the instructor of the course and submit documentation by fax or mail to the Disabilities Office on our main campus. The necessary forms are available. Upon receiving the appropriate documentation approved by ADA Guidelines, academic accommodations may be set up by the instructor via a telephone conference with the Disabilities Director. If you have questions, please contact Bridget Smith, Disabilities Director, at (501)279-4019 or DisabilityServices@harding.edu.

**Academic Integrity:** Honesty and integrity are characteristics that should describe each of us as servants of Jesus Christ. As your instructor, I pledge that I will strive for honesty and integrity in how I handle the content of this course and in how I interact with each of you. I ask that you join me in pledging to do the same.
Academic dishonesty will result in penalties up to and including dismissal from the class with a failing grade and will be reported to the Dean and Provost. All instances of dishonesty will be handled according to the procedures delineated in the Harding University catalog.

**Assessment:**

Harding University, since its charter in 1924, has been strongly committed to providing the best resources and environment for the teaching–learning process. The board, administration, faculty, and staff are wholeheartedly committed to full compliance with all criteria of the Higher Learning Commission of the North Central Association of Colleges and Schools. The university values continuous, rigorous assessment at every level for its potential to improve student learning and achievement and for its centrality in fulfilling the stated mission for Harding. Thus, a comprehensive assessment program has been developed that includes both the Academic unit and the Administrative and Educational Support (AES) units. Specifically, all academic units will be assessed in reference to the following the Expanded Statement of Institutional Purpose: The University provides programs that enable students to acquire essential knowledge, skills, and dispositions in their academic disciplines for successful careers, advanced studies, and servant leadership.

**Time Management Expectations:**

For every course credit hour, the typical student should expect to spend at least 3 clock hours per week of concentrated attention on course-related work, including but not limited to time attending class, as well as out of class time spent reading, problem solving, reviewing, organizing notes, preparing for upcoming quizzes/exams, developing and completing projects, and other activities that enhance learning. Thus, for a 3-hour course, a typical student should expect to spend at least 9 hours per week dedicated to the course.