The University of Texas at El Paso
College of Health Sciences
Doctor of Physical Therapy Program

DRSC 6390 NEUROSCIENCE FOR HEALTH SCIENCES Spring 2026

COURSE SYLLABUS

Credit Hours: 3

Contact Hours: Total: 45 hrs. - Lecture: 45; Lab: 0 hrs.; Clinic: 0 hrs.

Schedule:
Wed 10:30 AM – 12:00 PM, Rm 120, Rehabilitation Sciences Complex
Fri 9:00 AM – 10:30 AM, Rm 120, Rehabilitation Sciences Complex

Coordinator/Instructor(s):

Faculty	**Shashwati Geed, PT PhD**	**Isabel Valdez, PT**
Office location	Rm. 115B, Rehabilitation Sciences Complex, 3333 N Mesa St.	Rm. 115, Rehabilitation Sciences Complex, 3333 N Mesa St.
Phone	747-7289	
Email	sgeed@utep.edu	icvaldez3@utep.edu
Office hours	by email request	by email request

Course Description: Human neuroscience with an emphasis on normal and abnormal structures and functions of the nervous system, as applied to neurological dysfunction and its impact on physical and occupational functioning of an individual are studied.

Course Prerequisites for Students: The UTEP DPT Program curriculum is a lock-step curriculum. Therefore, students must pass all courses in the prior semester of the DPT Program in order to enroll in courses in the subsequent semester.

Course Objectives:

1. Identify the gross anatomy of the nervous system and all major anatomical structures in the human brain, brainstem, and spinal cord. (7A: Anatomy, Neuroscience; 7A: Nervous System) [Comprehension]
2. Describe the cytoarchitecture of the nervous system and the physiology of neuronal

and synaptic functions. (7A: Anatomy, Physiology, Neuroscience; 7A: Nervous System) [Comprehension]
3. Outline the functional anatomy and organization of general sensory and motor pathways, including all tracts and CNS structures used to process sensory information and convey motor commands. (7A: Anatomy, Neuroscience; 7A: Nervous System) [Comprehension]
4. Describe the function and neuroanatomy of special sensory systems, including auditory, vestibular, and visual systems. (7A: Anatomy, Neuroscience; 7A: Nervous System)
5. Describe the functional consequences of neurological impairment to sensory and motor systems. (7A: Neuroscience; 7A: Nervous System) [Comprehension]
6. Describe the functional consequences of neurological impairment to sensory and motor systems. (7A: Neuroscience; 7A: Nervous System) [Comprehension]
7. Discuss processes involved in higher cognitive function, including memory formation, learning, motor control, and motor learning. (7A: Neuroscience; 7B: Teaching and Learning; 7A: Nervous System) [Comprehension]
8. Identify pathological pain processes related to peripheral and central pain mechanisms. (7A: Anatomy, Neuroscience; 7A: Nervous System) [Comprehension]

Department of Physical Therapy and Movement Sciences Curricular Threads:

1. Cultural / Linguistic Engagement and Competence: n/a
2. Evidence-Based Practice and Research: Updated papers are embedded into the lectures to stimulate students to connect research into clinical application practice.
3. Clinical Reasoning: Clinical reasoning is woven across the course during teaching. We address videos of patients and case discussions to stimulate clinical reasoning under a Neuroscience background.
4. Interprofessional Collaborative Practice: Students from OT and PT interact during classes and clinical examples of each professional specificity are provided.

Methods of Instruction: Lecture, blackboard handouts and textbook readings, chapter workbooks and online lab activities, video discussions.

Methods of Evaluation: Evaluation of course content will consist of quizzes and exams. Quizzes and exams will not be graded on a curve. A minimum average of 70% is needed to pass the course with a grade of "C." Graded activities and their weight are as follows:

Item	Grade Composition
Quizzes (4)	5% each quiz, for total 20%
Exam 1	20%
Exam 2	20%
Exam 3	20%
Exam 4 (Final)	20%
Total	100%

If you are consistently performing **below 80%** you are required to arrange a meeting with the instructor(s) to develop study strategies for performance improvement.

Grading Scale: The following letter grade scale is used for the UTEP DPT Program:

Letter Grade Scale	Numerical Grade Scale
A	90-100
B	80-89
C	70-79
F	Below 70

Required Textbooks and Other Learning Resources:
Neuroscience: Fundamentals for Rehabilitation (5th edition) or current – Laurie Lundy-Ekman

Recommended Textbooks and Other Learning Resources:
Available on Blackboard; O'Connor P, Demes B. Atlas of Neuroanatomy.

Accumulated Knowledge: The student must have a working knowledge of human gross anatomy before undertaking the study of neuroscience. While some review is incorporated into the course material, there is insufficient time to allow extensive detail or instruction. All students are expected, at the start of this course to be familiar with all material presented in the preceding semester of their curriculum.

Resources Available for Student Success:

Confidential Resources:

- **Center for Accommodations and Support Services (CASS):** If you have or suspect a disability and need accommodations, you should contact the Center for Accommodations and Support Services (CASS) at 747-5148. You can also e-mail the office at cass@utep.edu or go by their office in Union Building East, room 106 (next to the UTEP post-office). For additional information, visit the CASS website at https://www.utep.edu/student-affairs/cass/.
- **The UTEP Student Health Center**: Union East Suite 100; 915.747.5624; https://www.utep.edu/chs/shc/.
- **The UTEP Counseling and Psychological Services:** 202 Union West, 915.747.5302; https://www.utep.edu/student-affairs/counsel/.

Additional Resources:

- DPT Library Research Guide: https://libguides.utep.edu/pt
- UTEP provides a variety of student services and support. Please refer to the QR code below for a listing of campus resources or visit https://www.utep.edu/advising/student_resources/student-success-resource-hub.html

University Policies: All students are responsible for following UTEP policies and procedures found in the Handbook of Operating Procedures at www.utep.edu/vpba/hoop Program Policies: All DPT students are responsible for following all policies and procedures documented in the current DPT Student Handbooks.

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Program Policies: All DPT students are responsible for following all policies and procedures documented in the current DPT Student Handbooks. Course policies found in the DPT Student Handbooks apply to all courses in the DPT curriculum. The current DPT Student Handbooks may be found on the Student Resources site on Blackboard or on the program's website.

Academic Integrity: The UTEP DPT Program have a "zero tolerance policy" for scholastic dishonesty. All students must demonstrate academic integrity at all times. Both programs Student Handbook's outline specific definitions, expectations, details, and consequences related to academic integrity and scholastic dishonesty. Additional information related to academic integrity is available through the UTEP Division of Student Affairs at www.utep.edu/student-affairs/osccr/student-conduct/academic-integrity.html

Technology Requirements: Please refer to the DPT Student Handbook "Student computer requirements" for details. IMPORTANT: If you encounter technical difficulties beyond your scope of troubleshooting, please contact the UTEP Help Desk as they are trained specifically in assisting with technology needs of students. Please do not contact me for this type of assistance. The Help Desk is much better equipped than I am to assist you. https://www.utep.edu/technologysupport/ Phone: 915-747-4357

Student Course Evaluation: The expectation is that each student will complete the online course evaluations distributed by UTEP at the end of the semester. Your professional and constructive feedback is used by instructors to enhance their teaching, improve students' learning, and is an important part of the DPT curriculum assessment plan. Completing course evaluations is a professional expectation as a clinician. For example, when you attend a continuing competency (CC) education, you will be asked to complete a course evaluation to be eligible for CC units (CCUs).

To demonstrate compliance:

1. Go to your 'My UTEP' course evaluations confirmation page.
2. Take a screenshot of your completed course evaluation.
3. Upload this screenshot which includes your name to the "Course Evaluation" assignment on blackboard by assignment due date (commonly the week prior to course final exam).
4. See example below.

Note: This screenshot is proof that you submitted your course evaluation and, in part, serves as evidence of your professionalism and commitment to the success of the DPT curricula. 1% extra credit will be added to your final grade if you complete the course evaluation and upload screenshot to assignments by due date.

Copyright Statement for Course Materials: All materials used in this course are protected by copyright law. The course materials are only for the use of students currently enrolled in this course and only for the purpose of this course. They may not be further disseminated.

Course-Specific Policies:

1. Attendance Policy and Absences: Refer to current DPT Student Handbook "Attendance and Classroom Behavior" for the DPT Program policy.

Additional course-specific policies:

1. As a student enrolled in a professional program, it is expected that every student will be seated and attentive as soon as class begins. Tardiness is unprofessional and impacts your fellow peers by interrupting the classroom dynamics.
2. An attendance sheet will be circulated at the end of some lecture randomly for your signature.
3. If you miss a class, you must contact your instructor via email within 24 hours of the missed class.
4. If you miss a class, you are responsible for the material that was covered in lecture, and any announcements that were made in class that you missed.
5. There will be no make-up exams unless arrangements are made prior to the scheduled date, or in the case of an unforeseen emergency situation.
6. Missed exams will be entered as a zero grade unless the student has made prior arrangements with the instructor.
7. The instructor will endeavor to arrange a convenient make-up date for both of our schedules.
8. Make-up quizzes and exams will cover the same content, but the format of the test may be different. Make up quizzes or exams will only be given to students with an excused absence. Any unexcused absences will result in a 5%

lowering of the final grade.

9. It will not be the policy of this instructor to routinely allow students to take advantage of missing quizzes and exams with the expectation that they will be able to make up the work later.
10. We consider extraordinary circumstances worthy of an excused absence to include military duty, jury duty, documented hospitalization, documented illness, funerals, and/or religious observations.
11. Attendance Policy - Tardiness & Early Departures: Refer to current DPT Student Handbook “Attendance and Classroom Behavior” for DPT Program policy. Additional course-specific policy is as follows:
12. Electronic Devices: Refer to current DPT Student Handbook “Electronic Devices” for DPT Program policy.
13. All cell phones must be turned off, or placed on vibrate, before the beginning of class. Cell phones can be disruptive and a distraction during valuable lecture time which can negatively impact all the students in the class.
14. Cell phones may not be used to photograph quizzes or exams. Exams are returned to the student for inspection, but they must be turned in before you leave class. They are filed and kept by the instructor until after graduation.

15. **Professional Behavior Policy**: See DPT Student Handbook “Attendance and Classroom Behavior”, “Professional Behaviors” and “Unprofessional Behavior” or relevant sections for general program policy. Additional course-specific is as follows:
16. **Late or Missed Assignments and Assessments Policy**: See current DPT Student Handbook “Written Examination Policy”. Additional course-specific policy is as follows:
    a. Your evaluation will be based on your performance on exams and quizzes conducted in the class.
    b. Quizzes will consist of questions given at the beginning of class covering the material from the previous class(es) as an on-line quiz.
    c. In-class quizzes will be given at the start of class (first 10-15 minutes).
    d. If you are late to class, you will only have the remaining time (of the test time) to complete the quiz.
    e. If you miss the quiz entirely you will receive a zero.
    f. In the case of an excused absence from class, the student and instructor will coordinate a make-up time convenient to both our schedules AND within a short window of time.
    g. An unexcused absence resulting in a missed exam will result in a grade of zero on that exam and no make-up will be given.

17. **Skills Check Policy:** No skill checks

18. **Practical Exam Policy:** No practical examination

19. **Artificial Intelligence (AI) Policy:**
    a. AI allowed with proper acknowledgement Use of AI technologies or automated tools, particularly generative AI such as ChatGPT or DALL-E, is only allowed with proper attribution given for its use.
    b. Students must properly cite and give full credit to the program used upon submission of every relevant assignment. For example, text generated using ChatGPT must be cited: Chat-GPT (version). Date of query (year/month/day). “Text of your query.” Generated using OpenAI. https://chat.openai.com/. A short paragraph describing how the tool(s) was/were used for the assignment must be included.

Plagiarism Detecting Software: Some of your course work and assessments may submitted to SafeAssign, a plagiarism detecting software. SafeAssign is used review assignment submissions for originality and will help you learn how to properly attribute sources rather than paraphrase.

Making Changes to Schedules for Examinations (not quizzes)
From the first day of the semester, the cohort has 14 calendar days to request a change in scheduled examination date based ONLY on conflicts with scheduled examinations in other classes. The request will be submitted to all responsible faculty members in writing. This request will include potential alternatives. The faculty will evaluate these requests and make a final decision within 7 days of receipt. Otherwise, examinations will not be changed.

Course Content and Schedule: Students will be notified of changes via Blackboard or email. Additional details may be available in supporting course documents provided by the course instructor.

- Classes begin: Jan 20, 2026. The Final exam will be on Friday, May 8th, 2026.

Schedule Neuroscience (Tentative)

Date	Day	Topics	Instructor
01/21/26	Wed	Introduction to neuroscience and neuroanatomy	Dr. Valdez
01/23/26	Fri	Physical and electrical properties of cells in nervous system	Dr. Valdez
01/28/26	Wed	Quiz 1; Neural communications: synaptic/extra-synaptic transmission	Dr. Valdez
01/30/26	Fri	Neuroimaging and neuroanatomy	Dr. Valdez
02/04/26	Wed	Neuroplasticity	Dr. Valdez
02/06/26	Fri	Exam 1	Dr. Valdez
02/11/26	Wed	Development of nervous system	Dr. Valdez
02/13/26	Fri	Autonomic nervous system	Dr. Valdez
02/18/26	Wed	Vestibular system	Dr. Valdez
02/20/26	Fri	Quiz 2; Dizziness, unsteadiness, clinical applications	Dr. Valdez
03/04/26	Wed	Somatosensory system	Dr. Valdez
03/06/26	Fri	Somatosensory system - clinical	Dr. Valdez
03/11/26	Wed	Pain and syndromes	Dr. Valdez
03/13/26	Fri	Exam 2	Dr. Valdez
03/18/26	Wed	Spring Break No Class	
03/20/26	Fri	Spring Break No Class	
03/25/26	Wed	Cerebrum, blood supply, CSF - recorded lecture + video	Dr. Geed
03/27/26	Fri	Cesar Chavez Day No Class	
04/01/26	Wed	Motor system: motor neurons	Dr. Geed
04/03/26	Fri	Spring Study Day No Class	
04/08/26	Wed	Quiz 3; Motor system: descending tracts	Dr. Geed
04/10/26	Fri	Cerebellum	Dr. Geed
04/15/26	Wed	Basal ganglia and movement	Dr. Geed
04/17/26	Fri	Exam 3	Dr. Geed
04/22/26	Wed	Frontal cortex	Dr. Geed
04/24/26	Fri	Spinal and peripheral nerves	Dr. Geed
04/29/26	Wed	Quiz 4;	Dr. Geed
05/01/26	Fri	Brainstem	Dr. Geed
05/06/26	Wed	Cranial nerves	Dr. Geed
05/08/26	Fri	Dead Day, Final Exam	Dr. Geed