Course Syllabus

Course Information
Course Number/Section NSC 3361.0U1
Course Title Introductory Neuroscience
Term Summer 2019
Days/Times/Room MW 10:00 am-12:15 pm CRA 12.110

Professor Contact Information
Professor Dr. Steve McWilliams
Office Phone 972-883-6785 (No voice mail; do not leave messages)
Email Address **All course-related communication must be sent through official UTD email/eLearning. I am the 'section instructor'**
Office Location GR 4.714
Office Hours M 9:00 to 9:45am W 12:30-1:00 or by appointment via email
Other Information Course Web Site: UTD eLearning

Teaching Assistant Dema Abdelkarim
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Office hours *-by appointment only-*

Undergraduate TA Mays Alshaikhsalama
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Office hours *-by appointment only-*

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

Course Description
This course explores the basics of neurobiology (neurons and how they serve the nervous system) as well as the principles and concepts of motor and sensory systems. This course includes an in-depth look at the principles of neurophysiology and the underlying processes responsible communication within the nervous system.

Course Content
To begin to understand human behavior and disease you must first understand how the brain works. Since this is an introductory neuroscience course, we will first examine nerves cells and their physiological processes including the propagation of nerve impulses and the transfer of information from one neuron to another. This will include a survey of basic neuroanatomy and the development of the nervous system. This will be followed by a study of the overall organization of the central nervous system including parts of the brain stem, spinal cord, and cranial nerves. Basic neuropharmacology will be discussed as it relates to the above-mentioned topics.

In order to understand and communicate about the nervous system, you'll need to learn some new vocabulary- a lot of new vocabulary!

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

Required Textbooks and Materials

Neuroscience: Exploring the Brain, 4th Ed., Bear

Optional Course Materials (Not required!)

If you desire additional sources of information *-because you just can't get enough to read-* you can look at (1) *Essential Neuroscience* by Siegel, (2) *Neuroscience* by Purves, (3) Foundations of Behavioral Neuroscience by Carlson, and/or (4) *Principles of Neural Science* by Kandel. Again, THESE TEXTBOOKS ARE NOT REQUIRED!

Grading Policy

Exams (100%): There will be four exams during the course and an OPTIONAL comprehensive exam. Each exam is worth 25 % of your total course grade. Exams I through IV will cover the material preceding the exam, while the comprehensive exam will cover all material presented throughout the course. The comprehensive exam can be used to replace your lowest exam grade or a missed exam grade. The comprehensive exam can be used to replace ONLY one missed exam grade. Students missing more than one exam should see below under Make-up Exams. Questions on the exams will be taken from the assigned textbook readings, class lectures, as well as any additional material that I may provide. Exams will consist of multiple choice, matching, and true/false questions. **You will need scantron form 229630 and a pencil for each test.** Using the wrong scantron, not writing in your name and ID number correctly, or not bubbling-in your information correctly on the scantron may delay your grade being posted. Scantron bubbles left blank will be counted wrong by the scantron machine; no credit will be given even if those questions are answered on the actual scantron itself. Final grades are based on in-class exams only. **No extra credit work will be given or accepted.**

Final Grades: The plus/minus grading system is used in this course. A+ (97–100), A (94<97), A- (90<94), B+ (87<90), B (84<87), B- (80<84), C+ (77<80), C (74<77), C- (70<74), D+ (67<70), D (64<67), D- (60<64), F (< 60).

Course & Instructor Policies

eLearning, course information, and UTD email

All course information including PowerPoints will be posted on eLearning. No portion of classroom material including all PowerPoint slides may duplicated, reposted, retransmitted, sold, or otherwise used without the express written approval of the author. Grades will be posted as soon as possible. I will use eLearning to post announcements from time to time as well as any urgent changes to our class schedule including class cancellations should the need arise. All and any email correspondence related to the course MUST be sent through official UTD email/eLearning; I will not respond to emails sent via any outside email addresses.

Make-up Exams

A missed exam will be replaced with the Optional Comprehensive Exam grade. If the comprehensive exam is not taken, the missed exam will remain as a zero. The comprehensive exam can be used to replace either a low exam grade or a missed exam grade, but not both. Missing more than one exam without prior approval from instructor will result in a grade of zero for that exam as well as any additional missed exams. Prior notification, for example via email, does not itself imply approval. Students are not allowed to take an exam early or late for any reason. **No other make-up exam(s) will be given.**

Reviewing Past Exams
You MUST make an appointment with the graduate teaching assistant (TA) to review a past exam. STUDENTS HAVE 1 WEEK FROM THE DAY EXAM GRADES ARE POSTED IN WHICH TO MAKE AN APPOINTMENT TO REVIEW THAT EXAM. However, there is not enough time for students to review exam IV near the end of the course prior to taking the optional comprehensive exam since exam IV is given just before the optional comprehensive exam- it's just logistically impossible given the size of the class. With that said, the comprehensive exam will contain very few questions related to material from exam IV. The graduate TA can assist students with the course material in general and help clarify any questions students may have over the exam itself. All student questions concerning any grade adjustment to a test MUST be referred to the course instructor, as the TA cannot adjust a grade without approval of the course instructor. Exams are not to be copied or photographed in any way whatsoever, including photocopying, picture taking with a phone, or writing questions down.

Attendance, Class Participation, and Readings
Learning about neuroscience can be a challenge even for the most studious student. Regular attendance and reading are vital to your understanding the subject. Your performance in this course will probably be affected by your attendance. I will often emphasize particular parts of a chapter that I think are critical for your future studies. If you are not in class, you will not know what parts I have emphasized! In addition, I may from time to time present material in lecture that is not covered in the textbook. This will often include material designed to enhance your knowledge and peak your interest. This should encourage you to attend class and to keep up on your reading assignments. In addition, **I encourage you to ask questions over the material being presented. However, out of respect for your fellow students, I ask that you keep your questions related to the topic being discussed and that you hold your questions until after I have finished with that particular slide and have acknowledged you.** Once you have raised your hand, I will address you so that you can ask your question.

Academic Support/Tutoring
The Student Success Center typically offers Supplemental Instruction (SI) for this course free of charge. Study sessions are led by an SI leader, someone who has taken the class and done well, and are held weekly. Sessions start during the second week of classes and are voluntary; there is no need to sign up. For details such as days and times and other additional information check http://www.utdallas.edu/studentsuccess/leaders/si.html

Your class TA is a good source of information and can be very helpful if you are having trouble in the class with regard to understanding the material. Teaching Assistants (TA) are graduate students with a good degree of knowledge about the material you are being given; it's likely he or she has taken this class. Please feel free to email your TA at any time during the semester or to speak with him/her before or after class. His or her contact information is listed above.

Elearning
To comply with FERPA regulations, **all email discussions to and from me MUST be through eLearning.** This is to protect your privacy, and to keep me organized. Discussion boards and Chat are available for your use. I will not routinely monitor them unless I receive complaints about inappropriate posting. Grades will be posted as soon as they are available. Announcements may be made from time to time.

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.

OSA/ADA
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 an accommodation and would like to request it for this course, please discuss it with your professor 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 OSA for a confidential discussion. OSA is located in the Student Services Building, SSB 3.200. They can be reached by phone at 972-883-2098, or by email at studentaccess@utdallas.edu.

Academic Integrity
The faculty expects from its students a high level of responsibility and academic honesty. Because the value of an academic degree depends upon the absolute integrity of the work done by the student for that degree, it is imperative that a student demonstrates a high standard of individual honor in his or her scholastic work. ***Academic Dishonesty:*** Academic dishonesty can occur in relation to any type of work submitted for academic credit or as a requirement for a class. It can include individual work or a group project. Academic dishonesty includes plagiarism, cheating, fabrication, and collaboration/collusion. In order to avoid academic dishonesty, it is important for students to fully understand the expectations of their professors. This is best accomplished through asking clarifying questions if an individual does not completely understand the requirements of an assignment. Additional information related to academic dishonesty and tips on how to avoid dishonesty may be found here: https://www.utdallas.edu/conduct/dishonesty

Email Use
UT Dallas recognizes the value and efficiency of communication between faculty/staff and students through electronic mail. At the same time, email raises some issues concerning security and the identity of everyone in an email exchange. All official student email correspondence will be sent only to a student's UT Dallas email address and UT Dallas will only consider email requests originating from an official UT Dallas student email account.

Sharing Confidential Information
Students considering sharing personal information in email, in person, or within assignments or exams should be aware that faculty members and teaching associates/assistants and graduate/research assistants are required by UT Dallas policy to report information about sexual misconduct to the UT Dallas Title IX Coordinator. Per university policy, Prohibited Discrimination and Sexual Harassment Sexual Misconduct Policy - UTDBP3102, faculty have been informed that they must identify the student to the UT Dallas Title IX Coordinator. Students who wish to have confidential discussions of incidents related to sexual harassment or sexual misconduct should contact the Student Counseling Center (972-883-2575 or the 24/7 Crisis Hotline at 972-UTD-TALK or 972-883-8255), the Galerstein Gender Center (972-883-6555), a health care provider in the Student Health Center (972-883-2747), the clergyperson (or other legally recognized religious advisor) of their choice, or an off-campus resource (i.e., rape crisis center, doctor, psychologist). Students who are sexually assaulted, harassed, or victims of sexual misconduct, domestic violence, or stalking, are encouraged to directly report these incidents to the UT Dallas Police Department at 972-883-2222 or to the Title IX Coordinator at 972-883-5202.

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

Week Of	Day	Topic	Reading
May 27	M	No Class- Campus Closed	
	W	Course Introduction/Neurons and Glia	Chapter 2
Jun 3	M	The Neuronal Membrane at Rest	Chapter 3
	W	The Action Potential (Myelination, Saltatory Conduction, & Conduction Velocity)	Chapter 4
Jun 10	M	**Exam I**	
	W	Test Taking Skills (Hindsight is 20/20!)	
Jun 17	M	Synaptic Transmission	Chapter 5
	W	Neurotransmitter Systems	Chapter 6
Jun 24	M	Neurotransmitter Systems	Chapter 6
	W	Structure of the Nervous System (Neurodevelopment)	Chapter 7
Jul 1	M	**Exam II**	
	W	Structure of the Nervous System (Neuroanatomy)	Chapter 7

Jul 8	M	Sensory- Vision (the Eye)	Chapter 9
	W	Sensory- Vision (the Brain)	Chapter 10
Jul 15	M	Sensory- Somatic Sensory Systems	Chapter 12
	W	**Exam III**	
Jul 22	M	Motor- Spinal Control of Movement (Spinal Control of Motor Units)	Chapter 13
	W	Motor- Brain Control of Movement (Cerebral Cortex, Cerebellum, &Basal Ganglia)	Chapter 14
Jul 29	M	Chemical Control of the Brain and Behavior (The Hypothalamus & Pituitary)	Chapter 15
	W	Chemical Control of the Brain and Behavior (The Autonomic Nervous System)	Chapter 15
Aug 5	M	**Exam IV**	
	W	**Optional Comprehensive Exam**	