

# Course Syllabus

## Introductory Neuroscience

Dr. Steve McWilliams



**Course #/Section #** NSC 3361.005  
**Term** Fall 2025  
**Days/Times/Room** TR 10:00-11:15am CRA 12.110  
**Class Format** This class meets in-person. There's NOT an online or asynchronous option for this class. Lectures will NOT be recorded or posted.

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I WANT VERY MUCH FOR YOU TO SUCCEED!

College-level classes require a certain level of commitment on part of the student. Students who come to class and study on a regular basis tend to do better than students who do not. I know it's a mystery, but it's really that simple!

Dr. SM

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### Professor Contact Information

**Email Address** All course-related communications must be sent to me at [steven.mcwilliams@utdallas.edu](mailto:steven.mcwilliams@utdallas.edu) from your UTD email account. When emailing, please include your class in subject line, so that I know who you are...I teach more than one class! Do not leave voice messages.

**Office Location** GR 4.714

**Office Hours** TR 9:00 9:45 am (Please email to set up an individual meeting- if necessary)

### General Course Information

**Course Pre-requisites, Co-requisites, and/or Other Restrictions:** None

**Course Description and Content:** This course explores the nature of the brain processes underlying basic neurobiology and behavior, including basic neurophysiology, the physiology of movement and sensation, learning and memory, emotion, and behavioral disorders. This course is designed to introduce students to the brain and behavior as well as to provide a foundation for those pursuing degrees in the various areas of neuroscience, including psychology, cognition, and child development. In this course, we will briefly examine nerves cells and the transfer of information from one neuron to another. This will include a survey of basic neuroanatomy and the chemistry of the brain. This will be followed by a study of the different sensory systems, hormones, biological rhythms, cognitive processes, and psychopathology. death.

**NACE Career Readiness:** This course incorporates various core competencies listed by the National Association of Colleges and Employers (NACE) as essential for career readiness. Core competencies demonstrated and practiced in this course include critical thinking, communication, leadership, professionalism, and self-development. Should you have any questions or concerns related to core competencies as part of this class, please feel free to reach out to me.

**Student Learning Objectives/Outcomes:** After completing the course, students should be able to:

1. Identify and describe basic neuro-anatomical structures, lobes of the brain, and their major functions
2. Describe the differences between neurons and glia, their primary functions, and their physiological processes
3. Describe the physiological processes associated with neuronal conduction, communication, and the transfer of information from neuron to neuron
4. Display a basic understanding of neurochemistry and basic neuropharmacology as it relates to neuronal function and mental disorders
5. Identify and describe basic neurochemistry as well as specific neurotransmitters and their functions
6. Describe the anatomical structures and mechanisms associated with both sensory and motor systems at both the cellular level and system level

7. Describe the anatomical structures and associated mechanisms involved with cognition, behavior, and some psychiatric disorders

**Textbooks:** Mind's Machine by Watson & Breedlove (4th or 5th edition is okay)

**Exams/Quizzes/Attendance/Course Policies/Grading:**

**Exams** (75%): There will be three exams during the course. All exams are weighted equally. Exams will cover the material preceding the exam and therefore are not comprehensive in design. No exam grade will be dropped. You will have 75 minutes to complete each 50-question (multiple-choice/true-false) exam. All exams must be completed in class during regularly scheduled class days and times. **YOU WILL NEED TO BRING A LAPTOP TO CLASS ON EXAM DAYS TO ACCESS THE ONLINE EXAM. All exams WILL REQUIRE UTD's Lockdown Browser to access.** You can download the software using the following link: <http://www.respondus.com/lockdown/information.pl?ID=353814262>. Make sure your laptop is functioning properly before coming to class to take the exam! You are not allowed to use any other electronic device during testing, nor are you allowed to leave during the exam for any reason unless preapproved by the instructor.

**Quizzes** (25%): A 10-question weekly quiz will be posted on the Course Homepage on eLearning at the end of each week that will cover the material for that week. The quiz will become available starting Friday and will remain available through the end of the day Monday. You will have 15 minutes to complete each online quiz. Your highest ten quiz grades will be totaled and averaged into your final course grade. Quizzes **MUST** be completed within the allotted time, or they will not be graded nor recorded for credit- no exceptions! **There are no make-up quizzes!**

**Attendance:** Although I do not take weekly regular attendance, **I will randomly take attendance for an in-class quiz grade to be added to your final quiz average. You must be present -in class- to receive the attendance quiz grade.** This is to encourage you to come to class! Regular class attendance is strongly recommended. Students who fail to participate in class regularly are inviting scholastic difficulty.

**Regarding MISSED EXAMS, ILLNESS, LATE TO EXAMS, and Extra Credit:**

Although we all wake up at times not feeling well, sometimes it's best to get up anyway and avoid getting behind in class. With that said, sometimes missing an exam just can't be avoided. **Any missed exam -no matter the reason- will be replaced by the Makeup Exam to be taken in-class on the last day of regular classes- no exceptions.** This includes any missed exam related to official UTD business, any missed exam due to medical reasons, or any personal bereavement. **Any missed exam not replaced by the makeup exam by the end of the last day of regular classes will be given a grade of zero.** The makeup exam can be used to replace more than one missed exam. **Students are expected to be on time at the start of the exam. If you show up late, you may not be allowed to take the exam. If a student is late to an exam and is given approval to start the exam, the student MUST complete the exam at the same time the class is scheduled to end the exam, unless preapproved by the instructor.** I do not give extra credit work- so please don't ask.

**Regarding Inclement Weather/University Closings/Class Cancellation:**

Employees and students are expected to exercise judgment regarding their ability to travel safely to campus when inclement weather is in the area. They are not expected to place travel for work or class attendance above considerations for individual health and safety. Should the instructor decide to opt out of making students travel to the classroom during inclement weather, the instructor may continue academic progress by use of eLearning/Blackboard Collaborate (an online platform to meet live) or by assigning an additional assignment.

**Final Grades:** The plus/minus grading system is used in this course. A+ (97-100), A (94-96), A- (90-93), B+ (87 - 89), B (84 - 86), B- (80 - 83), C+ (77 - 79), C (74 - 76), C- (70 - 73), D+ (67 - 69), D (64 - 66), D- (60 - 63), F (59 or below)

**UTD Policies/Procedures/AccessAbility Resource Center (ARC)**

Information contained in the following link constitutes the University's policies and procedures segment of the course syllabus. Please see <https://go.utdallas.edu/syllabus-policies> for these policies. Information contained in the following link constitutes the University's policies and procedures on student conduct and academic integrity. Please see <http://conduct.utdallas.edu/integrity/> and <https://policy.utdallas.edu/utdsp5003>

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 AccessAbility Resource Center (ARC) is required. If you are eligible to receive an accommodation and would like to request it for this course, please discuss it with me and allow one-week 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 ARC for a confidential discussion. ARC is located in the Administration Building, AD 2.224. They can be reached by phone at 972-883-2098, or by email at [studentaccess@utdallas.edu](mailto:studentaccess@utdallas.edu).

### Assignments & Academic Calendar (The information contained here is subject to change)

Date	Day	Topic	Readings
Aug 26	T	Course Introduction/Student Expectations/Learning and Test-Taking Skills	
Aug 28	R	Basic Science Review for the Neuroscience Student	PPT Postings
Sep 2	T	Neurons of The Nervous System	Chapter 2/PPTs
Sep 4	R	Neuroanatomy and Neurodevelopment (basic neurodevelopment)	Ch. 2 Ch. 13(pt3)/PPTs
Sep 9	T	Neurophysiology (gradients, diffusion, and membrane potentials)	Chapter 3/PPTs
Sep 11	R	Neurophysiology (electromotive driving forces and action potentials)	Chapter 3/PPTs
Sep 16	T	Chemical Synapses and the Chemistry of Behavior	Chapter 4/PPTs
Sep 18	R	The Chemistry of Behavior (basic pharmacology)	Chapter 4/PPTs
Sep 23	T	<b>Exam I (in-class)</b>	
Sep 25	R	The Sensorimotor System (sensory transduction and movement)	Chapter 5/PPTs
Sep 30	T	Transduction of the Senses (audition and olfaction)	Chapter 6/PPTs
Oct 2	R	Vision (basic anatomy and visual transduction)	Chapter 7/PPTs
Oct 7	T	Vision (visual transduction and visual receptive fields)	Chapter 7/PPTs
Oct 9	R	Vision (brain processing of visual information)	Chapter 7/PPTs
Oct 14	T	Neuroendocrine system (hypothalamus and pituitary gland)	Chapter 8/PPTs
Oct 16	R	Neuroendocrine system ( )	Chapter 8/PPTs
Oct 21	T	Hormones and Reproduction	Chapter 8/PPTs
Oct 23	R	Homeostasis	Chapter 9/PPTs
Oct 28	T	<b>Exam II (in-class)</b>	
Oct 30	R	Biological Rhythms and Sleep	Chapter 10/PPTs
Nov 4	T	Emotions, Aggression, and Stress	Chapter 11/PPTs
Nov 6	R	Psychopathology (behavioral and mental disorders)	Chapter 12/PPTs
Nov 11	T	Psychopathy and Antisocial Personality Disorder	Chapter 12/PPTs
Nov 13	R	Memory and Learning	Chapter 13/PPTs
Nov 18	T	Attention and Higher Cognition	Chapter 14/PPTs
Nov 20	R	Language and Lateralization	Chapter 15/PPTs
Nov 25	T	<b>Thanksgiving Break (no classes this week)</b>	
Nov 27	R	<b>Thanksgiving Break (no classes this week)</b>	
Dec 2	T	<b>Exam III (in-class)</b>	
Dec 4	R	<b>Makeup-Exam (if required- See Course Syllabus)</b>	
Dec 9	T	TBD (last day of regular classes)	
		<i>Dec 11-16 final week (not required for this class)</i>	