

BIBB 233  
 Neuroethology Fall 2014  
 Tuesday/Thursday 1:30-2:50  
 CHEM B13

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Date	Lecture	Readings
<b>I FOUNDATIONS</b>		
Aug 8/28	Introduction to Neuroethology	Ch. 1
Sept 9/2	Evolutionary and Comparative approaches to Behavior and the Nervous System	Breedlove, Ch. 6
<b>II SENSORY PROCESSING</b>		
9/4	Introduction to Auditory Processing	
9/9	Echolocation in Bats: Behavior	Ch. 2 pp 35-47
9/11	Echolocation in Bats: Neural Mechanisms	Ch. 2 pp 48-58 Suga, 1990
9/16	Sound Localization in Barn Owls	Ch. 3 pp 61-70
9/18	Sound Localization in Barn Owls	Ch. 3 pp 70-92
	• Dr. Marc Schmidt, Department of Biology	Knudsen, 2002
9/23	Introduction to Visual Processing	
9/25	Feature analysis in Toads	Ch. 4 Ewert, 1974
9/30	Feature analysis in Toads	Ch. 4
Oct 10/2	Review	
10/7	<b>EXAM I</b> (through 9/30)	
10/9	<b>FALL BREAK</b>	

	10/14	Jamming Avoidance Response in weakly electric fish: Behavior	Zupanc Ch7
	10/16	Jamming Avoidance Response in weakly electric fish: Neural Mechanisms	
<b>III MOTOR STRATEGIES</b>			
	10/21	Introduction to Motor Strategies	
	10/23	Mate calling in crickets	Ch. 5
	10/28	Mate calling in crickets	
	10/30	Escape Behavior in Crayfish	Ch. 7
Nov	11/4	Escape Behavior in Crayfish	
<b>IV SPATIAL ORIENTATION</b>			
Nov	11/6	Orientation in Sea Turtles	Lohman 1996, 2012 Zupanc Ch9, 239-145
	11/11	Review	
	11/13	<b>EXAM II</b> (through 11/4)	
	11/18	Spatial Navigation in Rats	Ch. 12
<b>V BEHAVIORAL PLASTICITY</b>			
	11/20	Behavioral Plasticity: Aplysia	Ch. 10
	11/25	Birdsong: Behavior	Ch. 8
	11/27	<b>THANKSGIVING</b>	
Dec	12/2	Birdsong: Learning the Song	
	12/4	Birdsong: Neural Control of Song	Schmidt, 2009
	12/9	Common Themes and Conclusions	
	12/17	<b>FINAL EXAM 12:00 – 2:00 pm</b>	

Synopsis:

Neuroethology: An introduction to the experimental analysis of natural animal behavior, and its neurobiological basis. Behavior is examined in an evolutionary and ecological context, and questions are focused on the neural processes that allow animals to carry out critical activities such as locating prey and finding mates. The course is comparative and strives to identify common principles in sensory and motor processing and brain function.

Prerequisite: BBB109

Weekly essays: Every Thursday I will provide you with 1-2 essay questions based on the readings. You will compose a ~½ page typed (double spaced) answer to each question in Microsoft Word. You will have 7 days to submit your responses. Questions will be available on the course website and will be graded by the TA.

Grading:

3 Exams each worth 30%. Weekly written responses to essay questions worth a total of 10% of your grade.

Required readings:

Behavioral Neurobiology: T.J. Carew, Sinauer Associates, Inc. 2000

Supplemental readings:

Supplemental readings will be posted on Canvas

*<https://courseweb.library.upenn.edu/>*