NSC 3361.03 Introduction to Neuroscience

Fall 2016

Instructor

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**For course-related communication, email should be sent through eLearning*.

Graduate TA

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Textbooks

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

eLearning

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

Assessment

1) Exams:
- Four exams in total: 3 non-cumulative (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 will be conducted through the UTD test center. You need to reserve a seat before each exam using this link: http://registerblast.com/utdallas/exam. No walk-ins are taken. You need to bring your ID with you to the exam.

2) Final Grades: A final grade will be submitted: 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.

	Date	Topic
		MODULE I: Neurophysiology and Neurochemistry
Week 1	8/22	Introduction
	8/24	Basic Neuroanatomy
Week 2	8/29	Cells in the brain
	8/31	Action potential
Week 3	9/5	*LABOR DAY – NO CLASS*
	9/7	Synaptic transmission
Week 4	9/12	Neurotransmitters
	9/14	Neuroscience Methods
Week 5	9/19	TA review session
	9/21	Exam 1, 9 am – 12 pm
		MODULE II: Sensorimotor Systems
Week 6	9/26	Exam 1 review / Vision 1
	9/28	Vision 2
Week 7	10/3	Auditory System
	10/5	Olfactory and Gustatory Systems
Week 8	10/10	Somatosensory System
	10/12	Motor System
Week 9	10/17	TA review session
	10/19	Exam 2, 10 am -1 pm
		MODULE III: Higher Cognition
Week 10	10/24	Exam 2 review / Emotion
	10/26	Attention and cognitive control
Week 11	10/31	Memory
	11/2	Language
Week 12	11/7	Learning and decision-making
	11/9	Neuroeconomics & Social Neuroscience
Week 13	11/14	TA review session
	11/16	Exam 3, 9 am -12 pm
		MODULE IV: Disorders of the Brain
Week 14	11/21	*THANKSGIVING WEEK – NO CLASS*
	11/23	*THANKSGIVING WEEK – NO CLASS*
Week 15	11/28	Exam 3 review / Mental illness
	11/30	Neurological disorders
Week 16	12/5	Drug addiction
	12/7	TA review session
	12/14	Final Exam, 9-3 pm

* Syllabus is subjective to change.