Functional Neuroanatomy

PSYC/ACN/HCS 6338 Spring 2026

This course syllabus is intended as a set of guidelines for the Functional Neuroanatomy Course. Both UT Dallas and your instructor reserve the right to make modifications in content, schedule, and requirements as necessary to promote the best education possible within prevailing conditions affecting this course.

Course Number/Section: *PSYC/ACN/HCS 6338*
Classroom: CRA 12.120
Term: Spring 2026
Days & Times: Monday and Wednesday, 8:30am to 9:45 pm

Professor Contact Information:
Professor**:** *Rukhsana Sultana*, PhD
Email Address: *rukhsana.sultana*@utdallas.edu (preferred method of contact)
Office Location*: GR4.524*
Office Phone*:* 972-883-2721
Office Hours **(both virtual and in-person option is available):***: Office hours will be held from Monday-Thursday by appointment. Please use the appointment link posted on the course main page to schedule a meeting (we will meet on Teams or in person at your scheduled time).* To see me on short notice or if these office hours do not work, please email me and we can figure out the best time that works for both of us.

Course Description: An introduction to human neuroanatomy organized by major brain systems. The function of each major brain system is related to the organization of its principal nuclei. The function of each system is related to the neurological disorders associated with disease-specific locations.

This course will introduce students to the anatomical organization and basic functional principles of the major systems that work together in the human brain: sensory, motor, cortical and modulatory. This course will prepare students with the medical terminology and neurological concepts for a general understanding of the human brain and its functions in relation to disease and behavior. It has a more clinical orientation than some Neuroanatomy courses. The overall objective of the course will be a three-dimensional understanding of nervous system structure and organization, based on anatomical connections, system functions, and diseases that affect the brain.

Course Objectives: The course will involve viewing extensive visual materials including slides of different dissections of the human brain, MRI images of brain structures and studying print and online brain atlases. At the conclusion of this course, students will be able to:

Identify the neuroanatomical structure of the human brain; describe how this anatomy relates to brain function; Discuss how the brain is connected; and Understand *in vivo* techniques that allow for the investigation of the brain (e.g., magnetic resonance imaging; MRI). Identify and explain why research questions rather than methods ideally drive advances in neuroscience; Describe why multiple research techniques and multiple levels of analysis (systems, network, cellular, synaptic, etc.) are preferred to address basic questions in the neurosciences, rather than reliance on a single technique or level. Compare textbook, popular and peer-reviewed scholarly reports in the neurosciences. Use critical thinking to analyze and critique the literature. Demonstrate effective oral communication skills in various contexts (e.g., group discussion, brief oral presentation) and for various purposes (e.g., informing, teaching, explaining, defending, persuading, deconstructing). Identify appropriate applications of neuroscientific knowledge in health, service, education, or business professions

Required Textbooks:

- John Nolte, (2016) "*The Human Brain: An Introduction to its Functional Anatomy*". with Student Consult Online Access, 7th Edition, Mosby Publishers/Elsevier. ISBN: 978-1455728596

- John Nolte (2013). "*The Human Brain in Photographs and Diagrams*" with Online Access [Spiral-bound], 4th Edition, St Louis, Mosby Elsevier. ISBN: 978-1455709618

Suggested Resources:

Online access to Student Consult provided by Mosby is available with purchase of the Nolte textbook. The website includes reviews of each chapter, plus provides an interactive online neuroanatomy atlas with review/quiz, and I *highly* recommend you make use of it (used copies PIN might not work).

If knowledge of neuroanatomy will play a large role in your future career (e.g., in cognitive neuroscience), purchasing an atlas will be very helpful to have as a general resource. A good one that is less expensive than most is: Woolsey, TA, Hanaway, J, Gado, M. (2008). "The Brain Atlas: A Visual Guide to the Human Central Nervous System" Third or Fourth Edition recommended.

Assignments & Academic Calendar

TENTATIVE LECTURE SCHEDULE FOR Spring 2026

Date	Topics	Reading Assignment
Jan 21	Course Overview/Introduction to the nervous system	
Jan 26	Gross anatomy, general organization of the CNS	Chapter 1
Jan 28	Gross anatomy, general organization of the CNS	Chapter 3 + Atlas Ch 1 & 4, look over Ch 8
Feb 2	Meningeal coverings	Chapters 3, 4 + Atlas Ch 9
Feb 4	Meningeal coverings /Ventricular system	Chapters 4 and 5 + Atlas Ch 9
Feb 9	Ventricular system/ Vascularization of the brain	Chapter 5, 6
Feb 11	Vascularization of the brain	
Feb 12-13	**Practicum 1 (testing center-reserve your spot using the link posted on the course homepage)**	
Feb 16	Brain development	Chapter 2
Feb 18	**EXAM 1 (Nolte Chapters 1-6)**	
Feb 23	Organization of the Brain Stem	Chapters 11 and 15 + Atlas Ch 3
Feb 25	Organization of the Brain Stem	Chapters 11 and 15 + Atlas Ch 3
March 2	Cranial nerve and their Nuclei	Chapter 12
March 4	Cranial nerve and their Nuclei	Chapter 12
March 9	Sensory receptors and the peripheral nervous system /Taste and Smell , Hearing and Balance	Chapter 9/13/14 and 17
March 11	Sensory receptors and the peripheral nervous system	Chapter 9
March 12-13	**Practicum 2 (testing center-reserve your spot using the link posted on the course homepage)**	
	March 16-22 Spring Break	
March 23	Vision	Chapter 17.
March25	Thalamus and Internal capsule	Chapter 16 + Atlas Ch 8, p. 164-171; Ch 25, p. 639-651
March30	**EXAM 2 (Nolte Chapters chapter 6, 9, 11, 12, 17)**	
April 1	Overview of Motor System /Basal Nuclei	Chapter 18/19 + Atlas Ch 8, p. 150-154
April 6	Basal Nuclei /Spinal Cord	Chapter 19 and 10 + Atlas Ch 8, p. 150-154
April 8	Spinal Cord	Chapter 10
April 13	Cerebellum	Chapter 20 + Atlas Ch 8, p.155-163 + Ch 1 p. 16-17 illustrations

April 15	Cerebral Cortex and White Matter Tracts	Chapter 22
April 16-18	**Practicum 3 (testing center-reserve your spot using the link posted on the course homepage)**	
April 20	**EXAM 3 (Nolte Chapters 10, 18, 19,20)**	
April 22	Cerebral Cortex and White Matter Tracts	Chapter 22
April 27	Hypothalamus and Limbic System	Chapter 23
April 29	Hypothalamus and Limbic System	Group Oral Presentation DUE
May 4	Formation, Modification, and repair Connections	Chapter 24
May 6	**Exam 4 (Nolte Chapters 22, 23)**	
TBA	**Optional comprehensive final exam**	

The descriptions and timelines contained in this syllabus are subject to change at the discretion of the Professor

Notes:

- This schedule is subject to change with adequate notice given to students.
- All exams are closed-book exams.
- Exam grades will be posted in the elearning/blackboard.
- Check e-learning/Blackboard for announcements regarding any change in the lecture schedule.
- Students are responsible for the textbook material. Not all textbook material will be covered in lectures. Students MUST read the textbook and are responsible for the textbook material unless otherwise notified by the instructor.

Grading Policy and Final Grade Scale
(NOTE: There is NO extra credit possible in this class)

Categories	Weighted grades (%)	Due dates
Quizzes/Homework/activities	10%	Refer to course schedule
Exams	60%	Refer to course schedule
Practicum	20%	Refer to course Schedule
Group Oral presentation	10%	Refer to course Schedule

Exams: There will be 4 exams during the course excluding an optional final exam. These will be multiple-choice. Exams 1 through 4 will cover the material preceding the exam. The optional Final comprehensive exam will cover all material presented throughout the course. Excused absences for exams require both appropriate documentation and **advance notice** (by email, phone, or in person).

Practicum: There will be 3 practica, "point-outs" requiring students to identify structures and their connections or function in the human brain sections or drawings**.** Many practicum questions will be derived from the book/atlas. There is no final exam. I strongly encourage you to form study groups to prepare for the point-outs portion of the exam - quiz each other. Practice teaching it to others; that is the best way to learn anything. Practicum will be conducted in the testing center (details are posted on the course homepage)

Quizzes and Homework: Quizzes and homework will be given depending on the class need.

Oral presentation topics + written summary of the literature review conducted on the topic of the oral presentation: Any topic taught in the class can be selected (see syllabus) for the presentation. You should clearly show how the class content helped you with the understanding of Alzheimer's disease pathogenesis or progression. Each group should submit a pre-recorded oral presentation along with the summary of the research topic of the presentation that should be 3-4

pages long, double-spaced, and in APA format. If you exceed the 4-page limit there will be a deduction of 10 points**. Also, submit meeting minutes.** Your presentation can be 20-30 minutes long.

Please note the following regarding submission of assignments:
All the assignments must be typed and submitted via Turnitin link. Turnitin link will be made available on the eLearning.
Students should save a copy of the digital receipt as proof of submission incases of any technical issues.
Note: Word document time stamp is not proof of submission.

Plagiarism, especially from the web, from portions of papers for other sections of the class, and from any other source is unacceptable and will be dealt with under the university's policy on plagiarism (see general catalog for details). This course will use the resources of turnitin.com, which searches the web for possible plagiarism and is over 90% effective. All suspected forms of cheating, collusion, and plagiarism will be turned over to Judicial Affairs according to UTD policy.

GRADING SCALE: Percent **Grade Point Range Totals**
90 – 100 = A
80 – 89.9 = B
70 – 79.9 = C
below 70 is an F

Course & Instructor Policies
The concepts covered in this course can be technically challenging. Reading the textbook and watching the pre-record lecture prior to lecture is highly recommended to understand the concepts and to complete the course successfully. You are required to attend every class.

Textbooks and some other bookstore materials can be ordered online or purchased at the UT Dallas Bookstore.

All matters related to grades or absences should be emailed to the section instructor and not the TA!

Grade Changes and Extra-credit opportunities: Grades will be posted on eLearning, and exams will be reviewed in a timely fashion to give you feedback to study for your next exam. Following exams you will have one week to review the exam, after which no review opportunity will be provided, and no changes will be made to any grade. Extra credits are built within each exam, hence there is no separate opportunity to add additional extra credit in this course.

Photography and videography is prohibited. Audio recording is allowed (but prior permission is required).
Lecture PPT and video recording files will be posted on eLearning before each lecture. Recording and Slides are for your own use to aid your learning in this course. **Reposting of these slides/videos online or reuse of these slides for other purposes is prohibited.**

PLEASE DON'T BE LATE! Discussion begins promptly, and lateness is rude to your instructor and fellow students. Excused absences for exams will be given only if: (a) you are seriously ill and have verifiable documentation from a physician, or (b) you were detained by law at the exam time, or (c) you made prior arrangements to attend a verified religious or family event. In ALL these cases except (b), you must notify the instructor in advance of the scheduled exam by email; for (b), your court order will suffice. Otherwise, you will receive a zero (0) for that evaluation. A maximum extension of one week (7 days) beyond the scheduled exam date can be granted.

C**lass Participation:** All of us in the class have a responsibility to create an environment in which we all can learn from each other. I expect everyone to participate in class so that we can all benefit from the insights and experiences that each person brings. Active participation in this course is directly tied to your success in this class. Successful participation is defined as participating in class discussion and also consistently adhering to University

policy for in person class attendance. Failure to comply with these University requirements is a violation of the Student Code of Conduct.

Attendance: You should attend every class, but extenuating circumstances arise that can make this difficult. If you cannot attend a class, please let me know. If circumstances make you miss more than 3 classes during the semester, you may be overextended. I ask that you come to see me to discuss your options.

Late submission policy: All assignments are due on the announced deadline or dates indicated on the syllabus unless pre-approved by the instructor.

Additional help with the course
There is no assigned graduate Teaching Assistant (TA) for this course. Please feel free to reach out to me for any clarification or help.

Technical Requirements
In addition to a confident level of computer and Internet literacy, certain minimum technical requirements must be met to enable a successful learning experience. Please review the important technical requirements on the Getting Started with eLearning webpage.

Course Access and Navigation
This course can be accessed using your UT Dallas NetID account on the eLearning website.

Please see the course access and navigation section of the Getting Started with eLearning webpage for more information.

To become familiar with the eLearning tool, please see the Student eLearning Tutorials webpage.

UT Dallas provides eLearning technical support 24 hours a day, 7 days a week. The eLearning Support Center includes a toll-free telephone number for immediate assistance (1-866-588-3192), email request service, and an online chat service.

Communication
This course utilizes online tools for interaction and communication. Some external communication tools such as regular email and a web conferencing tool may also be used during the semester. For more details, please visit the Student eLearning Tutorials webpage for video demonstrations on eLearning tools.

Student emails and discussion board messages will be answered within 3 working days under normal circumstances.

UT Dallas Syllabus Policies and Procedures

The information contained in the following link constitutes the University's policies and procedures segment of the course syllabus.

Please go to http://go.utdallas.edu/syllabus-policies for these policies.

Class Materials
The instructor may provide class materials that will be made available to all students registered for this class as they are intended to supplement the classroom experience. These materials may be downloaded during the course; however, these materials are for registered students' use only. Classroom materials may not be reproduced or shared with those not in class or uploaded to other online environments except to implement an approved Office of Student AccessAbility accommodation. Failure to comply with these University requirements is a violation of the Student Code of Conduct.

Class Attendance

The University's attendance policy requirement is that individual faculty set their course attendance requirements. Regular and punctual class attendance is expected. Students who fail to attend class regularly are inviting scholastic difficulty. In some courses, instructors may have special attendance requirements; these should be made known to students during the first week of classes.

Class Participation

Regular class participation is expected. Students who fail to participate in class regularly are inviting scholastic difficulty. A portion of the grade for this course is directly tied to your participation in this class. It also includes engaging in group or other activities during class that solicit your feedback on homework assignments, readings, or materials covered in the lectures (and/or labs). Class participation is documented by faculty. Successful participation is defined as consistently adhering to University requirements, as presented in this syllabus. Failure to comply with these University requirements is a violation of the Student Code of Conduct.

Class Recordings

Students are expected to follow appropriate University policies and maintain the security of passwords used to access recorded lectures. Unless the Office of Student AccessAbility has approved the student to record the instruction, students are expressly prohibited from recording any part of this course. Recordings may not be published, reproduced, or shared with those not in the class, or uploaded to other online environments except to implement an approved Office of Student AccessAbility accommodation. Failure to comply with these University requirements is a violation of the Student Code of Conduct.

The instructor may record meetings of this course. These recordings will be made available to all students registered for this class if the intent is to supplement the classroom experience. If the instructor or a UTD school/department/office plans any other uses for the recordings, consent of the students identifiable in the recordings is required prior to such use unless an exception is allowed by law.

Graduation Help Desk: Resources are available to help you overcome obstacles that may interfere with your progress toward graduation. The Graduation Help Desk, https://oue.utdallas.edu/special-programs/graduation-help-desk, connects you to the resources that will meet your specific needs. To reach a person who can help, email at graduationhelpdesk@utdallas.edu.

AccessAbility resource center / Student Accessibility (OSA)

It is the policy and practice of The University of Texas at Dallas to make reasonable accommodations for students with properly documented disabilities. However, written notification from the Office of Student AccessAbility (OSA) is required. If you are eligible to receive accommodation and would like to request it for this course, please discuss it with me and allow one week's advance notice. Students who have questions about receiving accommodations, or those who have, or think they may have, a disability (mobility, sensory, health, psychological, learning, etc.) are invited to contact OSA for a confidential discussion. OSA is located in the Administrative Building, Room 2.224. They can be reached by phone at 972-883-2098, or by email at studentaccess@utdallas.edu.

Comet Creed

This creed was voted on by the UT Dallas student body in 2014. It is a standard that Comets choose to live by and encourage others to do the same:

"As a Comet, I pledge honesty, integrity, and service in all that I do."

Academic Support Resources

The information contained in the following link lists the University's academic support resources for all students.

Please see http://go.utdallas.edu/academic-support-resources.