PSY B60F 1996

Brain Mechanisms and Behavior I

Professor: Dr. Gwen O. Ivy

Office: S569

Office Hours: Monday 3-5
Wednesday 3-4 or by appointment

Phone: 287-7438

Textbook: Introduction to Neuroscience by N.W. Milgram

May be purchased during your lab session.
NOTE: Two copies of the 1995 version are available on reserve in the library. This year's edition is rather substantially revised, and will be the official text for the class.

NOTE: Questions and comments regarding this text may be addressed to either Dr. Ivy or to Dr. Milgram (phone 287-7402; Office - S637).

Lab Text: The Sheep Brain: A photographic series
by C.H. Van derwolf and Richard K. Cooley

May be purchased in the book store.

Lectures: M 2-3 pm S143
F 2-4 pm H305

Labs: P0001 T 2-4 pm S227 Janelle LeBoutillier

P0002 F 12-2pm S227 Dwight Tapp

P0003 W 7-9 pm S227 Charlene Rickettes

P0004 F 10am - 12 pm S227 Dwight Tapp

Course Description:

Brain Mechanisms and Behavior I is really a fairly sophisticated introduction to the field of neuroscience; a virtual springboard from which to enter all of the other Neuroscience courses in our program. As well, this course can provide a physiological foundation for many of our psychology courses. We will cover the gross as well as cellular structure and function of the nervous system in depth. In particular, we will study the cellular and molecular biology of nervous system cells: neurons, glial cells, meninges, choroid plexus, blood brain barrier, ventricular and vascular systems.

We will explore neuronal physiology at the cell and molecular levels in order to better understand the complex mechanisms of intercellular communication in the nervous system, including neuroregulator systems. Finally, we will briefly cover the development and plasticity of the vertebrate nervous system.

The laboratory will cover gross and cellular anatomy of the nervous system. Sheep brains will be dissected and a wide variety of nervous system structures will be examined in 3-D. The fine histology and function of several systems, as well as several neuroanatomical techniques will be discussed and/or demonstrated. Students should bring their own dissecting equipment. The labs may also include discussion of scientific articles to be handed out at appropriate times.

Grading:

Midterm Exams: Multiple Choice, Short Answer

Midterm 1 = Chapters 1, 2 and 3 from lecture, as well as text
15% **Oct. 7, 5-7pm H216**

Midterm 2 = Chapters 4-7 from lecture, as well as text
15% **Nov. 18, 5-7pm H216**

Lab Exam 1 = material covered to date; see lab handout; Bell ringer lab practical as
20% well as short answer written
Oct. 28, 5-7pm S240/242/248/250

Lab Exam 2 = Comprehensive, with emphasis on material covered since 1st Lab Exam
10% **Dec. 2, 5-7pm S240/242/248/250**

Final Exam = Comprehensive from lectures and text (not from Labs)
40% Multiple choice, short answers
3 hours during Final Exam Period, TBA

Itinerary - PSY B60F

Sept. 9 M Introduction to course; no labs this week

13 F Chapter 1: An overview of the realm of Neuroscience

16 M Chapter 2: Structure and Organization of neurons

20 F Chapter 2, cont'd

23 M Chapter 2, cont'd

27 F Chapter 3: Non-neural cells and structures

30 M Chapter 3, cont'd

Oct. 4 F (age?) Chapter 3. cont'd

7 M NO CLASS: MIDTERM 1, 5-7pm H216

11 F Chapter 4: Electrophysiology of neurons and neuronal populations

14 M Thanksgiving Day, NO CLASS; Midterm 1 Exams handed back in labs (15%)

18 F Chapter 4, cont'd

21 M Chapter 4, cont'd

25 F Chapter 4, cont'd

28 M Chapter 5: Neural Communication
(Lab Exam 1, 5-7pm) NO LABS THIS WEEK

Nov. 1 F Chapter 5, cont'd
(Last day to withdraw from course) LAB GRADES POSTED (20%)

4 M Chapter 5, cont'd

8 F Chapter 5, cont'd

11 M Chapter 6: Intercellular chemical messages

15 F Chapter 6, cont'd

18 M NO CLASS: MIDTERM 2, 5-7pm H216

22 F Chapter 6, cont'd

25 M Chapter 6, cont'd
(Midterm 2 grades handed back in Labs)

29 F Chapter 7: Development and plasticity

Dec. 2 M Chapter 7, cont'd
(Lab Exam 2, 5-7pm) NO LABS THIS WEEK

6 F Chapter 7, cont'd
(Lab Exam 2 handed back after class)