PSY C69S The Synaptic Organization of the Brain

Spring, 1996 Room S357, Th: 3-5 p.m.
Instructor: Professor Gwen O. Ivy
Office: S-569, Phone 287-7438
Office Hours: W 2-3, TH 5-6, or by appointment

COURSE DESCRIPTION

Synaptic organization may be defined as the study of principles underlying the organization of neurons and synapses into circuits that mediate the functional operations of different brain regions. It is a multidisciplinary subject, requiring the integration of results from studies in molecular neurobiology, neuroanatomy, neurophysiology, neurochemistry, neuropharmacology, development and behavior, as well as theoretical studies of computational neural models and neuronal networks. It is also a multilevel subject, beginning with the properties of the individual synapse and building up through microcircuits and neurons to the local circuits characteristic of a given region and finally, to the interactions between various circuits that form a given system.

TEXT

The Synaptic Organization of the Brain. Third Edition. Gordon M. Shepherd (ed.), Oxford University Press, New York, 1990.

ORGANIZATION

The course will meet weekly for two hours and will consist of lectures by the instructor and extensive class discussions. The textbook will be the major source of information, supplemented by illustrations and concepts provided by the instructor in class.

EVALUATION

Midterm (essay, short answer)	30%
Final exam (essay, short answer)	40%
*Quizzes in class and take-home	10%
Class participation (Includes	5%
questions, comments	5%
and presence in class)	
Take Home Final Exam	15% (Due at time of final exam)

* There are no "make up" quizzes without a doctor's note or other valid document. This is to encourage you to attend class and participate.

1996PSY C69S Schedule of Topics to be Covered

DATE:	TOPIC:
January 11	Introduction to the course
18	Chapter 1, Introduction to synaptic cirucits Chapter 2, Membrane properties and neurotransmitter actions
25	Chapter 2, continued
February 1	Chapter 5, Olfactory Bulb
8	Chapter 7, Cerebellum
15	Chapter 7, Cerebellum
22	READING WEEK! NO CLASS!
29	MIDTERM EXAM
March 8	Chapter 10, Olfactory Cortex
15	Chapter 10, Olfactory Cortex
22	Chapter 11, Hippocampus
29	Chapter 11, Hippocampus
April 5	Chapter 12, Neocortex
12	Chapter 12, Neocortex