Course Syllabus

Course Information

Course Number/Section	NSC 3361.0u1
Course Title	Introduction to Neuroscience
Term	Summer 2025
Days/Times/Room	M-W/10am-12pm/CRA 12.110

Professor Contact Information

Professor	Dr. Siham Raboune
Email Address	siham.raboune@utdallas.edu
Office Location	JO3.110
Office Hours	M 12pm-1pm or by appointment
Other Information	Course Web Site: UTD eLearning
Teaching Assistant	TBA

Course Pre-requisites, Co-requisites, and/or Other Restrictions

None

Course Description

This is an introductory course that explores the basic structure and function of the brain and spinal cord as well as nerves and their connections. This course includes an in-depth look at the principles of neurophysiology and the underlying processes responsible for sensation, learning and memory, as well as behavior.

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. We will then look at the sensory, motor, and integrative systems, followed by a look at several behavioral and mental disorders. Basic neuropharmacology will be discussed as it relates to the above mentioned topics. In order to understand and communicate about the nervous system, there will be a lot of new vocabulary that you will need to learn!

Student Learning Objectives/Outcomes

Students who complete this course should be able to:

1. Analyze the contributions of anatomical, physiological, behavioral, cell and molecular, developmental, pharmacological, and biological studies to the cross-disciplinary field of neuroscience.
2. Compare and contrast how neurons and glia cells will react in different disease states.
3. Explain how action potentials propagate along neurons, how information is transferred from neuron to neuron, and how glial cells influence these processes.
4. Predict how damage to neuro-anatomical structures will impact specific behaviors.
5. Evaluate the changes that the nervous system undergoes during typical development and how this is influence by genes vs. the environment.
6. Describe the anatomical structures and mechanisms associated with motivation, emotion, sensation, movement, and complex behaviors at the cellular and systems levels.
7. Demonstrate how scientists create and test hypotheses to study complex behaviors, neurological diseases, and psychiatric disorders.
8. Display a basic understanding of neurochemistry and neuropharmacology as it relates to neuronal function and mental disorders
9. Integrate pathological findings from psychology, psychiatry, physiology, and neurology with basic scientific work in the neurosciences.
10. Apply neuroscience concepts, theories, and research findings to issues in everyday life.

Required Textbooks and Materials

The Mind's Machine 3e by Watson and Breedlove. ISBN- 9781605357300. This book is available in soft cover or as an eBook.

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.

Course & Instructor Policies

e-Learning, 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. I will use e-Learning to post announcements from time to time as well as any urgent changes to our class schedule including class cancellations should the need arise. To comply with FERPA regulations, 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. This is to protect your privacy. Grades will be posted as soon as they are available. Announcements may be made from time to time in class or via e-learning announcements.

Attendance and Readings: Learning about neuroscience can be a challenge even for the most studious student. Regular attendance and reading are vital to your understanding of the subject. Your performance in this course will probably be affected by your attendance. Attendance of classes is strongly recommended, as tests will be based on material taken from the classes and will not be

restricted to the topics and textbooks indicated in this syllabus, which serves predominantly as a guideline to the course. Arrive on time and please give your entire attention to the class until dismissal. It is your responsibility to come to class or otherwise obtain information presented in class from another class member. The instructor will post lecture slides prior to class. Students are expected to read lecture material before coming to class. Students are also expected to participate in class discussions and activities. 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.

Special needs: Any student with special needs/circumstances that require special accommodations for this course should make this known to the instructor during the first week of class via email.

Academic Support/Tutoring: The Student Success Center offers Supplemental Instruction (SI) for this course free of charge. Study sessions are lead 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; many of them have taken this class. Please feel free to email your TA at any time during the semester His or her contact information is listed above.

Grading Policy

Your grade will be determined as follow:

In Class Exams:	85%
Take Home Assignments:	15%
Total earned	**100%**

Letter grades will be assigned according to the following cutoffs:

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).

Exams (85%): There will be a total of four exams. All will consist of multiple-choice, matching, and true/false questions and will be graded equally. The final exam is cumulative. You may drop your lowest grade even the final if desired. Exams will begin promptly, and no one will be allowed to take the exam once the first person done has left the room and no extra time will be given. Make-up exams are rarely offered and only at my discretion. Excused absences for exams will be given only if: (a) you are seriously ill and have verifiable documentation from a physician, or (b) you made prior arrangements to attend a verifiable religious or family event. In all of these cases you must notify and discuss with the instructor in advance of the scheduled exam by email. A maximum extension of one week (7 days) beyond the scheduled exam date can be granted for a make-up exam.

Reviewing Past Exams: Students have a week from the day exam grades are posted in which to make an appointment to review that particular exam.

Take Home Assignments (15%): There will be a total of 3 essays during the semester. Each essay is worth (5%). Collaboration is allowed; however, every student needs to write their own essay independently and include names of all group members. These essays need to be submitted by the due date via Turnitin. ***The due dates of submission and detailed instructions for these essays will be announced in class and via e-learning.*** *There is No make up for these essays*

Please note the following:

- **All assignments must be typed and submitted via turnitin; those that are not will not be accepted or graded. Turnitin link for submission will be made available on the course webpage / eLearning.**

- **Students should save a copy of the digital receipt that is displayed and received via email when submitting a draft/paper on Turnitin as proof of submission, time stamp is not proof of submission. If you are facing any technical issues, please take a screenshot and send it to me along your paper via email by the due date.**

- **Papers not turned in by the due date will be deducted one letter grade for every day late (including weekends)**

Scholarly Student Conduct

In order to create an environment that is conducive to learning, students assume the duty to conduct themselves in a manner appropriate to the university policy. Please plan to pay your full attention to class and be an active learner. If you have a cell phone in class, be respectful to your classmates and make sure you silence the ringer before class begins. Also restrict its use to course content. Behaviors that are disruptive or insulting to me or your classmates will not be accepted.

Academic Dishonesty

Violations of academic honesty (cheating, plagiarism, etc.) will not be accepted. Please refer to your student handbook for a description of academic dishonesty policy.

The instructor reserves the right to amend this syllabus at any time. It is the responsibility of the student to be made aware of any changes in the syllabus by attending class and checking e-learning regularly.