

**Neuroendocrinology, Spring 2009**  
**BBB 260 and Psych 139**  
**Tues-Thurs, 10:30-11:50 am, Room A1 Solomon**

Instructor: Dr. Lori Flanagan-Cato, Associate Professor of Psychology  
 Office hours: Wednesdays, 1-2 pm, Room D-18 Psychology Lab Building  
 Email: flanagan@psych.upenn.edu

Teaching Assistant: Kinjal Doshi, Psychology graduate student  
 Office Hours: Wednesdays, 11:30-12:30  
 Email: kdoshi@psych.upenn.edu

Text: Textbook: " Behavioral Endocrinology, Second Edition"  
 Edited by Becker, Breedlove, Crews and McCarthy, published by MIT Press 2002.  
 A few reading assignments are on the web Blackboard system  
 (courseweb.upenn.edu).

Format: Most of our class time will be lectures. Students are strongly encouraged to ask questions during lectures. We will also spend significant class time discussing primary literature in a journal club format.

Goals: This course aims to introduce students to important neuroendocrine systems. Students have an opportunity to learn about diverse vertebrate species, hormone-dependent behaviors, and molecular mechanisms of hormone action. In addition, students will develop skills required for critical reading of primary neuroscience literature.

Grading: Students will be evaluated based on two (2) exams consisting of multiple choice and short essay questions (each exam = 40% final grade). The remaining 20% of the grade will be based on participation in the class journal clubs.

<u>Dates</u>	<u>Topic</u>	<u>Reading</u>
Jan 15	Introduction	Chapter 1
Jan 20, 22	Sex Differences: From Genes to Brain	Chapter 2,3
Jan 27, 29	War Between the Sexes: Evolutionary Battlefield	Chapter 3,4
Feb 3, 5	Male Sexual Behavior, Courtship Rituals	Chapter 5, 8
Feb 10, 12	JOURNAL CLUB	
Feb 17, 19	Female Sexual Behavior: Timing is Everything	Chapter 4
Feb 24, 26	The Morning After: Parental Care (or not)	Chapter 9
Mar 3, 5	TEST #1; JOURNAL CLUB	
Mar 17, 19	Life Changes: Puberty and Aging	Blackboard
Mar 24, 26	Social Bonds: When to Make Love Vs. War	Chapter 9
Mar 31, Apr 2	Weight Watchers: Metabolic Hormones	Chapter 16
Apr 7, 9	Stress: The Spice of Life	Chapter 11
Apr 14, 16	Fluid Balance	Chapter 16
Apr 21, 23	JOURNAL CLUB	
Apr 28	Can hormones make you sick or crazy?	
To be announced	FINAL EXAM	

## **Neuroendocrinology Journal Club**

A team of five (5) presenters will write a “newspaper article” for the class before the discussion. This writing assignment should include an explanation of why and how the experiments were done, what was discovered, and what the authors conclude. During the class discussion, students are encouraged to include any criticisms they have of the assigned readings. Based on the discussion during class, the team of presenters will write a “letter to the editor” about the article.

The goal of these journal clubs is to expose students to common techniques and types of experiments used in neuroendocrinology research, as well as to encourage independent thinking into the issues of experimental endocrinology and neuroscience. Students should work toward becoming comfortable with the way scientific data is presented, including interpreting graphs and figures and the scientific academes.

### **Presenters**

Your primary job is to lead the discussion of the paper. This can be facilitated by reproducing any important figures and structuring your presentation according to the format of the paper. Briefly go over why the authors did their experiments: what were they trying to learn? What was their initial hypothesis? A brief discussion of the methods will be useful, but don't get mired in the specifics. Then, discuss the results of the paper. What do their graphs and images show and do their figures clearly demonstrate what the authors say they do? Are there flaws in how they presented the data? Do all their experiments have the proper controls? Did their results confirm or disprove their initial hypothesis? Then you can address the claims made in the discussion section. Do you agree with the authors' interpretation of the results? Are there any additional experiments you would like the authors to perform, or did some of their experiments not seem to fit with their goals? Were there methodological flaws? How does this paper add to the field? What larger questions does this paper raise? Does it challenge or reinforce previously held assumptions in the field?