

PSYC64S - Sensory Systems (Brain Mechanisms III)  
"The Neurobiology of the Dance"

Winter 1996

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Lectures - M12-2, W12-1

Tutorials - R11-12 Room R3205A

Text: Chapters from N.W. Milgram's forthcoming text, as well as journal articles

### Course Description

This course provides an in-depth look at the neurobiology of the sensory and motor systems. The goal of the course is to understand how the external world is encoded and how we recognize and manipulate the external world. The first topic covered will be vision, followed by olfaction and gustation, then audition, somatosensation, and finally motor. Various topics that may be covered within one or several of the different modalities are: language, pain, synaesthesia, etc.

### Evaluation

4 quizzes of which the best 3 will count.....	30%
Final Exam (final exam period).....	35%
Participation.....	10%
Tutorials (design, execute, write up expts.).....	25%

### Quizzes

The quizzes will consist of multiple choice, fill-in-the-blank and short answer questions. They will be based upon the assigned reading for the week. They will be administered at the beginning of the class on a random basis (i.e., I will not announce in advance when the quizzes might occur). One of the reasons for having these quizzes is to ensure that EVERYONE does the assigned readings EVERY WEEK so that we can DISCUSS the material. Because the course will be run in a seminar format, class participation is a vital component. Thus, 10% of the grade will be based upon weekly participation.

The final examination (scheduled during the exam period) will be a comprehensive exam based on the course material.

Make-up quizzes will only be given if a note from a medical doctor (i.e., an M.D.) is provided; otherwise, a grade of '0' will be recorded.

### Tutorials

The tutorials are designed to give students an opportunity to carry out 2 neurosensory experiments from start to finish. Students will decide upon the areas of sensory neuroscience in which they would like to do experiments. Then each student will go the library and pick 1 paper related to each topic and briefly describe it to everyone at the next meeting. Following this, students will design, execute and analyze the results of the experiments (10%). For the first experiment, students will write up the results (10%) while for the second experiment they will work collectively on a poster to be presented at Neuroscience Day April 19 (5%).

Schedule of Topics and Assigned Readings for C64S, 1996

Week	Date	Lecture Topic	Assigned Reading
1	Jan. 8	Intro., Vision	
2	Jan. 15	Vision	pp 482-511, 562-572
3	Jan. 22	Vision	pp 532-549
4	Jan. 29	Vision	pp 549-562, Gross &Sergent, Curr Opin 1992 2: 156-161
5	Feb. 3	Vision	Livingston, Sci Am 1988, 78-85 Martin et al, Science 1995, 270: 102-105
6	Feb. 12	Olfaction/Gustastion	pp 472-719 Hettinger &Frank Curr Opin 1992, 2: 469-478
7	Feb. 19	NO CLASSES - READING WEEK	
8	Feb. 26	Gustation	pp 720-748
9	Mar. 4	Audition	pp 594-625
10	Mar. 11	Audition	pp 626-656
11	Mar. 18	Audition	Leiner et al., TINS, 1993, 16: 444-454 Konishi Sci Am., 1993 April 66-73 Rauschecker TINS, 1995, 18:36-43
12	Mar. 25	Somatosensation	pp 765-811
13	Apr. 1	Somatosensation	pp 811-830 Ramachandran et al NeuroReport, 1992, 3: 583-586
14	Apr. 8	Motor	Evarts EV, Sci Am 1979, 241:164-179
15	Apr. 19	NEUROSCIENCE DAY - poster presentation	
Exam Period	Apr./May	FINAL EXAM All Lecture and Text Material (chapters 8-11) and assigned tutorial articles	