PSY C69S The Synaptic Organization of the Brain

Spring, 1995 Room H402, W 12-2 p.m.
Instructor: Professor Gwen O. Ivy
Office: S-569, Phone 287-7438
Office Hours: W 2-3, TH 3-4, 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.

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	15%
Class participation (Includes questions, comments and presence in class)	15%

1995 PSY C69S Schedule of Topics to be Covered

DATE:	TOPIC:
January 4	Introduction to the course
11	Chapter 1, Introduction to synaptic circuits Chapter 2, Membrane properties and neurotransmitter actions
18	Chapter 2, continued
25	Chapter 3, Peripheral ganglia
February 1	Chapter 4, Spinal Cord: Ventral Horn
8	Chapter 5, Olfactory Bulb
15	READING WEEK! NO CLASS!
22	MIDTERM EXAM
March 1	Chapter 7, Cerebellum
8	Chapter 10, Olfactory Cortex
15	Chapter 11, Hippocampus
22	Chapter 11, Hippocampus
29	Chapter 12, Neocortex
April 5	Chapter 12, continued