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**CSD 4050 – Introduction to Neurogenic Cognitive-Communicative Disorders**

**Fall 2023 (3 credit hours)**

**10:00-11:15 TR**

**Swaid 214**

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**Office hours vary greatly; please email for an appointment time**

**Course Information**

**Course Description**

A survey of the normal structure and function of the nervous system in human communication and disorders that occur due to neurological dysfunction.

This course is designed to provide an overview of the normal neuroanatomy and neurophysiology of human communication (speech, language, and hearing). Neurological bases for all aspects of communication (speech, language, hearing, vision, movement, and tactile sensation) and swallowing are addressed. This introductory course is expected to serve as a basis for understanding the normal and pathological processes that affect human communication and to provide a foundation for advanced graduate level coursework in speech, language, swallowing, and cognitive functions. Prerequisites: BIOL 1200

**Required course materials:**

Rouse, M. H. (2020). *Neuroanatomy for speech-language pathology and audiology; 2<sup>nd</sup> Edition*. Burlington, MA: Jones & Bartlett Learning.

Ferrand, C.T. (2021). *The Speech and hearing anatomy course companion workbook*. Loveland, CO: CTF Publications.

Your textbook comes with some pretty great electronic resources (quizzes and flashcards). I encourage you to use them.

**Recommended course materials:**

McFarland, D. (2023). *Netter's Atlas of Anatomy for Speech, Swallowing and Hearing*. (4th Ed). Mosby/Elsevier Press. ISBN 9780323830348

**Textbook Rationale**

It is often difficult to locate and select textbooks because many are either poorly aligned with the subject matter or become cost prohibitive. The choice of textbooks is not made without careful consideration of both the relevance of the text to the course objectives and the cost of the text to the student. This particular text was selected because it is readable, relatable, relevant, and instructive, providing students with a fundamental understanding of neuroanatomy and neurogenic disorders at an affordable cost. It is not optional and you will get your money's worth out of it.

## Course Communication

This course utilizes the Canvas platform extensively. Please make sure your notifications are turned on so that you do not miss any announcements. Any information I send collectively to the class will be sent through Announcements in Canvas. I am available by email. I will try to respond as quickly as possible; however, please do not expect me to answer work-related emails during evenings, weekends or over holiday breaks. You can expect a response to an email to me within 48 hours. Similarly, I expect that you will check your university email at least once each day and respond to emails from me in a timely manner (within 48 hours).

## Department Mission Statement

Our program excels in developing highly skilled and professional graduates who are ready to impact their local and global communities by improving the lives of those they serve. Christian faculty and staff are invested in providing an unparalleled experience utilizing a comprehensive curriculum, contemporary technology, and state-of-the-art facilities to engage students in reaching their full potential, both educationally and spiritually. As a result, our students exemplify ethical leadership, critical thinking, and interprofessional collaboration to support top of the license practice.

## Learning Objectives

This course supports mastery of the following ULOs:

ULO 2 (Communication): Students will demonstrate effective communication (e.g. written, non-written, spoken).

ULO 3 (Critical Thinking): Students will gather and evaluate available information and make a reasoned argument based on that data.

This course supports mastery of the following Program Learning Outcomes (PLOs):

PLO 3: Communicate effectively in written, oral, and non-verbal forms, including discipline specific documentation, and collaboration with team members.

PLO 4: Demonstrate knowledge of the normal anatomy and physiology underlying human respiratory, phonatory, articulatory, neurological, and auditory systems.

PLO 7: Discuss the general effects that a communication disorder may have on one's life and that of their family/caregiver.

## Course Learning Objectives (CLOs)

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

1. Describe the gross anatomy of the central and peripheral nervous systems.
2. Explain the neuromuscular control for normal speech production.
3. Examine the central nervous system as it relates to normal language production and comprehension.
4. Discuss the central and peripheral nervous systems as they relate to hearing, balance, vision, taste and swallowing.
5. Discuss and demonstrate understanding of communication, hearing, cognitive and swallowing disorders associated with acquired neurological damage.
6. Utilize directional terms appropriately

## Module Learning Objectives (MLOs)

See the module objectives and associated readings for each of the 5 modules in this course. (separate document)

## Course Grading and Assignment Details

### Article Reviews - 25 points each

All students will complete **two** article reviews from current peer-reviewed journals. It is preferred that your article was written within the last 5 years. Your articles must cover research in the area of neuroanatomy and/or neurogenic communication disorders. Each review will include a short summary and your reflection on the impact of communication and/or swallowing disorders on clients and their caregivers. You will use Times New Roman font, 12 point, double spaced, left-justified, with appropriate citations in **APA format**. **\*\*Please double check your APA citation for your article. Students often lose points here. Your review must be a full 2 pages in length and not**

more than three. Grammatically correct writing is expected, including punctuation, spelling, and subject-verb agreement. Please see Canvas for the grading rubric for these reviews. Individuals may be asked to schedule meetings with the course instructor to discuss the content of the articles selected.

### **Construct a model of the Circle of Willis using any materials you choose- 50 points**

I encourage you to be creative! The model is to be three dimensional, not designed on a computer. The model must include the following parts, clearly labeled, using whatever materials you choose:

1. anterior communicating artery
2. internal carotid arteries
3. posterior communicating artery
4. posterior cerebral arteries
5. basilar artery
6. vertebral arteries
7. middle cerebral arteries
8. anterior cerebral arteries

### **Media projects- 25 points each**

Each group will choose a movie to watch **or** a book to read that relates to a neurogenic disorder. You will write a two-page summary, submitted to Canvas. In your summary you will include how the disorder was portrayed, as well as your personal review of the book/movie. Do you feel it was an accurate portrayal? How did they handle the emotional aspects of this disorder? A list is provided on Canvas with examples of choices, but you are not limited to this list. If you are unsure if your book/movie is applicable, please see me for prior approval.

### **Cranial nerve presentation- 25 points**

Each group will choose a cranial nerve, drawn from a hat. You will present your nerve to the class identifying it by name and function, as well as sensory, motor, or both. You will need to include aids to help your classmates remember the name and function of your nerve. Be creative- this can be a song, motions, using visual aids, anything that will help the class remember your nerve and its purpose. This is meant to be fun and helpful; it is not a formal presentation.

### **Workbook assignments: Course requirement**

Although not for a grade, you are expected to complete assigned worksheets in your Speech and Hearing Anatomy course companion workbook (due dates and details in Canvas). Failure to complete these worksheets will result in failing the course.

**Grading** - Assessment of the knowledge, skills, and proficiency of each student for the purpose of assigning a letter grade at the completion of this course will be based on the following:

A	100-90%
B	89-80%
C	79-70%
D	69-60%
F	59% and below

Article Summaries (complete individually) – 10% of course grade

Book or Movie Review (complete in teams) – 5%

Cranial Nerve Presentation (complete in teams) – 5%

Unit Exams – 40% of course grade

iRATs/tRATs and Team Maintenance – 20%

Final Exam – 20% of course grade

Course companion worksheets- required for course credit

In this course, points are assigned to iRATs and tRATS according to the standard Team Based Learning framework. Any student not earning half of the points available on the iRAT will have (double) the iRAT grade recorded for the tRAT assignment.

Grades are not gifts; they are earned. The instructor does not *GIVE* grades; rather the student *EARNs* the grade through organization, diligence, planning, and execution. Students are expected to assume individual responsibility for the quality, presentation and timeliness of their own work. Late work is not accepted and earns a grade of zero. Extra credit opportunities are generally not available. I do not provide any opportunities to raise your grade at the end of the semester and don't round overall course grades. Take home message: Do your best work on time.

### **Participation/Attendance**

Full participation in each class meeting is required for the success of the entire class. True exchange of academic ideas can only be achieved with everyone actively participating. Attendance at each class meeting is expected. Come to class having read the material. This is an upper-level course and its mastery involves some complex concepts and large amounts of material that is probably new to you. I truly want you to be successful in mastering this course material but cannot answer questions that you don't ask. In my classroom, there are no "dumb" questions. I will always respect your willingness to seek a greater depth of knowledge and promise to never knowingly make a student feel "silly" for asking a question in class – it's a safe place to pursue knowledge. Please make sure that you maintain that sense of safety by honoring your classmates' pursuit of knowledge.

Should you need to miss class due to illness, please communicate with me prior to class time via email. Attendance will be taken at each class meeting. If you need to miss a class period, please inform me via email prior to the class period. Any student who misses more than 2 class meetings will have the final grade lowered by one letter for each subsequent absence.

### **Additional Course Policies:**

- Please use my university email (above) rather than Canvas email. I do not regularly check Canvas mail and information there is easily missed. Comments made in Canvas are also easily missed.
- Students are expected to read assigned material prior to class and be prepared to participate in class discussions. Students who miss class are responsible for content.
- Please do not text during class. If there is an emergency, you may leave the classroom to take care of the matter.
- Lectures, slides and test questions are considered to be intellectual property and some course components are protected by an additional copyright. For these reasons, students may not record any portions of a class or photograph slides without the express permission of the course instructor.
- Written work must be correct in mechanics (e.g. grammar, punctuation, etc.). Points will be deducted for inadequate work.
- It is expected that students will adhere to assignment due dates. Late work will **not be accepted** and a zero will be given for the assignment. However, I ask that you communicate with me if you are ill or have an emergency.
- Submitting work taken directly from another source will be considered plagiarism and no credit will be given on the assignment. Cheating in all its forms is inconsistent with the Christian faith and practice and will result in sanctions up to and including dismissal from the class with a failing grade. Obtaining information from students taking this course during a previous semester or giving information to students in subsequent semesters is considered Academic Dishonesty. Please see the [University Catalog](#) for information related to this topic. You might be surprised at what's considered cheating.
- If you are unable to take an examination due to illness, an alternate form of the exam may be substituted for the missed exam. In order to be allowed the opportunity to make up the exam you must contact me prior to the scheduled exam.
- Students are encouraged to review each exam with the course instructor. Students are expected to take ownership and responsibility of their course grades.

## **Academic Integrity**

Honesty and integrity are characteristics that should describe each one 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 Associate Provost. All instances of dishonesty will be handled according to the procedures delineated in the Harding University catalog.

## **Course Academic Conduct**

All acts of dishonesty in any academic work constitute academic misconduct. As a student of Harding University, you should avoid all cases that will be construed as academic misconduct. This includes, but is not necessarily limited to, the following:

1. *Cheating*: Use or attempted use of unauthorized materials, information, or study aids in any academic exercise.
2. *Plagiarism*: Representing the words, ideas, or data of another as your own in any academic exercise.
3. *Fabrication*: Falsification or unauthorized invention of any information or citation in an academic exercise.
4. *Aiding and Abetting Academic Dishonesty*: Intentionally helping or attempting to help another student commit an act of academic dishonesty.
5. *Conduct unbecoming a professional while participating in a practicum, internship, field experience, or any similar academic experience*: Conduct unbecoming a professional includes, but is not limited to, standards of conduct stated in any [Harding University student handbooks](#) as well as standards and codes of conduct associated with professional organizations related to the student's academic discipline.
6. *Respect*: Students are expected to respect other classmates' opinions and ideas at all times.

## **Special Note on the use of AI such as ChatGPT**

Unless your instructor includes instruction on acceptable usage of ChatGPT or a similar A.I. product in the course, your use of artificial intelligence for writing any part of an assignment will be considered academic fraud, and you will risk being removed from the program. It is our sincere hope that you understand the connections between reading, writing, and learning. Writing about something helps build neural pathways that aid you in connecting your new knowledge within the context of knowledge you've already learned. Skipping this step and using something written by AI or by another person means you are cheating yourself out of learning. Please be responsible and ethical in your coursework, and please submit your own writing.

## **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 condition (e.g. physical, learning, or psychological) who needs to arrange reasonable accommodations must contact the instructor and the Office of Disability Services and Educational Access at the beginning of each semester. If the diagnosis of the disability occurs during the academic year, the student must self-identify with the Office of Disability Services and Educational Access as soon as possible in order to get academic accommodations in place for the remainder of the semester. The Office of Disability Services and Educational Access is located in Room 239 in the Student Center, telephone, (501) 2794019.

I am happy to make any needed accommodations for you, but please speak with me well in advance of any that are expected (exams, assignments) so that we can develop a mutually acceptable and most beneficial/effective plan for implementation of those accommodations.

## **Time Management Expectations**

For every course credit hour, the typical student should expect to spend at least three 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 three-hour course, a typical student should expect to spend **135 hours dedicated to mastery of the material in this class.**

## Technology Details

### Learning Management System

Canvas is the Learning Management System (LMS) used in this course. Canvas sends an email confirmation to your Harding University email once an assignment is graded or an announcement is posted. Canvas can be accessed using [Harding's Canvas Login](#). For additional information relating to Canvas, including tutorials, and supported web browsers, please visit [Harding's IST Canvas page](#) or [Instructure Canvas Help Center](#). Click here for [Instructure Canvas Accessibility](#) and [Privacy Policies](#).

### Technical Support

For technical assistance from 8:00 a.m. - 5:00 p.m., M-F, please contact the e-Learning Help Desk at Phone: 501-279-5201

Email: [elearning@harding.edu](mailto:elearning@harding.edu)

Web: [E-Learning Web Address](#)

For Canvas assistance, search [Canvas Guides](#)

### Inclement Weather

If inclement weather prohibits your participation in any element of this course, prompt communication with me is expected. Your personal safety is my primary concern. We will handle any instances that arise on a case-by-case basis.

### Academic Support Services

Harding offers a wide variety of academic support services. While this list is not all-inclusive, the following links may be useful to students (some services may not be applicable for graduate or professional students):

- [Library](#)
- [Testing](#)
- [Tutoring](#)
- [Writing Center](#)

### Student Support Services

Harding offers a wide variety of student support services. While this list is not all-inclusive, the following links may be useful to students (some services may not be applicable for graduate or professional students):

- [Advising](#)
- [Counseling](#)
- [Registration](#)
- [Student Life](#)
- [Financial Aid](#)
- [Career Services](#)

## University Policies and Procedures

### Assessment Statement

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 Accreditation of the Higher Learning Commission as well as standards of many discipline-specific specialty accrediting agencies. 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 of Harding. Thus, a comprehensive assessment program has been developed that includes both the academic units and the administrative and educational support units. Course-specific student learning outcomes contribute to student achievement of program-specific learning outcomes that support student achievement of holistic university learning outcomes. All academic units design annual assessment plans centered on measuring student achievement of program learning outcomes used to sequentially improve teaching and learning processes. Additionally, a holistic assessment of student achievement of university learning outcomes is

coordinated by the university Director of Assessment and Testing used to spur continuous improvement of teaching and learning.

### Referencing Information

As the accepted writing style of business, psychology, education, and social science programs across the globe, the American Psychological Association publication format (otherwise known as APA Style) is the required writing style for this course. Learning to conduct scholarly research is a natural part of academic work, and will help you succeed at Harding University. Conducting scholarly, professional and industry research is required for this course. If a source is questionable, e.g., Wikipedia, other wikis, ask.com, answers.yahoo.com, etc., please contact me for clarity and permission before using a source that falls outside the scope of traditional academic standards. It is also important that you show how these references assisted your academic work; so make sure you reference your sources in every assignment you submit, no matter how mundane the assignment may be. Failure to properly and completely cite your sources may constitute plagiarism or cheating, as delineated in the Academic Code of Conduct. Bottom line, remember these two simple rules: 1) give credit where credit is due, and 2) if it isn't your words, ideas or thoughts, it is someone else's and needs to be cited.

- [APA Resources](#)
- [Purdue Online Writing Lab](#)

*The Harding University Writing Center is also available to provide help with planning, writing, organizing, or revising an essay as well as with using MLA, Chicago, or APA formats. You can schedule an appointment with the Writing Center at [harding.mywconline.com](http://harding.mywconline.com) or ask questions via email at [HardingUniversityWritingCenter@gmail.com](mailto:HardingUniversityWritingCenter@gmail.com).*

### Turnitin

During this course, the originality of various assignments submitted by students will be checked via [Turnitin](#), an organization leading the way in both plagiarism detection and student learning. Turnitin provides institutions, faculty, and students with a variety of academic tools, including originality checks, online grading capabilities, and even peer reviewed feedback. Turnitin is integrated with the assignment settings used when preparing assignments in Canvas.

### Academic Grievance Policy

If a student believes that he or she has reason to question the decision of a faculty member with regard to the final grade received in a course or the denial of academic progression, a procedure has been established to resolve the grievance. The student must initiate the written Academic Grievance Appeal within five business days after notification of the final grade in Pipeline or notification of denial of academic progression. In cases of both course grade and academic progression appeals, students are encouraged to first engage the involved faculty member in a good faith discussion (in person or via telephone or email) as the first step in resolving any concerns. If resolution is not achieved, a student may submit a written academic grievance by following the [policy set forth in the Harding University catalog](#). All students should be familiar with this policy.

### Changes to Syllabus Notice

As your instructor, I reserve the right to modify and update any part of the syllabus where necessary. It is your responsibility to stay up to date with any changes communicated by me.

\*Tentative Course Schedule- subject to change at instructor's discretion

Date	Topic	Reading	Class Activity
8/22	Intro to TBL	Syllabus	Form teams, intro to TBL and course
Module 1 8/24	Navigation & organization of the NS	Chapter 2; video on Canvas	iRAT & tRAT application activity – planes, terms of orientation (autopsy/CSI)
8/29		Workbook (CCW),	Application – organization of the NS

		p. 256	
8/31	brain imaging and neurodevelopment	Chapters 1 & 3	iRAT & tRAT application activity - WHO-ICF
9/05	Synthesis		Exam #1 - Chapters 1-3 in Testing Lab
9/07	Application		
Module 2 9/12	Cells of the NS	Chapters 4 & 5	iRAT & tRAT application activity -
9/14		CCW p. 249, 251	
9/19	Spinal cord, brainstem, CNs and cerebellum	Chapter 5	Application activity - brainstem and CNs
9/21		Chapter 5 CCW p. 269, 271, 272	CN presentations in class
9/26	Diencephalon, basal ganglia, brain ventricles	Chapter 6 & 7 CCW p. 259, 263	iRAT & tRAT #4 application activity
9/28	Synthesis & Application		Exam #2 in Testing Lab; Ch 4-6
10/3	Cerebrum - overview	Chapter 7	
10/5		CCW p. 255, 279	Article summary #1 due in Canvas
10/10	Cerebral function	Chapter 8	
10/12		Chapter 8	Circle of Willis model due
10/17	Synthesis & Application		Exam #3 - Ch 7-8
Module 3 10/19	Consciousness & Neurology of speech	Chapter 9 & 11 CCW p. 306-307	iRAT & tRAT #5 application activity - identifying dysarthria
10/24		CCW p. 280-285 and 288-292	
10/26			
10/31	Neurology of language	Chapter 12	iRAT 7 tRAT #6 application activity - identifying aphasia
11/02			
11/07	Synthesis & Application		Exam #4 - Ch 9, 11 and 12
Module 4 11/09	Swallowing & cognition	Chapter 13 & 14	iRAT & tRAT #7
11/14			Article summary #2 due in Canvas
11/16			Media project (book or movie) due in Canvas



11/28	Neurology of emotion & CN exam	Chapter 15-16	iRAT & tRAT #8 application activity - CN exam part I
Module 5 11/30	CN exam	Chapter 16	Exam #5 - Ch 13-15 in Testing Lab Application activity - CN exam part II
12/5			Synthesis & Application
12/7			Synthesis & Application
12/11	Finals Week		Final Exam - Comprehensive