Neurological Bases of Speech and Hearing (ASLP 4050, Section 001, Spring 2025)
University of North Texas
Class is held every Tuesday and Thursday, 2:00 pm – 3:20 pm
Class location: Curry Hall 203 (CURY 203)

		Office*	E-mail	Phone
Your Professor:	Gloria Olness, Ph.D., CCC-SLP "Dr. Olness"	SPHC 217	gloria.olness@unt.edu	940-369-7455
Your TA:	Bailey Baird	SPHC 215	baileybaird@my.unt.edu	--
Your SI:	Reagan Redanz	--	reaganredanz@my.unt.edu	--

Access to Instructional Team

When are office hours and meetings available with members of the instructional team?
Hybrid (in-person + synchronized Zoom) office hours with the TA and professor are available, to meet the learning support needs of all students.
* **Regular, weekly study-help sessions with TA**: Thursdays, 11am-12pm (SPHC 215 + Zoom-in-Canvas)
* **Regular, weekly open-office hours with Professor**: Tuesdays 5pm-6pm (SPHC 217 + Zoom-in-Canvas)
The sessions with the Teaching Assistant and the Professor are *led by the students*. *You* tell *us* what you want to discuss. This may include asking questions about the course, reviewing past exams, study help, development of study strategies that fit your learning style, guidance with the home-works or exercises, or any other topic you wish.
* **Regular, weekly sessions with Supplemental Instructor**: Announced by the SI in class and on Canvas, and also as posted on the following UNT website: https://sites.google.com/view/supplemental-instruction-unt/home, under the "SI Session Information" pulldown.
The sessions with the Supplemental Instructor are designed by the SI to align with current course content.

How do students set up *alternate days/times* for study-help sessions and meetings with the instructional team?
When the regular office hours of the TA and Professor do not work in your schedule, students can flexibly arrange an alternate time and location mutually agreed upon by student(s) and instructor(s).

To arrange a session with TA or professor for an alternate day/time, your first step is to prepare an email to the person you wish to meet with (professor or TA or both).

Here's what you should include in the email request for an alternate day/time/location for a study-help session:

- In the subject line of the email, you must write "**Request for study-help session (YourLastName)"**
  - For example: ***Request for study-help session (Rodriguez)*** for a student with last name 'Rodriguez'
- Next, in the body of the email:
  - Specify who you would like to meet with (professor, TA, or either)
  - Specify the group size you are seeking:
    - An individual session (one-on-one)
    - A small-group session (e.g. a meeting of your small study group with the professor or TA)
    - An open-group session (a study-help session that would be open to any/all class members)
  - List *a variety* of days and time blocks when you could be available for the study-help session
    - The TA and professor will coordinate your schedule of availability with their schedule of availability. *The wider the variety of day/time options you offer as suggestions, the better.*
  - Specify the preferred location for the meeting: In-person, on Zoom, or either one
  - Specify your goals and purpose for this study-help session, so we can make this the best session possible in support of your learning.

During busy times, inboxes can become rather full, so if you contact a member of the instructional team to set up a meeting and do not receive a response within two business days, please send a follow up email. A gentle nudge is always appreciated.

Required and Recommended Materials

The textbook is a strongly recommended resource

Bhatnagar, Subhash C.; **Hacein-Bey**, Lofti; & **Ramanathan**, Pradeep (2025). *Neuroscience for the Study of Communicative Disorders, 6th edition.* Baltimore, MD: Wolters Kluwer. (ISBN-13: 978-1-9751-9723-0)

- *You will need access to the content of the book to complete home-works. Page numbers mentioned within lectures are pages in the 6th edition. Note that the page numbers that may be mentioned in the home-work guidelines are pages in the 5th 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 an earlier edition of the book, especially if the book is used, it may not provide access to the online resources.*
- *A copy of the 4th edition is also on reserve at the UNT library for your reference. The content parallels the 6th edition.*

An iClicker account is a required resource

Once the professor has set up a master iClicker account for the course, students will be notified to link to it. Access to iClicker if free to you, because UNT has an iClicker site license. iClicker will be used to take attendance, as well as to offer some in-class activities, to engage you in the learning process and to offer immediate in-class feedback on your learning.

A neuroanatomy coloring book is a 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*

Course Description

Are there pre-requisites for this course?

Yes, the prerequisite course is ASLP 3025: Anatomical Bases of Speech and Hearing Sciences (prior or concurrent enrollment strongly recommended; see professor to discuss exceptions)

What can I expect to achieve in this course?

This course, for advanced undergraduate students, is designed as an introduction to the structure and function of the human **central nervous system** (brain, spinal cord) and the human **peripheral nervous system**, as related to the practice of speech-language pathology and audiology. Normal neurological bases for multiple aspects of communication, swallowing, and balance are addressed, as well as neuropathology associated with disorders of communication, swallowing, and balance. There is an emphasis on the ***reception and integration*** of sensation (with a focus on hearing, speech and language comprehension, tactile sensation, vision, smell, and taste, proprioception, and balance); and the ***integration/planning and production*** of verbal and non-verbal responses speech and language production; kinesics, including gesture; writing/drawing; posture; and mastication/swallowing.

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

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

*Most importantly, this class will hone your skills in **critical thinking** and **problem-solving**, which are essential skills that you can apply throughout your lifetime on the issues and priorities that you are passionate about.*

Creating an Inclusive Learning Environment

As members of the UNT community, we have all made a commitment to be part of an institution that respects and values the identities of the students and employees with whom we interact. UNT does not tolerate identity-based discrimination, harassment, and retaliation so we will work as a class to collaborate in ways that encourage inclusivity. Please review UNT's student code of conduct: Student Conduct and Community Standards | Division of Student Affairs (unt.edu).

Personal support for you, in ultimate support of your academic success

Your health and safety, and that of your loved ones, come first, before school. It is okay to not be okay.

If you are experiencing an emergency please call 911. If you are in a mental health crisis, please call the **Crisis Hotline: 1-800-866-2465** or dial **988**. UNT mental health resources can be accessed at the **Walk-In Crisis Center Chestnut Hall, Suite 311 (M-F, 8am to 5pm)**, or the **24/7 Crisis after-hours hotline at 940-565-2741 then Choose Option 1**. 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. See contact details on pages 1 and 4 of the current syllabus.

Attendance is **expected and strongly recommended**. **Plan to attend every class session** unless you have a university excused absence such as active military service, a religious holy day, or an official university function as stated in the Student Attendance and Authorized Absences Policy: https://policy.unt.edu/sites/default/files/06.039%20Student%20Attendance%20and%20Authorized%20Absences.pdf

- ***If you cannot attend university classes due to an emergency or another urgent life matter, please immediately contact all three of the following in the table below*** *(e.g. in one email), so we can maximally support your overall welfare, and so we can implement course adjustments in support of your learning and success in the course.*

Dean of Students Office	*940-565-2648*	*deanofstudents@unt.edu University Union, Suite 409*	*Dean of Students will gather and send official documentation of your need for course and deadline adjustments to the instructional team and is skilled at connecting you with support available to you through UNT, no matter what your life situation. An excellent resource!*
TA, Bailey Baird	--	baileybaird@my.unt.edu	*The TA helps implement adjustments of course deadlines and make-ups, and she will also help connect you with classmates who may volunteer to provide you with notes from the day you were absent.*
Professor, Dr. Olness	*940-369-7455*	*gloria.olness@unt.edu*	*The professor plans course adjustments with you and offers overall support, working with you to map out your path to success in the course.*

- *Your instructional team has great respect for students who are balancing the demands of their coursework with the responsibilities of caring for family members, working, and commuting, and who simultaneously take on the responsibilities expected of them in the course.*
- ***If you run into challenges that are not urgent that conflict with class attendance, there is no need to contact the TA or Professor. However, you should make arrangements to obtain notes from a classmate.***
- 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, exercises, and home-works together** as the course progresses. Later portions of course content build systematically on prior content.

Course Structure: How to Succeed in this Course

What can you do to succeed in the course?

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 and Thursday.** Class participation is the responsibility of the student. Consistent twice-weekly participation in all 30 class sessions is expected and strongly recommended.
    I. Class participation will be registered through use of **iClicker** starting Thursday of the first week.
    II. Your professor will show you in class how a "self-quiz" process works to review what you learned in each class, class-by-class. This is an evidence-based learning-consolidation technique that will enhance your learning and retention of main conceptual points and the examples and details that support them.
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 TA 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)**
    i. 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.
    ii. 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; lectures will be posted on Canvas at least 2 hours in advance of each lecture.
4. **Checking your UNT email and Canvas Announcements on a regular basis**. Instructors will send all class correspondences to your official UNT email address (yourname@my.unt.edu).
5. **Completion of all home-works**. All home-works need to be completed to earn full credit, but only the top five home-work scores count toward your grade; you learn the critical skill of how to figure out little puzzles, and we'll also let you know explicitly which of the home-work content is test eligible.
6. **Completion of exercises**. You earn completion credit; very helpful in support of test preparation.
7. **Preparation for and completion of five examinations** composed of a verbal portion and a written portion.

Our commitment as professor and teaching assistant, in support of your success in this course

1. Careful selection of readings and materials
2. Careful preparation of lectures, in-class activities, home-works and exercises
3. Availability for discussion of course content and student progress
4. Provision of feedback on your learning, via the home-works and the five examinations; we also offer discussion of home-works and exercises outside of class (by student request).
5. Help in arranging study/discussion groups (by student request) outside of class, if this fits your learning style.

***Strongly recommended* class participation and self-quizzing**

- Class attendance and participation is **expected and strongly recommended**. **Plan to attend every class session**, and do self-quizzing after each lecture, to consolidate your learning. Strong attendance also affords you extra credit points, in the following way.

Participation in at least 27 classes earns 5 EC	Participation in at least 24 classes earns 4 EC	Participation in at least 23 classes earns 3 EC	Participation in at least 18 classes earns 2 EC	Participation in at least 15 classes earns 1 EC

Required **participation, assessment, and associated learning goals**

Home-works (top 5 of 8 home-work scores, 2% each):	10% of course grade*
Completion of 8 home-works:	5% of course grade*
Completion of at least 5 exercises (1%/exercise):	5% of course grade*
Exams (5 exams, 16% each):	80% of course grade*

Home-works: *The purpose of the home-works is to develop and assess your ability to access and use detailed information within the overall framework you are learning*. This is the process used by practicing clinicians. As you engage in this process, you will also deepen your understanding of the key course concepts, since the instructor provides learning guidelines for each question.

You should answer *all* the assigned HW questions in preparation for the exam, but you will submit only the multiple-choice HW questions for a grade.

Home-works are based on the course readings, via on-line resources associated with your book. Details of home-work assignments, including the home-work due dates, will be posted to Canvas. You will earn up to **2% for each of the top 5 out of 8 home-works**--grades of three lowest home-works are dropped--**for a max of 10% of your final course grade.**

Completion of home-works: **Completion of all home-works (HWs) is worth 5% of your final course grade.** A "completed HW" is defined as a HW for which *all the MC questions have been answered* and have been *turned in on-time* on Canvas. HW due dates will be specified when the home-work is assigned.

Complete **all eight** home-works: **Earns the maximum 5%** (five percentage points)
Complete **seven** home-works: E**arns 3%** (three percentage points)
Complete **six** home-works: **Earns 1%** (one percentage points)
Complete **five or fewer** home-works: **Earns 0%** (zero percentage points)

Note: *Collaborative completion of home-works* with classmates and with support of the instructional team is *encouraged*, under the strong assumption that the learner contributes actively to the home-work completion in support of his or her learning.

Completion of exercises: **A set of exercises based on the lecture content** will be distributed to the class via Canvas. Exercises are *designed to help you more deeply learn the lecture content* and the clinical applications of that content, **to prepare for the exams**. Completing 5 or more exercises will earn you **5% of credit toward the course grade; five or more exercises must be completed to earn this credit**. (Completing more than five exercises will not earn extra credit, but is still encouraged in support of your learning.) Use exercises to guide your question-asking in study/help sessions, where we can also discuss answers to exercise questions.

Exams: 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; all students are welcome to arrange this through individual appointments with the TA.

You will earn up to **16% for each of 5 exams, for a max of 80% of your final course grade.** See the grade calculation spreadsheet on Canvas, and the example of grade calculation found at the end of this syllabus.

Exams are to be completed by each student independently, to assess each student's learning individually. Study-help sessions with the instructional team to support studying of exam-related material can be held during *prior* to exam distribution but cannot be held after the exam is distributed. The process for arranging these meetings is described on syllabus p. 1.

More about grade calculation and posting

Raw grades on home-works and exams *will be posted throughout the semester on Canvas.* To access Canvas, go to https://unt.instructure.com/login/ldap and login with your EUID and password.

Assignment of final course grade:

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

For purposes of final grade assignment, percentages are rounded up to the nearest whole-number percentage. For instance, a final course percentage of 79.1% would round up to 80%, which would earn a 'B' in the course. See the last page of this syllabus and the grading calculation spreadsheet on Canvas for guidance on how to calculate your final course grade. ***Ignore Canvas course grade calculations; they are grossly inaccurate.***

Important details about the home-works

For each homework, answer each of the questions specified in the homework assignment/guidelines that you will find on Canvas. You will need access to Canvas and to the online resources associated with your text to complete the home-works. *You should complete the whole homework, but only the multiple-choice items will be submitted and graded.* The home-works will be found through the text's website at http://thePoint.lww.com. Once you are logged into the site, select "Classroom Handouts" under Student Resources. You will find Student Workbooks, divided by chapter. Your home-works are these Student Workbooks.

You are welcome to work on take-home home-works with peers. However, is to your learning advantage to be actively involved in the thinking and rationale behind your final responses to the home-work questions. It is strongly advised that you do NOT simply copy the correct (or incorrect!) answers of your peers.

Important details about the exercises

Exercises will be posted for you on Canvas. Completing exercises supports your understanding of the lecture content and how that content is clinically applied, in preparation for exams. Completed exercises that are submitted on the day of the posting of the examination guidelines earn completion credit (up to a maximum of 5% credit) as described elsewhere in the syllabus.

Important details about the examinations

Exams will be posted on Canvas with **extended time** provided for all students, and exams are also **open-note** (in Canvas using Lockdown Browser + Respondus Monitor), to accommodate the on-line testing format.

Examinations cover course content up to and including the class day prior to the exam; **exam guidelines will be posted one week in advance of the test date.** Emphasis is based on frameworks, concepts, and content taught in lectures and reinforced by the readings and the associated home-works and exercises. Home-work content that may appear on the test will be so indicated on the home-work assignment sheet. Exercise content will give you practice in clinical application of course content, in preparation for related questions on the exam.

An understanding of content early in the course is essential for the learning of content in later portions of the course, so it is important to learn and retain content from each unit across the term. However, the focus of each exam will be placed on the material taught most recently, since the previous exam. Each exam will be comprised of a set of **multiple-choice questions combined with a short-answer justification** of the multiple-choice response (MC-with-justification), as well as **one verbal response to one question** (verbal-short-answer). The written portion of each exam will be conducted remotely, using Canvas Lockdown Browser + Respondus Monitor (MC-with-justification), and the verbal portion of each exam will submitted by you as a video recording (two-minute verbal response to one question). **Study guidelines will be provided one week in advance of the test date.**

More information about attendance and absences

The following constitute *excused* absences, and will be counted as 'present/participation', as applicable:

- Submission of documentation of a university-approved absence (as defined on Page 7) (Submit to TA)
- Submission of documentation of registration at TSHA in FW on February 19 (Submit to TA)
- Submission of documentation of an extreme emergency or extreme urgent situation that results in absence (Submit to Dean of Students Office, who will contact the professor)
- An absence associated with an ODA accommodation (no submission needed, if absences are part of approved ODA accommodations)

Whenever you need to miss class, whether is an excused or an unexcused absence, it is your responsibility to get notes from a classmate, and to follow up with the instructional team once you have reviewed the notes, if you have any questions. The instructional team is willing to provide you with support in identifying a note provider for a day you miss class, to the best of our ability, if you don't already have a note provider identified. *Contact the instructional team if you would like to request assistance in identifying a note provider for a missed class session*, and we'll do our best.

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 (as defined by the university – see link on page 4 of the syllabus) and formal documentation received through the Dean of Students Office will be required.

Home-works. There is no late submission of home-works, although early turn-in of home-works is allowed. Answers to all the multiple-choice home-work questions must be turned in on Canvas quizzes by the specified due date and due time. Home-works turned in late or not turned in will earn a zero for that home-work, and will reduce the home-work completion portion of your grade. See Canvas for details of home-work deadlines.

Exercises. Exercises associated with any given exam must be submitted *prior* to the posting of the associated exam to earn completion credit. See Canvas for details of exercise submission deadlines.

Exams. Exams are composed of a *written portion* and a *verbal portion*. Guidelines for each exam will be posted approximately one week in advance of the corresponding exam.

- The *written portion* of each exam must be completed on Canvas *outside of class* within the allotted amount of time, anytime during the extended window while the exam is posted/open on Canvas. It is open-note, while still accommodating the online testing format in Lockdown Brower with Respondus Monitor. Students may sit for the exam on Canvas within any time block that they can flexibly decide is best for them, between the time of exam posting and the time that the exam is due.
- Students will sign up for their 1.5-minute *verbal portion* of the exam in advance, then appear for the verbal in the Zoom room at the scheduled time. Arriving 5 minutes early for your scheduled Zoom session is recommended; please plan accordingly.
- The **scheduled five examination dates** found in this **syllabus are fixed and will not change**. **Please plan accordingly.**

Jan 27 guidelines posted **Feb 2** verbal due **Feb 3** written submission due	**Feb 17** guidelines posted **Feb 23** verba due **Feb 24** written submission due	**Mar 24** guidelines posted **Mar 30** verbal due **Mar 31** written submission due	**Apr 14** guidelines posted **Apr 20** verbal due **Apr 21** written submission due	**Apr 25** guidelines posted **May 4** verbal due **May 4** written submission due

Alternate examination arrangements will be allowed only for sufficient reason and must be requested *prior to the time of the scheduled exam posting, with the associated documentation*, through the TA. Students who miss examinations will earn a zero. Please note the dates of all exams.

The written portion of each exam is open-note, but must be completed independently by each student. Students will sign a statement of academic integrity prior to answering the first question and after answering the last question of each exam, and student test-taking will also be proctored on-line using Lockdown Browser + Respondus Monitor in Canvas. (See Academic Integrity below.)

Office of Disability Access

The Department of Audiology & Speech-Language Pathology cooperates with the Office of Disability Access (ODA) to make reasonable accommodations for qualified students with disabilities. If you experience any problems in arranging reasonable accommodation with the ODA, please contact the departmental chair or the ODA directly. *"The University of North Texas makes reasonable academic accommodation for students with disabilities. Students seeking 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 an accommodation letter to be delivered to faculty to begin a private discussion regarding your specific needs in a course. You may request accommodations at any time, however, ODA notices of 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 accommodation for every semester and must meet with each faculty member prior to implementation in each class. For additional information see the Office of Disability Accommodation website at* https://studentaffairs.unt.edu/office-disability-access*. You may also contact them by phone at 940.565.4323."*

Students can connect with the Office of Disability Access to begin the registration process through this link: https://studentaffairs.unt.edu/office-disability-access

Academic Integrity

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. Academic integrity is expected of all students at all times. Issues related to cheating, plagiarism, copying or distribution of assessment questions or home-work materials, or other behaviors inconsistent with the UNT student code of conduct will be dealt with according to university guidelines. **Please note that it is the instructor's belief that violations of academic integrity can be a gateway to unethical professional behavior. As a result, such behavior will always be addressed by the instructor.**

Use of Artificial Intelligence (AI) for assignments and written or verbal exams is not authorized. According to the UNT Academic Integrity Policy (UNT Policy 6.003), any form of "unauthorized assistance" constitutes cheating. As a result, use of any artificial intelligence is not authorized for any assignments or examinations in this course.

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.
For official dates and a complete schedule, refer to Registrar's website http://registrar.unt.edu/registration/spring-registration-guide

Note from TA

As your TA, I am here to help support you in your learning and your success in this course. During my time in undergrad, I found that office hours were a great resource. This time provides you with an opportunity to ask questions and get a clearer understanding of the course material, whether you have specific questions or need to review a broader concept. Dr. Olness and I are here to assist you in your learning and ensure that you are able to confidently grasp the course material. I look forward to a great semester and getting to know all of you!

Course chronology

Closely approximated chronology of course content, punctuated with fixed exam dates

Week	Date	Lecture topics	Readings associated with lecture topics, in support of your learning	Due dates
1	Jan 13	Syllabus review, and approaches to learning and studying in this course Introduction to basic terms and concepts	**Ch 1, pp. 17-18:** Orientation to techniques for learning neuroscience **Ch 2, pp. 34-35**: Central and peripheral nervous systems	
1	Jan 15	Relationship between neurosciences + speech/language/hearing/swallowing sciences	**Ch 1**: **pp. 1-5:** Neuroscience and speech-language-hearing pathology; orientation to neuroscience	
2	Jan 20	Why we study neurosciences in our professions Clinical-pathological method and critical thinking Principles governing the human brain and its functional organization	**Ch 1: pp. 18-26:** Orientation to critical thinking **Ch 1: Tables 1-2 and 1-3:** Illustrations of the clinical-pathological method **Ch 1, pp. 6-8:** Orientation to principle of brain functioning	
2	Jan 22	(continued)	(continued)	
3	Jan 27	Gross anatomy of nervous system, including introduction to functions	**Ch 2:** Gross anatomy of the CNS; scan to find and match the content in the lecture **Ch 18:** Scan for main points and headers on axial-limbic system (ANS, pp**. 383-390;** limbic system, pp. **390-393**; hypothalamus, pp. **393-397**; reticular formation, pp. **397-402**)	**Exam 1 guidelines posted**
3	Jan 29	Terms for directions, sections/planes & movement	**Ch 1: pp. 8-12:** Orientation to neurological terminology	**HW(s) and exercise(s) associated with the exam are due Friday of this week at 11:59pm; check Canvas for specifics**
4	Feb 3	Basic cellular anatomy (structure) and physiology (function) Gray matter vs. white matter distinction	**Ch 1: pp. 11-12:** Cell structures, cellular connectivity, central and peripheral NS, and Table1-7	**Exam 1 two-minute verbal will submitted by Monday, and written is due Tuesday**
4	Feb 5	Functional organization of the cerebral hemispheres	**Ch 19**: **pp. 406-409** Methods of study; functional localization in the brain and **Ch 19, pp. 409-419** start looking at the types of aphasia and other disorders of cortical function	
5	Feb 10	(continued)	(continued)	
5	Feb 12	(continued)	(continued)	
6	Feb 17	Cerebrovascular system, stroke, and relationship to clinical-pathological method	**Chapter 7**	**Exam 2 guidelines posted**

6	Feb 19	(continued)	(continued)	**HW(s) and exercise(s) associated with the exam are due Friday of this week at 11:59pm; check Canvas for specifics**
7	Feb 24	Protective envelope around the brain (bone and meninges), ventricular system, cerebrospinal fluid (CSF)	**Ch 8** **Chapter 2: pp. 62 – 66:** overview of ventricles **Chapter 2: pp. 70 - 76** overview of meninges	**Exam 2 two-minute verbal will submitted by Monday, and written is due Tuesday**
7	Feb 26	Nerve cell (neuron) physiology Overview of sensory and motor systems Start of spinal cord content	**Chapter 5:** nerve cell physiology **Chapter 13:** spinal cord	
8	Mar 3	(continued)	(continued)	
8	Mar 5	Spinal cord and spinal cord reflexes+	(continued)	
9	**March 9-15: SPRING BREAK (no class)**			
9				
10	Mar 17	Somatosensory systems Diencephalon: Thalamus and associated structures	**Chapter 11:** Somatosensory system **Chapter 6:** Diencephalon, with special focus on thalamus, which is a synapse point in the sensory pathways	
10	Mar 19	(continued)	(continued)	
11	Mar 24	Motor systems: motor cortex + descending motor (direct activation) pathways + indirect activation pathways Cerebellar and basal ganglia functions and feedback loops	**Chapter 16:** Motor cortex **Chapter 14:** Cerebellum **Chapter 15:** Basal ganglia	**Exam 3 guidelines posted**
11	Mar 26	(continued)	(continued)	**HW(s) and exercise(s) associated with the exam are due Friday of this week at 11:59pm; check Canvas for specifics**
12	Mar 31	Cranial Nerves, Introduction; names and identification; sensory and motor; location	**Chapter 17:** synopsis of cranial nerves **Chapter 2: pp. 75-79:** re-read for review of the cranial nerves	**Exam 3 two-minute verbal will submitted by Monday, and written is due Tuesday**
12	Apr 2	Cranial nerve of smell, small pathways, and their relationship to the limbic system Intro to visual system	**Chapter 17: pp. 344-346 and associated figures/tables** – Olfactory nerve and olfactory pathway **Chapter 18: pp. 390-393:** re-read for review of the limbic system	
13	Apr 7	Cranial nerves of vision and visual system	**Chapter 17: pp. 346-353 and associated figures/tables:** cranial nerves of vision **Chapter 12:** visual system	
13	Apr 9	Cranial nerves of hearing and balance Auditory system and vestibular system	**Chapter 17: p. 362 and associated figures/tables:** vestibulocochlear nerve **Chapter 9:** auditory system **Chapter 10:** vestibular system	

14	Apr 14	Cranial nerves of face, tongue, jaw movement, soft palate, pharynx, larynx, head turning and shrugging; manifestations of dysarthria types across structures	**Chapter 17: pp. 353-356 and associated figures** trigeminal nerve**,** **362 – 371 and associated figures:** multiple cranial nerves **371 – 377 and associated figures/tables:** functional combinations of nerves and clinical correlates	**Exam 4 guidelines posted**
14	Apr 16	(continued)	(continued)	**HW(s) and exercise(s) associated with the exam are due Friday of this week at 11:59pm; check Canvas for specifics**
15	Apr 21	Summary lecture on dysarthria, cranial nerve syndromes, and clinical correlates of motor systems	**Chapter 17: pp. 374 – 377:** clinical correlates **Chapter 14: pp. 298-300:** re-read for cerebellar clinical correlates **Chapter 15: pp. 311-317** re-read for basal ganglia clinical correlates **Chapter 16: pp. 327-331** re-read for UMN and LMN clinical correlates)	**Exam 4 two-minute verbal will submitted by Monday,and written is due Tuesday**
15	Apr 23	Cerebral cortex: Higher mental functions (right hemisphere syndrome, apraxia of speech and apraxia, aphasia, alexia, agraphia, agnosia, dementia, traumatic brain injury)	**Chapter 19:** Cerebral cortex: higher mental functions	**Exam 5 guidelines posted by Saturday of this week**
16	Apr 28	Development of the nervous system	**Chapter 4:** development of the nervous system	**HW(s) and exercise(s) associated with the exam are due Tuesday of this week at 11:59pm; check Canvas for specifics**
16	Apr 30	Special topic presentation: Biography and the practice of narrative medicine	**Pre-final day; last day of class**	
FINALS WEEK	May 4 (Mon)	**Exam 5 two-minute verbal short answer** portion of test will be submitted by the end of the official university final exam time Monday, May 4 from 3:00pm-5:00pm. **Exam 5 written MC-with-justification** will open no later than Saturday, May 2, and will close by Monday, May 4, 11:59pm.		

Helpful resources in support of your learning

A guide to some helpful pages in the coloring book. Some of the pages listed below may be more detailed than what is necessary for this class, but still may be beneficial to your learning, especially if you are a visual learner. Use this as a supplemental resource to the class lectures, readings, and exercises.

TOPICS	COLORING BOOK PAGE
Nature of communication and swallowing Basic principles, structures, and terms in neuroscience	1-1
Gross anatomy, terms of direction and sections/planes	1-5, 1-6
Major divisions and surface anatomy	1-2, 1-3, 1-4, 5-1, 5-2, 5-15, 5-44, 5-30
Anatomy at neuronal level	2-1, 2-2, 2-3, 7-2
Anatomy & physiology at neuronal level; Meninges; Ventricular system	2-4, 2-5, 2-6, 2-7, 2-8 9-8, 9-9, 9-10, 9-11, 9-12
Blood supply	9-1, 9-2, 9-3, 9-4, 9-5, 9-6, 9-7
Spinal cord	4-1, 4-2
Simple reflex arc	4-3
Somato-sensory systems and tracts	2-9, 2-10, 4-4, 4-5, 4-6, 4-7, 4-8, 4-13
Motor systems and tracts, including upper and lower motor neurons and basal ganglia	2-12, 4-9, 4-13
Peripheral nervous system	7-1, 7-4, 8-2
Cranial Nerves, Introduction; names and identification; sensory and motor	6-1, 6-2
Cranial nerves of smell/taste + limbic system Cranial nerves of vision and visual system	6-5, 5-26 6-6, 6-7, 6-8
Cranial nerves of hearing and balance Auditory system	6-17, 6-18
Cranial nerves of face Cranial nerves of tongue Cranial nerves of jaw movement	6-11, 6-14, 6-15, 6-16 6-26, 6-21 6-13
Cranial nerves of soft palate and pharynx Cranial nerves of larynx, head turning and shrugging	6-21, 6-22, 6-23, 6-24, 6-25
Neurogenic speech production disorders	
Neurology of speech perception and language comprehension	5-29
Neurogenic language & cognitive-communicative disorders	5-29
Embryonic development of nervous system	3-1 through 3-11

UNT provides access to the 3D anatomy resource, **Primal Pictures**, which may support your learning:

- https://libproxy.library.unt.edu/login?url=https://www.anatomy.tv

A free **3D Brain app** from Cold Spring Harbor Laboratory is available online at this link. This is especially helpful for learning brain anatomy and the anatomical relationships between and among brain structures.

- https://www.dnalc.org/resources/3dbrain.html

Many students enjoy learning specific neurology topics discussed on the **Crash Course video series** by the Green brothers. **Here is a link to the Crash Course video playlist.**

- https://www.youtube.com/playlist?list=PLNuqetWsrYrpv0HEwgWFZPPQVz7MFdECH

Here is a link to the 2-Minute Neuroscience video playlist. Videos like these are helpful for many learners.

- https://neuroscientificallychallenged.com/videos

Here is a guide to some helpful videos available online from Khan Academy. Although the content of these videos does not supplant the learning benefits you will derive from your ASLP 4050 course lectures, readings, home-works, and exercises, you may find that selected content from the Khan Academy site may support your learning.

- https://www.khanacademy.org/test-prep/mcat/organ-systems

I. Biological basis of behavior: The nervous system

a. Nervous System Questions
b. Structure of the nervous system
c. Functions of the nervous system
d. Motor unit
e. Peripheral somatosensation
f. Muscle stretch reflex
g. Autonomic nervous system
h. Gray and white matter
i. Upper motor neurons
j. Somatosensory tracts
k. Cerebellum
l. Brainstem
m. Subcortical cortex
n. Neurotransmitter anatomy
o. Early methods of studying the brain
p. Lesion studies and experimental ablation
q. Modern ways of studying the brain

II. Neural Cells

a. Neural cells questions
b. Introduction to neural cell types
c. Overview of neuron structure
d. Overview of neuron function
e. Astrocytes
f. Microglia
g. Ependymal cells
h. Oligodendrocytes
i. Schwann cells

III. Neuron membrane potentials

a. Neuron membrane potentials questions
b. Neuron membrane potentials questions 2
c. Neuron action potentials: The creation of a brain signal
    i. Concentration gradients
    ii. Resting membrane potential
    iii. How action potentials work
    iv. Refractory periods
d. Action potential velocity
    i. Some signals are very fast
    ii. Size
    iii. Sheath
    iv. Consider the following
e. Neuron graded potential description
f. Neuron resting potential description
g. Neuron resting potential mechanism
h. Neuron graded potential mechanism
i. Neuron action potential description
j. Neuron action potential mechanism
k. Effects of axon diameter and myelination
l. Action potential patterns

IV. Neuronal synapses

a. Neuronal synapses questions
b. Signal propagation: The movement of signals between neurons
    i. How does information travel
    ii. The synapse
    iii. The Pre-Synaptic Cell
    iv. Neurotransmitters
    v. Post-Synaptic Cell
    vi. Consider the following
c. Synapse structure
d. Neurotransmitter removal
e. Neuroplasticity

Guidance for students in the course grade calculation process

Your professor and TA have provided an automated Excel file on Canvas, to assist you in calculating your final course grade; you'll find this Excel file alongside the syllabus on Canvas. You can also run the calculations by hand, if you'd like, using the "John Doe" guidelines below.

Course grades on each assignment will be posted by the instructional team as percentage scores; the grading and posting process may take up to a week's time. Only the *individual assignment grades* posted as percentage scores on Canvas by the instructional team are accurate. ***You must IGNORE the automated course grade calculation function performed by Canvas, in the far-right columns, as it does not allow for accurate weighting of scores and will be grossly inaccurate.***

John Doe turned in 7/8 home-works. His scores were 85, 96, 73, 89, 95, 100, 100, and 0 (this is the home-work that was not turned in). He completed and submitted 4/5 exercises. On his five exams, he scored 94, 82, 90, 76, and 88.

To calculate John's final grade, first calculate how much of the 10% points he earned for the home-work grade. Drop the three lowest scores (0, 73, and 85). Multiply the remaining 5 highest home-work scores each by .02 and then add up all of the results.

96 * .02 = 1.92%
89 * .02 = 1.78%
95 * .02 = 1.9% 1.92 + 1.78 + 1.9 + 2 + 2 = **9.6%**
100 * .02 = 2%
100 * .02 = 2%

This means John earned 9.6% of the maximum 10% he could earn for his home-work grade.

Next, we will calculate his home-work completion grade. He turned in 7 out of 8 of the home-works. Looking up the percentage points earned for 7 home-works turned in (found on page 3 of the syllabus), John earned 3% of the 5% he could have earned. Add this 3% to his home-work percentage.

9.6% + 3% = **12.6%**

Next, we will calculate his exercise completion grade. He turned in 4 exercises. Looking up the percentage points earned for 4 exercises turned in (found on page 3 of the syllabus), John earned 4% of the 5% he could have earned. Add this 4% to the sum of his homework percentage and his home-work completion percentage.

12.6% + 4% = **16.6%**

The only part left to calculate is the percentage he earned on his five exams. Multiply each of the exam grades by .16 and then add up all of the results.

94 * .16 = 15.04%
82 * .16 = 13.12%
90 * .16 = 14.40% 15.04 + 13.12 + 14.40 + 12.16 + 14.08 = **68.8%**
76 * .16 = 12.16%
88 * .16 = 14.08%

Lastly, just add the percentage calculated earlier (the sum of the home-work grade percentages, and the home-work and exercise completions credits) to the exams percentage that you just found.

16.6 + 68.8 = **85.4%**

Thus, John Doe earned an 85.4% for his final course grade. This rounds up to 86%, and he earns a 'B' in the course.

Note:

- If there are any policy changes (i.e. grading, attendance) during the semester, a new/revised syllabus will be issued and given to all students. The course syllabus is on file in the ASLP departmental office.