NSC 3361. Introduction to Neuroscience

Fall 2017

Professor

Dr. Xiaosi Gu, Ph.D.
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Office Hours: by appointment only.
Location: GR 4.424
**For course-related communication, emails will be sent through eLearning*.

Teaching Assistant

Graduate TA: Jordan Straight (jls150230@utdallas.edu)
Undergraduate TA: Chandana Chowdary Tatineni (cct140030@utdallas.edu)

Textbooks

- The fun & easy to read: The Mind's Machine: Foundations of Brain and Behavior, 2nd edition, by Watson and Breedlove (required)
- One-level up: Neuroscience: Exploring the Brain, 4th edition, by Bear, Connors, and Pradiso (optional)
- Even better: Principles of Neuroscience, 4th or 5th edition, by Eric Kendall (optional)

eLearning

- Primary platform of course-related communication (emails, announcements, ect.)
- Lecture slides and reading materials will be posted online after each class.

Recording policy

- Any type of recording must be discussed and approved by Dr. Gu before class.
- Certain lectures cannot be recorded under any circumstance (e.g. exam reviews).

Assessment

1) Exams

- Four exams: 3 non-cumulative midterms (30% each) and 1 cumulative final (40%).
- You can drop the lowest score of the 3 non-cumulative exams.
- You CANNOT drop the cumulative final exam.
- All exams are conducted through the UTD testing center. You need to reserve a seat before each exam using this link: http://registerblast.com/utdallas/exam. No walk-ins are taken.

2) Make-up exams

- No make-up exam will be offered for the midterms.
- Make-up exam for the final can be arranged only in extreme circumstances such as severe sickness, hospitalization, death of a family member, etc. You will need to provide written proofs such as doctor's note, medical bill, obituary, and flight tickets.

3) Extra-credits
There will be a few attendance checks randomly distributed throughout the semester. Each attendance check is worth 1 extra credit. For each attendance check, you will need to answer a few short questions in class that are meant to help you review the lecture. You will then hand deliver the written answers to TAs after class. Whether you get the questions right or wrong does not affect your extra-credit, as long as you are present for that lecture and hand in your answers in person.

4) Your final grade is strictly based on your exam scores and attendance. If you miss a midterm exam or attendance check/lose one extra credit, you will take full responsibility for it. No negotiation will be made regardless of the reason (sickness, car accident, family member passing away, etc.).

5) Final Grades. A final grade will be submitted (no roundup): A+: 97-100%, A: 93-96.9%, A-: 90-92.9%, B+:87-89.9%, B: 83- 86.9%, B-: 80-82.9%, C+: 74-79.9%, C: 68-73.9%, C-: 60-67.9%, D: 50-59.9%, F < 50.

Learning Objectives

After completing the course, students should be able to:

- Describe the historical development of neuroscience as a cross-disciplinary science.
- Describe and analyze the contributions of anatomical, physiological, behavioral, pharmacological, developmental, and cell and molecular biological studies to the bases of neuroscience.
- Integrate pathological findings from psychology, psychiatry, physiology, and neurology with basic scientific work in the neurosciences.
- Identify and explain why research questions rather than methods ideally drive advances in the neurosciences.
- Compare textbook, popular and peer-reviewed scholarly reports in the neurosciences.
- Apply neuroscience concepts, theories, and research findings to issues in everyday life.
- Identify appropriate applications of neuroscience knowledge in health, service, education, or business professions.
- Describe basic components of the laws of nature as related to the brain.
- Set up neuroscience problems in feasible and solvable ways.
- Make reasoned arguments about major issues related to the nervous system.

NSC 3361.003 Spring 2017 Schedule

	Date	Topic
		MODULE I: Neurophysiology and Neurochemistry
Week 1	8/21	Introduction
	8/23	Basic Neuroanatomy
Week 2	8/28	Cells In The Brain
	8/30	Action Potential
Week 3	9/4	*Labor Day – No Class*
	9/6	Synaptic Transmission
Week 4	9/11	Neurotransmitters
	9/13	Neuroscience Methods
Week 5	9/18	TA review session
	9/20	***Exam 1***
		MODULE II: Sensorimotor Systems
Week 6	9/25	Exam 1 Review / Vision Part I
	9/27	Vision Part II
Week 7	10/2	Auditory System
	10/4	Chemical Senses
Week 8	10/9	Somatosensory System
	10/11	Motor System
Week 9	10/16	TA review session
	10/18	***Exam 2***
		MODULE III: Higher Cognition
Week 10	10/23	Exam 2 Review / Emotion
	10/25	Attention
Week 11	10/30	Language
	11/1	Memory
Week 12	11/6	Learning and Decision-making
	11/8	Neuroeconomics & Social Neuroscience
Week 13	11/13	TA review session
	11/15	***Exam 3***
		MODULE IV: Disorders of the Brain
Week 14	11/20	*Thanksgiving week – no class*
	11/22	*Thanksgiving week – no class*
Week 15	11/27	Exam 3 Review / Neurological Disorders
	11/29	Mental Illness
	12/4	Drug Addiction
Week 16	12/6	TA review session
	12/12	***Final exam***

* Syllabus is subjective to change.