ASLP 4050, Section 001, Fall 2025

Neurological Bases of Speech and Hearing

**Welcome!**

**General Information**

**Academic term:** Fall Semester 2025 (August 18th, 2025, to December 12th, 2025)

**Class Meetings**: Tuesdays and Thursdays 12:30 PM to 1:50 PM

**Room:** Gate 131 (Gateway Building)

**Instructor Information**

**Instructor:** Olivia Zant, AuD, PhD, F-AAA (she/her/hers)

**Office**: Speech and Hearing Center, Room 180 (downstairs, middle hallway)

**Email:** Olivia.zant@unt.edu

**Office Hours:** Tuesdays/Thursdays 2:15-3:15 PM or email me to find a mutually agreeable time to meet over Zoom or in person.

**Communication**- Please note that I typically respond to emails during regular weekday hours. While you are welcome to email me at any time, responses may be delayed on weekends and holidays. I try to respond within 48 hours, depending on the circumstances.

**TA Information**

**TA:** Jillian Schneider

**Email:** jillianschneider@my.unt.edu

**Availability:** TBD. Will announce on Canvas

**Course Information**

**Course Description:** In this course, you will learn about the Structure and function of the human nervous system as related to speech and language learning and usage. Emphasis on the reception and integration of sensation and the production of verbal and non-verbal responses.

**Course Structure:** This course will be conducted via in-person lectures and labs.

**Course Prerequisites:** ASLP 3025: Anatomical Bases of Speech and Hearing Sciences

**Required Material**

**Textbook Information:**

**Required resource**

Bhatnagar, Subhash C. (2018). *Neuroscience for the Study of Communicative Disorders, 6th edition.* Baltimore, MD: Wolters Kluwer. (ISBN-13: 978-1496331519)



* *It is* ***required*** *that you obtain access to the on-line student resources associated with the 6 th edition of the text that includes access to the online resources, as part of your book purchase. Also, page numbers mentioned within lectures and study materials are pages in the 6th edition of the book.* ***Contact the UNT bookstore and/or the publisher*** *for information on how to obtain access to the book and its on-line resources.*
	+ *Note: If you purchase a used 6th edition of the book, it may or may not provide access to the online resources. You should check before you purchase.*
* *I have a physical copy of the textbook that you may use during office hours.*

**Suggested resource**

* Diamond, M.C., Scheibel, A.B., & Elson, L.M. (1985). *The Human Brain Coloring Book.* Oakville, CA: Collins. (ISBN: 0-06-460306-7) Especially helpful for visual learners

**Technology Skills and Requirements:** Students enrolled in this course will need to have bi-weekly access to an internet-enabled computer to access ebook, online materials, download and upload files, participate in optional discussion boards, send and receive emails, and access Canvas. Access and basic proficiency in navigating Microsoft Office Applications, such as Word is also expected.

To help you learn how to navigate Canvas, please review The Basics for Students New to Canvas (<https://online.unt.edu/canvas-basics-unt-students>). After reviewing this information, please contact the Student Hep Desk for additional technical support Sage Hall 130, 940-565-2324, heldesk@unt.edu.

**Course Objectives**

 Upon successful completion of this course, you will be able to:

* discuss the gross anatomy of the central and peripheral nervous systems;
* discuss the neuromuscular control for normal speech, swallowing; posture, and gestural movements;
* discuss the nervous system as it relates to normal language production, language comprehension, and cognition;
* discuss the nervous system as it relates to hearing, balance, vision, taste, smell, and touch; and
* apply your knowledge of neuropathology toward an understanding of the clinical-pathological method as it relates to neurogenic disorders of communication, hearing, and swallowing.

**What this achievement will take on your part**

(recommendations from Dr. Olness)

Emphasis is placed on your steady progress and consistent participation in this course, through regular class attendance, regular study habits, home-works, exercises and exams.

1. **Consistent attendance and participation in class: every Tuesday/Thursday.** Attendance will be taken in each class session, in support of your learning. Consistent twice-weekly participation in all class sessions is expected. Excused absence credit is possible with advance notice, accompanied by documentation of reason for absence, sent by email to the TA with cc to the professor.
2. Regular allocation of 6 hours per week outside of class for review, reading, home-work completion, exercise completion, individual study, group study, and/or meetings with T.A. or professor, which is **standard for a 3 credit-hour course (i.e., 6 hours of work outside of class + 3 hours in class = @9 hours of work per week)**
	1. It is important to first study the big picture before studying details. Treat this class like you would a puzzle – look at the overall picture on the front of the box before you start trying to piece it all together.
	2. Treat your book like an encyclopedia. Encyclopedias are not read from beginning to end. Rather, you scan across the headers and sub-headers to see the overall frame-work first, and then you dig down for the details that you need. Once you see the overall frame-work, finding and understanding detailed information becomes much easier.
3. **Accessing lectures in advance of class**, for note-taking and pre-study
4. **Checking your UNT email and Canvas Announcements on a regular basis**.
5. **Completion of exercises**. You earn completion credit; very helpful in support of test preparation.
6. **Preparation for and completion of examinations**.

**Additional Note From Dr. Olness:** Based on experiences and reports of past students in this course, studying from online Power Points alone without attendance at lectures is insufficient for learning the material; physical models, explanations, demonstrations, and discussion of clinical cases cannot be included in the Power Points. Attendance at all lectures puts you at a strong learning advantage. You are encouraged to cooperate with classmates to share and discuss notes together as the course progresses. Later portions of course content build systematically on prior content.

**Supplementary Materials**

Supplementary materials, including additional texts, videos, and practice questions may be posted on Canvas to aid students in studying material. Supplementary materials are NOT required, but students may find reviewing them helpful for the course.

**Student Accommodations**

The University of North Texas makes reasonable academic accommodations for students with disabilities. Students seeking reasonable accommodation must first register with the Office of Disability Access (ODA) to verify their eligibility. If a disability is verified, the ODA will provide you with a reasonable accommodation letter to be delivered to the faculty to begin a private discussion regarding your specific needs in a course. You may request reasonable accommodations at any time; however, ODA notices of reasonable accommodation should be provided as early as possible in the semester to avoid any delay in implementation. Note that students must obtain a new letter of reasonable accommodation for every semester and must meet with each faculty member before implementation in each class. Students are strongly encouraged to deliver letters of reasonable accommodation during faculty office hours or by appointment. Faculty members have the authority to ask students to discuss such letters during their designated office hours to protect the privacy of the student. For additional information, refer to the Office of Disability Access website at https://studentaffairs.unt.edu/office-disability-access. You may also contact ODA by phone at (940) 565-4323.

**Grading Policies**

The table below provides the percentage points necessary to earn each associated letter grade for this course. Point values for each assignment and exam are provided in the Grading Policy table below. Late and/or absent assignments will receive 0 points. If the student ears a final grade of less than (C), the student will be judged as not having made sufficient progress in successfully addressing the Knowledge and Skills Acquisition outcomes for this course.

**Grading Distribution**

|  |  |
| --- | --- |
| A | 90-100% |
| B | 80-89% |
| C  | 70-79% |
| D | 60-69% |
| F | <60% |

|  |  |
| --- | --- |
| **Course Break-Down** | **Points** |
| Introduction Assignment | 10 points |
| In-class Quizzes(4 total) | 40 points(10 points per Quiz) |
| Clinical Handbook Pages | 80 points(10 points per page) |
| Final Project | 20 points |
| Midterm Examination | 100 points |
| Final Examination | 100 points |
| Attendance |  25 points |
| **Total** | **375 points** |

1. Introduction Assignment: Students will complete an open-book quiz regarding the syllabus and course expectations.
2. Quizzes: Students will complete in-class quizzes based on lecture and reading material.
3. Exams: There will be two exams throughout the semester. The midterm examination will cover Modules 1-5; The Final examination will be cumulative, but with a focus on Modules 6-10. Exams are designed to assess: (1) learning of lecture content, as bolstered by your engagement with the exercises; (2) learning of home-work content that is explicitly noted in the guidelines as exam eligible; (3) your ability to apply this learning to clinical scenarios. For many students, learning of this content is further enhanced by reviewing exams after they are graded.
4. Final project: Students will create a Clinical Handbook. (See rubric for more details.).
5. Attendance: Per the recommendations of the college, attendance is mandatory as consistent attendance is important for your learning
	1. Attendance Policy: Attendance is mandatory. Beginning August 26th, attendance will be taken regularly for a grade.
	2. Grading Policy: Attendance will be calculated on percentage-based tiers. Grades will be assigned based on the percentage on classes attended. *See table below.*

|  |  |  |
| --- | --- | --- |
| Days Missed | Percentage | Grade |
| 0 | 101% | A |
| 1 | 100% | A |
| 2 | 92% | A |
| 3 | 85% | B |
| 4 | 80% | B |
| 5 | 75% | C |
| 6 | 70% | C |
| 7 | 60% | D |
| 8 | 55% | F |

**Attendance and Participation Policy**

***Class attendance and participation are imperative for your success in this course.*** Attendance is mandatory and students should strive to attend every class unless you have a university-excused absence such as active military service, religious holiday, medical absence, ODA accommodation, or an official university function, as stated in the Student Attendance and Authorized Absences Policy.

**Excused Absences:**

Per UNT’s Attendance Policy, “A student is responsible for requesting an excused absence in writing, providing satisfactory evidence to the faculty member to substantiate the excused absence, and delivering the request personally to the faculty member assigned to the course for which the student will be absent”.

A student must reach out to the professor prior to the class to initiate an excused absence.

* Absences due to medical reasons will only be excused with a valid doctor's note, which must be submitted no later than one week after the missed class.- Please note, students are still expected to communicate with the professor PRIOR to missing class for the absence to be counted as excused. The doctor’s note, however, may be sent within the week.
	+ There are no longer specific COVID policies. If you contract COVID-19 or any other illness, it will be treated as a regular illness under the attendance policy.
* The note must clearly indicate that you were advised not to attend class on the specific date(s) of absence.
* Other excused absences (e.g., family emergencies, university-sanctioned events) may require appropriate documentation, at the discretion of the instructor.

Unexcused absences or failure to provide documentation may result in a deduction of points and could affect your final grade.

If you are experiencing an emergency please call 911. If you are in crisis, please call the Crisis Hotline: 1-800-762-0157. Mental health resources can be accessed at https://speakout.unt.edu/content/mental-health-resources.

Your instructors and the Dean of Students team are also available to support you in your academic success, whatever your life situation (financial, personal, health, transportation, family-related, etc.), so please reach out to us anytime.

**Incomplete Policy**

Students are expected to complete assignments on time and to abide by the attendance policy established for the course. If you know that you will not be able to complete assignments by their assigned due date, it is important that you communicate that with the professor or the teaching assistant **prior** to the due date so that you, the professor, and the teaching assistant can discuss and mitigate the impact of the absence on your attainment of course learning goals. Failure to communicate with the professor or teaching assistant prior the submission date will result in a zero for that assignment. Please inform the professor or the teaching assistant if you are unable to complete class assignments because you are ill, in mindfulness of the health and safety of everyone in our community.

**Make-up Policy**

In fairness to all students in the course, each student is held to the same standards for course grading and course deadlines; no exceptions. Course deadlines can be adjusted only in extreme emergencies with advance notification and formal documentation.

**Academic Integrity Policy**

According to UNT Policy 06.003, Student Academic Integrity, academic dishonesty

occurs when students engage in behaviors including, but not limited to cheating,

fabrication, facilitating academic dishonesty, forgery, plagiarism, and sabotage. A

finding of academic dishonesty may result in a range of academic penalties or sanctions

ranging from admonition to expulsion from the University.

Every student in my class can improve by doing their own work and trying their hardest with access to appropriate resources. Students who use other people’s work without citations will be violating UNT’s Academic Integrity Policy. Please read and follow this important set of [guidelines for your academic success](https://policy.unt.edu/policy/06-003) (https://policy.unt.edu/policy/06-003). If you have questions about this, or any UNT policy, please email me or come discuss this with me during my office hours.

**Use of Artificial Intelligence for Assignments**: According to the UNT Academic Integrity Policy ([UNT Policy 6.003](https://policy.unt.edu/sites/default/files/06.003%20Student%20Academic%20Integrity.pdf)), any form of "unauthorized assistance" constitutes cheating. As a result, use of any artificial intelligence is not authorized for assignments in this course.

**Emergency Notification & Procedures:** UNT uses a system called Eagle Alert to quickly notify students with critical information in the event of an emergency (i.e., severe weather, campus closing, and health and public safety emergencies like chemical spills, fires, or violence). In the event of a university closure, please refer to the UNT Learning Management System (LMS) for contingency plans for covering course materials.

**Acceptable Student Behavior:** Student behavior that interferes with an instructor’s ability to conduct a class or other students' opportunity to learn is unacceptable and disruptive and will not be tolerated in any instructional forum at UNT. Students engaging in unacceptable behavior will be directed to leave the classroom and the instructor may refer the student to the Dean of Students to consider whether the student's conduct violated the Code of Student Conduct. The University's expectations for student conduct apply to all instructional forums, including University and electronic classroom, labs, discussion groups, field trips, etc. The Code of Stud

**UNT Academic Dates:** Students are responsible for verifying the university deadlines such as census date, last day for auto W, last day to drop, beginning date to request an incomplete, last day to withdraw from the university, and last class day.

**Student Evaluation Administration Dates:** Student feedback is important and an essential part of participation in this course. The student evaluation of instruction is a requirement for all organized classes at UNT. The survey will be made available during weeks 13, 14 and 15 to provide students with an opportunity to evaluate how this course is taught. Students will receive an email from "UNT SPOT Course Evaluations via IASystem Notification" (no-reply@iasystem.org) with the survey link. Students should look for the email in their UNT email inbox. Simply click on the link and complete the survey. Once students complete the survey they will receive a confirmation email that the survey has been submitted. For additional information, please visit the SPOT website at spot.unt.edu or email spot@unt.edu.

**Changes in syllabus:** The syllabus for this course is tentative to change in response to the professor’s schedule, needs of the students, and the availability of guest speakers. Students are responsible for any syllabus change announced in class or communicated via electronic or printed form.

**Course Schedule**

\*Note: The course schedule is tentative and might change as the course requires.

**Specific module objectives are listed in Canvas on each module introduction page.**

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| --- |
| Module 1: Introduction  |
| Module 2: Fundamentals of the Nervous System  |
| Module 3: Nerve Cell Physiology  |
| Module 4: Gross Anatomy of Brain and Cerebrovascular System  |
| Module 5: Introduction to Cranial Nerves and Sensory Systems  |
| **Midterm**  |
| Module 6: Motor Systems |
| Module 7: Limbic Systems and Autonomic Nervous Systems |
| Module 8: Cortical Organization |
| Module 9: Neurological Disorders of Communication  |
| Module 10: Clinical Applications and Integration  |
| **Final Exam**   |

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| --- | --- | --- | --- | --- |
| **Week** | **Date** | **Lecture topics** | **Readings** | **Due dates** |
| 1 | Aug 19 | * Syllabus review, and approaches to learning and studying in this course
* Introduction to basic terms and concepts
 | Syllabus |   |
| 1 | Aug 21 | * Relationship between neurosciences + communication sciences
 | Chapter 1 |   |
| 2 | Aug 26 | * Why we study neurosciences in our professions
* Clinical-pathological method and critical thinking
* Principles governing the human brain and its functional organization
* Terms for directions; sections/planes and movements

**Page 1: Directions, Planes, and Movements Assigned** |  Chapter 1 | **Introduction Assignment Due****(online)** |
| 2 | Aug 28 | * Gross anatomy of nervous system, including introduction to functions
 | Chapter 2: pp 34-36, 75-86Chapter 4: pp 127-134 |   |
| 3 | Sep 2 | * Basic cellular anatomy and physiology (gray matter vs white matter distinction)
 | Chapter 5 | **Page 1: Directions, Planes, and Movements Due** |
| 3 | Sep 4 | * Neuronal Function in the Nervous System: Part 1
 | *‘* |  |
| 4 | Sep 9 | * Neuronal Function in the Nervous System: Part 2
 | ‘ |  |
| 4 | Sep 11 | * **Quiz 1**
* Gross Anatomy of the Brain
	+ **Division of the embryonic brain**
	+ **Gross anatomy**
	+ Ventricles
	+ Meninges

**Page 2: Gross Anatomy of the Brain Assigned** | Chapter 2: pp 36-70 |  **Quiz 1 Due****(in-class)** |
| 5 | Sep 16 | * Gross Anatomy of the Brain
	+ Division of the embryonic brain
	+ Anatomy of the brain
	+ **Ventricles**
	+ **Meninges**
 | Chapter 2Review page 200 |   |
| 5 | Sep 18 | * Functional Organization of the cerebral hemispheres
 |  |  |
| 6 | Sep 23 | ‘  | ‘ | **Page 2: Gross Anatomy of the Brain Due** |
| 6 | Sep 25 | * **Quiz 2**
* **Catch-up lecture/Review**
* **Introduce Cranial Nerves**

**Page 3: Cranial Nerves Page Assigned** |  | **Quiz 2****(in-class)** |
| 7 | Sep 30 | * Cerebrovascular System
* Introduce stroke
 | Chapter 7 |  |
| 7 | Oct 2 | * Neurosensory Organization of Speech and Hearing Part 1
	+ Sensory System Overview
	+ Somatosensation
 | Chapter 11 |  |
| 8 | Oct 7 | * Neurosensory Organization of Speech and Hearing Part 2
	+ Audition
	+ Start Visual

**Page 4: Choose your own topic Assigned** | Chapter 9Chapter 12 | **Page 3: Cranial Nerves Due** |
| 8 | Oct 9 | * Neuro Sensory Organization of Speech and Hearing Part 3
	+ Finish Visual
	+ Balance
	+ Multimodal Integration
 | Chapter 12Chapter 10 |   |
| 9 | Oct 14 | * Catch-up on lectures
* Review for Exam (if time warrants)
 |  |  |
| 9 | Oct 16 | * Midterm
 |  |  **Midterm****(in-person)** |
| 10 | Oct 21 | * Motor Systems: Part 1
 | Chapter 13 |   |
| 10 | Oct 23 | * Motor System: Part 2
 | Chapter 14 | **Page 4: Choose your own topic due** |
| 11 | Oct 28 | * Motor System: Part 3
 | Chapter 15(Potentially Chapter 16) |  |
| 11 | Oct 30 | * Catch-up lecture (if needed)
* Otherwise, CN review and Axial-Limbic Brain

**Page 5: Language and Higher Cortical Functions assigned****Pages 6 and 7: Neurological Disorders of Communication Part 1 and 2 assigned** | Chapter 18 |  |
| 12 | Nov 4 | * **Quiz 3**
* Cortical Organization of speech and language
* Functional localization in the brain
* Disorders of cortical functions
 | Chapter 18 |  **Quiz 3****(in-person)** |
| 12 | Nov 6 | ‘ |  |   |
| 13 | Nov 11 | * Summary lecture on dysarthria, cranial nerve syndromes
 | Chapter 17 | **Page 5: Language and Higher Cortical Functions Due** |
| 13 | Nov 13 | * Cerebral Cortex: Higher mental functions
* (right hemisphere syndrome, apraxia of speech and apraxia, alexia, agraphia, agnosia, dementia, traumatic brain injury)
 | Chapter 19 |  |
| 14 | Nov 18 | ‘ | Chapter 19 | **Pages 6 and 7: Neurological Disorders of Communication Part 1 and 2 due** |
|  | Nov 20 | * Quiz 4
* Retrocochlear pathologies

**Page 8: Clinical Integration Page Assigned (to turn in with final project)** | Chapter 19 | **Quiz 4**  |
| 15 | Nov 25  | * Thanksgiving Break- No Class
 |  |  |
| 15 | Nov 25 | * Thanksgiving Break- No Class
 |  |  |
| 16 | Dec 2nd  | * Clinical Applications and Imaging and Their Therapeutic Applications
 | Chapter 20; pp 427-462 |  |
| 16 | Dec 6th  | * Last day of Class!
* Special Topic Presentation
* Review Day
* Turn in final projects
 |  | **Final Projects due!!!** |
| 17 | TBA | * Final Exam

(Cumulative) |  | **Final Exam** **(in-person)** |



28-30 is an