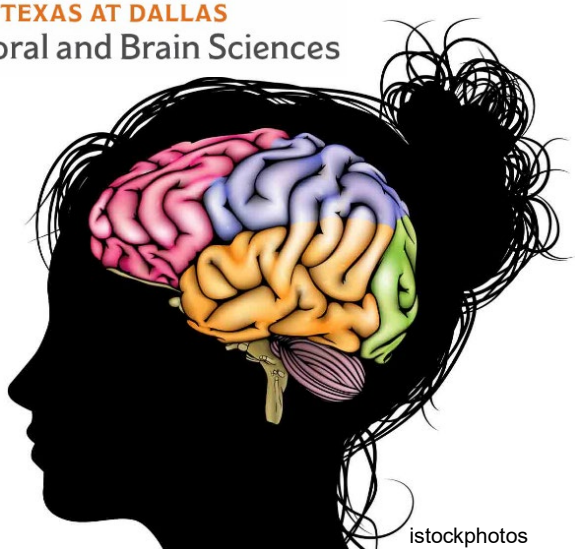
Introduction to Neuroscience
Course Syllabus | Spring 2026

THE UNIVERSITY OF TEXAS AT DALLAS
School of Behavioral and Brain Sciences



Course Information:
Catalog #: NSC3361.002
Class Schedule: Tuesday/Thursday
Class Times: 8:30am-9:45am
Class Location: CRA 12.120
Instructional Mode: Traditional Classroom (Synchronous only)

Instructor: Anna Marie Taylor, Ph.D.
Office: JO3.116
Open Hours: Mondays and Wednesday from 11:30am-1:00pm
(other days or times and virtual options are available by appointment)
Email: anna.taylor2@utdallas.edu
Phone: 972-883-2446

Undergraduate TAs:
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Course Description:
This is an introductory science course that explores the nature of the brain processes underlying behavior, including consideration of basic neurophysiology and the physiology of sensation, learning, and emotion.

Course Content:
To begin to study complex behaviors and treat neurological diseases in humans, one must first understand how the brain works. Since this is an introductory neuroscience course, we will first cover the cells of the nervous system and their physiological roles in processes such as the propagation of nerve impulses and the transfer of information between neurons. This will include a survey of basic neuroanatomy and the organization as well as the development of the nervous system. Next, we will explore how sensory systems including touch, vision, and hearing, as well as, motor systems control behavior. We will then delve deeper into emotion and motivation including drugs, sex, hunger, thirst, and sleep. Finally, we will discuss learning and memory, intelligence, psychological disorders, and language. Whenever possible, clinically relevant examples will be incorporated into lectures leading to discussions of current research. This is a lot to pack into a semester, so buckle your seatbelts!

Course Learning Objectives:
After completing this course, students will be able to:

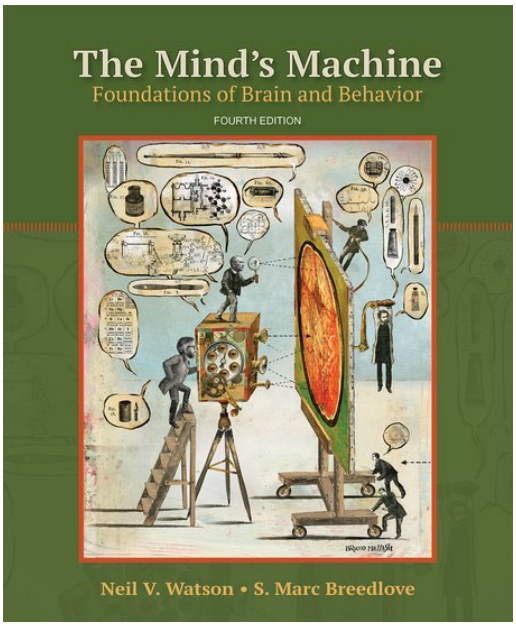
1. Describe the historical contributions of anatomical, physiological, behavioral, cell and molecular, developmental, pharmacological, and biological studies to the cross-disciplinary field of neuroscience.
2. Identify and describe basic neuro-anatomical structures, lobes of the brain, and their major functions.
3. Describe the differences between neurons and glia, their primary functions, and their physiological processes.
4. Describe the physiological processes associated with neuronal conduction, communication, and the transfer of information across synapses, and how glial cells influence these processes.
5. Describe neurochemistry and neuropharmacology as it relates to neuronal function and mental disorders.
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 mechanisms associated with motivation, emotion, biological drive, and complex behaviors.
8. Describe pathological findings from psychology, psychiatry, physiology, and neurology.
9. Apply neuroscience concepts, theories, and research findings to issues in everyday life.

Career Readiness: By enrolling in NSC3361, you are not just taking a course, *you are acquiring skills that will prepare you for your career*. The National Association of Colleges and Employers (NACE) identifies core competencies in career readiness, detailed here. Each competency is described using sample behaviors or skills

you will practice when engaging with the course material, participating in class, and interacting with the professor and your fellow students. For example as you work in teams for in-class activities, you will build skills in teamwork, communication, critical thinking, professionalism, and leadership.

Course Materials:

- Required tool: a mobile device, tablet, or laptop to access MS Forms in the lecture hall. MS Forms will be used for some in-class activities. Please see assessment section for details.
- Recommended textbook: *The Mind's Machine (any edition)* by Watson and Breedlove. ISBN for 4e- 9781605359731. This book is available in soft cover or as an eBook. Readings to prepare for each lecture will be assigned from this textbook. **Readings should be completed before class.** While exam questions will come from lectures, lectures are based on assigned chapter readings.
- Substitute textbooks: Several Introductory Neuroscience textbooks are available which cover similar topics as *The Mind's Machine,* including but not limited to *Brain & Behavior* and *Neuroscience- Exploring the Brain*. If you choose to use one of these substitute books or another edition of *The Mind's Machine*, you will need to find the corresponding chapter in your book to read. (Reading list for 3e available in eLearning.)



Assessments:

***Weekly Quizzes* (100 pts)-** Throughout the course, 12 quizzes will be assigned to assess students understanding of the material from lectures preceding the quiz. These quizzes will contain 10 multiple choice or click-on questions (worth 1 pt each). Each quiz will be worth 10 points. Quizzes will be administered remotely as timed 10 minutes tests in eLearning due by 11:59am on designated quiz days. While the quizzes will be open notes, students should complete the quizzes individually (not with the help of others or AI). The points earned from your top 10 quizzes will be counted, meaning your lowest 3 quiz grades will be automatically dropped. As answers will be released, please note there will be no makeups for missed quizzes even for excused absences. Instead, **the total quizzes grade could be dropped by taking the final instead of the lowest exam.**

***Exams* (400 pts)-** There will be four unit exams during the course, which will cover the material from the section preceding the exam. Unit Exams will consist of 50 multiple-choice and 1 short answer questions. Additionally, there will be a comprehensive final exam with 100 multiple choice questions. Each exam will be worth 100 pts. Material covered on the exams will be taken mostly from class lectures, as well as, any additional material provided. We will supply the scantron sheet. You will need to bring **only** your Comet card and a sharpened pencil for each test. If you choose to bring a backpack, purse, etc. on an exam day, you will be asked to leave it in the front of the room while you take the exam. In order to receive credit for the exam, you must turn in both the scantron as well as the exam copy before leaving the room. **The lowest exam grade, even the final if desired, will be dropped. Missed exams may be made up by taking the final.**

***In-Class Activities* (20+ pts)-** During each lecture, students will have the opportunity to earn 1 point for active participation in team activities as well as from answering questions posed to the class. *As these are bonus points, please note there will be no makeups if you missed an activity even due to an excused absence.*

Grading Scale: This course uses a point system. Your final grade in the course will be calculated based on the points you earn throughout the semester, as follows:

A+: 485-500+ pts, A: 465-484.9 pts, A-: 450-464.9 pts, B+:435-449.9 pts, B: 415-434.9 pts, B-: 400-414.9 pts, C+: 370-399.9 pts, C: 340-369.9 pts, C-: 300-339.9 pts, D: 250-299.9 pts, F: 0-249.9 pts

Note: *Students must earn their grades. While over 40 extra credit points are built into the assessments, no bonus point opportunities will be given to individuals, and no scores will be rounded up.*

Course Policies:

Academic Integrity- Academic Dishonesty including but not limited to cheating on exams and sharing or posting exam questions (with or without the correct answers) will not be condoned in my class or at UTD. Any action deemed as potential academic dishonesty will be reported to the Office of Community Standards and Conduct for official review.

Class Attendance- Regular and punctual class attendance is expected. Students who fail to participate in class regularly are inviting scholastic difficulty. Your class participation will strongly be reflected in the grade you earn. This is a traditional classroom in-person course. Remote participation is not allowed.

Make-up Exams- Missed exams will be made up by taking the final, which will be used to replace the lowest exam grade. For students who must miss more than one exam, make-ups will be given only if you provided verifiable documentation from an authoritative source: a) you were seriously ill, or b) you were detained the day and time of the exam, or c) you made arrangements prior to the exam to attend an urgent affair. In any case, you must notify me in advance of the scheduled time of the exam via email. Otherwise, you will receive a 0.

Note: Make-up exams must be taken within 1 week after the student can return to campus and will **not** include bonus questions.

Student AccessAbility (ARC)- 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 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 at least one week advance notice. I want to help every student success, but have to have time to prepare to help you. 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: in person at Administration Building, Room 2.224, by phone 972-883-2098, or by email at studentaccess@utdallas.edu.

eLearning: The course syllabus, class lecture slides and other resources will be posted on elearning, which 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. No portion of these materials may be sold, retransmitted, reposted, duplicated or otherwise used without the express written approval of the author.

Communication- This course utilizes both in-person and online tools for interaction and communication. Grades will be posted as soon as they are available. Student emails and discussion board messages will be answered within 3 working days under normal circumstances. For every scheduled class period, an announcement will be made in eLearning, which will give you details about how that day's lecture, quiz, or exam will be conducted. In event of classroom emergencies, such as lecture cancellations for a DFW Snowpocalypse, I will send an email to all enrolled in the class.

Class recordings- After each lecture, you will be able to watch a recording of the meeting, which will be available to all students registered for this class through MS Teams. **Please note that watching recordings asynchronously is NOT a substitute for class participation.** Students are expected to follow appropriate University policies and maintain the security of passwords used to access recorded lectures. 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 AccessAbility accommodation. 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. *Failure to comply with these University requirements is a violation of the Student Code of Conduct.*

Extra help:

Review Sessions will be held each week by our undergraduate TAs, who have previously taken the course. In these sessions, the TA's will review the lecture material presented that week and answer your question. Although these sessions are not required, students who fear they may struggle with the large amount of content that will be presented in this course are strongly encouraged to attend each week.

Supplemental Instruction (SI) has previously been offered for this course. SI sessions are collaborative group study sessions, scheduled two times per week. Sessions are facilitated by an SI Leader, who has taken the

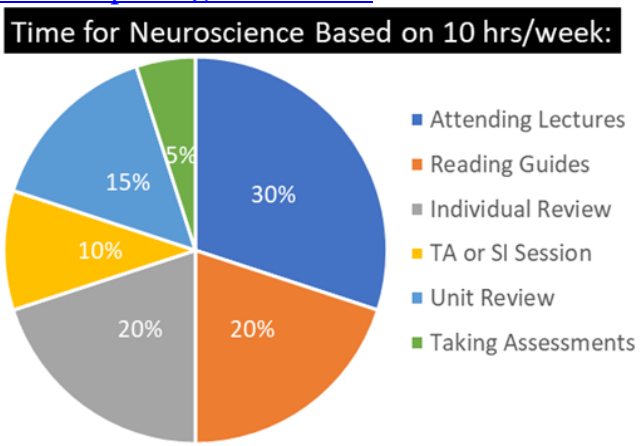
course and received a high final grade. Attendance is voluntary. For information about the days, times, and locations of SI sessions refer to http://www.utdallas.edu/studentsuccess/help-with-courses/si/.

Individual help is also available. You are welcome and indeed encouraged to meet with me or our TAs during office hours or by appointment to go over difficult concepts, discuss learning strategies, and review exams (available for up to four weeks after grades are released). You must help us to help you. ***Note:*** the day before the test is too late for that exam…the week before the final is too late for the course…Plan ahead!

Graduation Help Desk: Resources are available to help you overcome obstacles that may interfere with your progress toward graduation. The 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.

How to be successful in this course:

Learning any content requires time and effort; however, Neuroscience is a subject dense in new terms and details that must be understood in order to apply the content. Thus, I have designed this Introduction to Neuroscience course to include exposure, application, and review of the material, so that every student regardless of background can succeed in retaining Neuroscience not just for exams but for application in their future courses and careers. The time chart shows the typical time spent per week to successfully complete this course followed by an ***Example Weekly Schedule:***



Day of Week	Tasks
Monday	• Prepare for next lecture by completing reading guide(s) as you read the assigned chapter(s).
Tuesday	• Actively participate in lecture by taking notes, completing in-class activities, and asking relevant questions.
Wednesday	• Individually review PowerPoint slides and notes taken in class. View any extra resources.
	• Prepare for next lecture by completing reading guide(s) as you read the assigned chapter(s).
Thursday	• Actively participate in lecture by taking notes, completing in-class activities, and asking relevant questions.
Friday	• Individually review PowerPoint slides and notes taken from lecture. View any extra resources.
Each week	• Attend 1 TA Review or SI session to review weekly content with a group.
End of Week	• Take quiz which requires application of previous lectures in eLearning.
	• Take 1-2 rest days from Neuroscience and then start back with Pre-lecture preparation.
Week Prior to Exam	• Review all lectures individually focusing on what you do not know.
	• Attend the in-class unit review.
	• Take exam in the classroom. (You can come by office hours to review your exam).

University Policies:

For detailed information about the University of the Texas at Dallas' policies and procedures, please refer to https://go.utdallas.edu/syllabus-policies. This website includes "Resources to Help You Succeed" in addition to the university's policies on Academic Integrity, Accommodations for Students with Disabilities, Copyright, Religious Holy Days, Student Grievance, and Withdrawal from Class.

If you require ARC accommodations or have concerns, please let Dr. Taylor know as soon as possible so that appropriate arrangements can be made.

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

Class Schedule for NSC3361.002:

Meets Tuesday/Thursday 8:30am-9:45am in CRA 12.120
Quizzes Due on Mondays by 11:59pm in eLearning

Date	Lecture	Reading from 4e	Lecture Topic	Due Dates
1/20	1	Syllabus, Introduction	Introductions/Origins of Neuroscience	**Quiz 1** 1/26 at 11:59pm
1/22	2	Chapter 1	Neurons and Glia	
1/27	3	Chapter 1	Neuroanatomy- Just the Basics	**Quiz 2** 2/2 at 11:59pm
1/29	4	Chapter 4	Development of the Nervous System	
2/3	5	Chapter 2	Communication within the Nervous System	**Quiz 3** 2/9 at 11:59pm
2/5	6	Chapters 2, 3.1	Synaptic Transmission to Neurotransmitters	
2/10	7	Chapters 1-4	*Unit 1 Review*	
2/12		**Chapters 1-4**	**Exam 1 -** Neural Foundation of Behavior	
2/17	8	Chapter 5	Sensation and Pain	**Quiz 4** 2/23 at 11:59pm
2/19	9	Chapter 5	Motor Control	
2/24	10	Chapter 6	Hearing	**Quiz 5** 3/2 at 11:59pm
2/26	11	Chapter 6	Balance, Taste & Smell	
3/3	12	Chapter 7	Visual System, Illusion & Perception	**Quiz 6** 3/9 at 11:59pm
3/5	13	Chapters 5-7	*Unit 2 Review*	
3/10		**Chapters 5-7**	**Exam 2-** Interacting with the World	**Quiz 7** 3/23 at 11:59pm
3/12	14	Chapter 8	Hormones	
3/16-3/22		No Class- Spring Break		
3/24	15	Chapter 8	Neurobiology of Sex	**Quiz 8** 3/30 at 11:59pm
3/26	16	Chapter 9	Hunger, Thirst & Homeostasis	
3/31	17	Chapter 10	Biological Rhythms & Sleep	**Quiz 9** 4/6 at 11:59pm
4/2	18	Chapter 11	Emotions, Stress & Aggression	
4/7	19	Chapters 8-11	*Unit 3 Review*	
4/9		**Chapters 8-11**	**Exam 3 -** Motivation & Emotion Learning	
4/14	20	Chapter 3	Neuropharmacology	**Quiz 10** 4/20 at 11:59pm
4/16	21	Chapter 12	Psychopathology	
4/21	22	Chapter 13	Learning	**Quiz 11** 4/27 at 11:59pm
4/23	23	Chapter 13	Memory	
4/28	24	Chapter 15	Language & Lateralization	**Quiz 12** 5/4 at 11:59pm
4/29	25	Chapter 14	Cognition, Attention & Consciousness	
5/5	26	Chapters 3,12-15	*Unit 4 Review*	
5/7		**Chapters 3,12-15**	**Exam 4 -** Complex Behavior	
5/14	8:00am-10:45am		**Cumulative Final (Chapters 1-15)**- *Schedule tentative*	

Class Schedule is subject to change at any time in the course as needed.
Additional readings and/or videos may be assigned throughout the semester.