

PSYB61S: COURSE SYLLABUS SPRING 1995

Instructor

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Office Hours Wednesday 11-12

Tutorial Leaders and Teaching Assistants: (Office hours TBA)

Janina Ferbinteanu

Elizabeth Head

Mike Michaels

Classrooms and scheduled times:

Lectures:

Monday	10-11 H-215
Wednesday	10-11 H-215
Friday	10-11 H-215

Tutorials:

T1 T 1400-1500 Room R4226

T2 T 1600-1700 Room R4226

T3 M 1100-1200 Room R4031

Course material:

There is no textbook for this course. The course material will consist of lecture notes, assigned readings and material covered in tutorials.

COURSE DESCRIPTION

This course is intended to provide an introduction to the neurobiological basis of motivation, reinforcement, learning and memory. The course starts with a discussion of regulatory motivations. These are central states that help to maintain homeostasis and include the behaviors of respiration, thermoregulation, drinking and feeding. The next topic is sleep and arousal. Biological rhythms and their underlying mechanisms will also be discussed. The last topic covered in this part of the course will be reproductive behavior. The role of hormones, brain systems, and development will all be considered.

The second part of the course starts with the topic of reinforcement, which is concerned with how external events are able to control the generation and occurrence of behavior. Next, we will discuss memory systems. A focus will be differences in the brain organization of memory. The final topic will be the cellular and molecular basis of learning and memory.

Exams and Grading. The course will have three midterm exams worth 15% each. There will also be a final exam during the final exam period which will be worth 35% of the final grade.

Exam questions will be fill in the blank, short answer, and multiple choice. Students will be responsible for the lectures, lecture notes and assigned readings. Each midterm will be limited to the material covered in lectures and the assigned readings. The final exam will be comprehensive.

Tutorials. Tutorials will be used to discuss and review the material covered in lectures and the assigned readings. Tutorials will also be used to familiarize the student with the published literature in the fields of motivation and learning. A few original scientific papers will be assigned and discussed. There will also be regular quizzes on the material. Finally, there will be two tutorial assignments. The first will involve your carrying out a literature review. The second assignment will be to write a small review article on original scientific literature.

The tutorial grade will count for 20% of the final grade. Ten percent will be on the article. The other 10 percent will be on the first assignment, quizzes, and class participation.

Assigned Readings:

Crews, D. Animal Sexuality. Scientific American, 1994, 270, 108-115.

Goldman-Rakic, P.S. Working memory and the mind. Scientific American, 1992, (Sept), 267, 110-117.

Kalin, N.H. The neurobiology of fear. Scientific American, 1993, 268, 94-103.

Kandel, E.R., & Hawkins, R.D. The biological basis of learning and individuality. Scientific American,

LeDoux, J.E. Emotion, memory and the brain. Scientific American

LeVay, S., & Hamer, D.H. Evidence for a biological influence in male homosexuality.

Byne, W. The biological evidence challenged. Scientific American, 1994, 270, 43-57

Morrison, A.R. A window on the sleeping brain. Scientific American, 1983, 94-102.

Uvnas-Moberg, K. The gastrointestinal tract in growth and reproduction. Scientific American, 1989 (July), 261, 78-83.

Wurtman, R.J., & Wurtman, J.J. Carbohydrates and Depression. *Scientific American*, 1989 (Jan), 260, 68-75.

Schedule

Week	Date	Lecture Topic	Assigned Readings
1	Jan 2	Introduction Respiration Thermoregulation	Chapter 13
2	Jan 9	Thirst	
3	Jan 16	Hunger Hunger	Uvnas Moberg Wurtman & Wurtman
4	Jan 23	Hunger	
	Jan 25	Test # 1 Chapter 13	
	Jan 27	Biological rhythms	Chapter 14
5	Jan 30	Sleep Functions of sleep	
6	Feb 6	Sleep: neural mechanisms	Morrison
Feb 14 - No classes - reading week			
7	Feb 20	Sexual Development	Chapter 15 Crews
8	Feb 27	Sexual and Parental Behavior	LeVay, Hamer & Byne
Test # 2 Chapters 14 and 15			
9	March 6	Reinforcement	Kalin Chapter 16
10	March 13	Learning & Memory	LeDoux Chapter 17
11	March 20	Learning & Memory	Goldman-Rakic
Test # 3 Chapter 16 and 17 (pp 1- ?)			
12	March 27	Learning & Memory	Milner Chapter 18
13	April 3	Learning & Memory	Kandel