

**Neurobiology (ZOOL 4384)**  
Course Syllabus, Spring 2019

Manuel Miranda, Ph. D.

Office: Biosciences Building 2.166

e-mail: [mmiranda3@utep.edu](mailto:mmiranda3@utep.edu)

Office Hours: Open door policy

**TEXTBOOK (required)** – *Neuroscience*, Fourth, Fifth or Sixth Edition,

Editors: Purves, D; Augustine, G.J; Fitzpatrick, D; Hall, W.C; LaMantia, A.S; Mcnamara, J.O; White, L.E.

Publisher: Sinauer Associates, Inc. [www.sinauer.com](http://www.sinauer.com)

(Suggested)– *Biological Psychology*, Sixth Edition

Editors: Breedlove, M; Watson, N.V; Rosenzweig, M.R.

Publisher: Sinauer Associates, Inc. [www.sinauer.com](http://www.sinauer.com)

All grades of Incomplete must be accompanied by an Incomplete Contract that has been signed by the instructor of record, student, departmental chair, and the dean. Although UTEP will allow a maximum of one year to complete this contract, the College of Science requests it be limited to month based upon completion data. A grade of Incomplete is only used in extraordinary circumstances confined to a limited event such as a missed exam, project, or lab. If the student has missed a significant amount of work (e.g. multiple assignments or tasks), a grade of Incomplete is not appropriate or warranted.

**Center for accommodation and support services:**

If you have a disability and need classroom accommodations, please contact: The Center for Accommodations and Support Services (CASS) at 747-5148, or by email to [cass@utep.edu](mailto:cass@utep.edu), or visit their office located in UTEP Union East, Room 106. For additional information, please visit the CASS website at [www.sa.utep.edu/cass](http://www.sa.utep.edu/cass).

**OBJECTIVES:**

Upon completion of this class, students should be able to:

- Understand the basic architecture of the Central and Peripheral Nervous System
- Understand the electrical properties of Neurons and propagation of signals in the Nervous System
- Analyze the components and function of the different neuronal circuits.
- Understand the mechanism of action of several pharmacological agents and their targets

**EXAMINATION PROCEDURE**

- There will be three exams during the semester.
- You must take all three exams. If you missed exams without a university accepted excuse, you may be withdrawn from the course.
- There will be a comprehensive Final Examination of all the chapters that we have covered in the class during the semester. Exam will be multiple choices. Bring your own scantron sheet, number 2 pencils, and a very good eraser with you to the exams.
- In addition to the above, there will be several in-class assignments
- Attendance is optional; however, those that attend constantly are entitled to extra-credits

**GRADING POLICY**

**GRADE DISTRIBUTION**

A = 90-100  
 B = 80-89  
 C = 70-79  
 D = 60-69  
 F = Below 60

Exams (3)                    50%  
 Final Exam                    25%  
 Assignments/Quizzes        25%

LECTURE	TOPIC	Required Reading
1	Introduction: Studying the Nervous System	Chapter 1
2 – 3	Electrical Signals of Nerve Cells	Chapter 2
4	Voltage Dependent Membrane Permeability	Chapter 3
5	Channels and Transporters	Chapter 4
	<b>EXAM-1</b>	
6-7	Synaptic Transmission	Chapter 5
8-10	Neurotransmitter and their Receptors	Chapter 6
11	Molecular Signaling within Neurons	Chapter 7
12 – 13	Synaptic Plasticity	Chapter 8
	<b>EXAM-2</b>	
14	The Sensory System: Touch and Proprioception	Chapter 9
15	Pain	Chapter 10
16	Vision: The Eye	Chapter 11
17	Review	
	<b>EXAM-3</b>	
	<b>FINAL EXAM 10 am</b>	