UNIVERSITY OF CALIFORNIA, SAN DIEGO UCSD

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COGNITIVE SCIENCE 107A
NEUROANATOMY AND PHYSIOLOGY

Fall Quarter 2011 TuTh 12:30-1:50 pm LEDDN AUD

INSTRUCTOR: **Jaime A. Pineda, Ph.D.** (CSB 205) Email: pineda@cogsci.ucsd.edu
Office Hrs: T 9-11 (or by appt.) Phone: 534-9754 (office/lab)

TEACHING ASSISTANT	**Rachel Ostrand**
Office Hrs:	SSRB 204 TH 4-5 pm
Sections:	W 3:00-3:50 pm – PCYNH 120 W 4-4:50 pm – PCYNH 120
Email:	rostrand@ucsd.edu

INSTRUCTIONAL ASSISTANTS:	**Mieko Udo**	**Ari Kappel**
Office Hrs:	Café Roma T 11-12 pm	Café Roma M 4-5 pm
Sections:	M 2-2:50 pm – CSB 005	M 3-3:50 pm - CSB 005
Email:	mudo@ucsd.edu	akappel@ucsd.edu

COURSE GOALS:
The goal of this course is to give students a fundamental and in-depth view of the anatomy, physiology, and biochemistry of the brain and how these aspects of neurobiology relate to cognition and behavior. By the end of the course, students should be able to:

1. Have some historical and evolutionary perspective on brain and mind.
2. Understand some of the important aspects of neuroanatomy, neurophysiology, and neurochemistry that underlie the relationship between brain, mind, and behavior.
3. Be intimately familiar with cellular neuroscience, nervous system development, neurotransmitter systems, and the electrical properties of the nervous system.
4. Be aware of the connections, cell types, and chemicals that characterize neural systems such as the basal ganglia, thalamus, cerebellum, hippocampus, and neocortex.
5. Be familiar with the functional properties of these neural systems.

METHOD OF EVALUATION:
Students are expected to attend lectures and sections regularly, complete all assigned readings, participate in class discussions as much as possible, take quizzes, and complete midterm and final exams. There are **no make-ups or extra credit projects**. The breakdown of grade is as follows:

Lab homework.....	10%	Will cover lab assignments
Quizzes (5)	20%	Will cover lectures and textbook
Midterm (2).....	40%	Will cover lectures and textbook (First half of class)
Final	30%	Will cover lectures and textbook (Second half of class)

Students are also required to do 2 hrs of experimental credit (https://experimetrix2.com/ucsd/).
As an alternative to experimental credit, you can summarize two scientific articles or attend two scientific talks on campus (1 article = 1 hour of talk = 1 hour of experiment).

*** Web page for this course is: http://cogsci.ucsd.edu/~pineda/COGS107A/ ***

All overhead slides are available on website, as well as sample exams and other helpful information. Visit often since new information is always being posted.

REQUIRED TEXTBOOK: Purves, D. et al., Principles of Cognitive Neuroscience, Sinauer Associates, Inc., Boston, 2009. Available at the bookstore.

All lectures will be podcast to http://podcast.ucsd.edu

Week	Date	Topic	Readings	Lab
0	9/22	Introduction to class		
1	9/27-9/29	Neuroanatomy and Evolution	**Ch 1, 26**	
2#	10/4-10/6	Fundamentals and cellular components	**Ch 2,3**	**wet lab**
3#	10/11-10/13	Brain Development	**Ch 27 (p.669-680)**	
4	**10/18**	**MIDTERM EXAM 1**	**Tuesday 10/19**	
	10/20	**Neural Signaling** Graded and action potentials	**Appendix (p.729-747)**	
5#	10/25-10/27	Information Processing in dendrites	**Appendix (p.747-755)**	**model neuron**
6#	11/1-11/3	Neurotransmitters and receptors		
7	11/8-11/10	Thalamus: Sensory Systems	**Ch 4**	
	11/11	***VETERANS DAY HOLIDAY***	**Thursday 11/11**	
8	**11/15**	**MIDTERM EXAM 2**		
	11/17	Basal Ganglia	**Ch 9**	
9#	11/22	Cerebellum		
	11/24-11/25	***THANKSGIVING HOLIDAY***	**Thursday 11/24**	
10#	11/29-12/1	Hippocampus: Brain Systems	**Ch 13,14**	**microscope lab**
	12/09	**FINAL EXAM**	**F 11:30-2:30 p.m.**	

..... indicates that quizzes will be given that week in class (on Tuesdays) and cover the previous week.

ACADEMIC INTEGRITY. Academic integrity is expected at all times and cheating will not be tolerated. You are encouraged to study and confer with your classmates, but Exams must be completed alone. Cheating such as the changing of answers on returned exams will result in automatic failure of the course. For more information on Student Conduct see http://ugr8.ucsd.edu/judicial/22_00.html