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**ANIMAL BEHAVIOR 11:704:441:01**  
**Ecology, Evolution, and Natural Resources**  
**TuFri 8:30am-9:50am, Bartlett 123**

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**Course Introduction**

Ethology is the study of animal behavior, investigating the relationships between animals to other organisms and to the world around them. An understanding of why animals do what they do can improve such disciplines as veterinary science, conservation, wildlife management, and domestic animal production. Throughout this course, we will explore the basic principles of behavior, such as how animals defend resources, avoid predation, select mates, and care for their young. We will also study the evolutionary origins of these behaviors and review both the external stimuli and the hormonal and neural mechanisms that control them. Our goals are to:

1. Discover a variety of animal behaviors (some are pretty cool!)
2. Understand the origins and mechanisms of behaviors
3. Become familiar with the practical application of ethology through case studies and readings

**Course Materials**

*Book (required):* Davies, N.B, J.R. Krebs, and S.A. West. 2012. *An Introduction to Behavioral Ecology* (4<sup>th</sup> ed). Wiley-Blackwell Publishing. (paperback)

**Requirements/Grading**

*Exams:* There are 2 exams in this course (midterm & final). Exams are in 2 parts: 1) multiple choice covering important terminology, concepts, and people; and 2) short answer questions predominantly covering principles/theories presented in class. Material in the course is hierarchical, with ideas and concepts building upon each other throughout the semester. Therefore, each exam/assignment is effectively cumulative.

*Assignments:* There will be 5 assignments, designed as exercises in comprehension and critical thinking. Assignments are posted on sakai and are due within 1 week of the assignment date. They are each worth 20 points. Please turn in electronically on sakai. For each day late, 5 pts will be deducted for up to 3 days, at which point you will receive a 0.

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### **Grading Breakdown**

Mid-Term	100pts	20%
Final	100pts	20%
Assignments	100pts	20%
<b>Total</b>	<b>300pts</b>	<b>100%</b>

### **Advising/Office Hours**

Office Hours will be held by appointment.

### **Academic Integrity**

All work handed in must be your own. Cheating on exams or assignments will not be tolerated and will result in a zero for that assignment. Academic integrity infractions are subject to further disciplinary penalties through the University. See <http://academicintegrity.rutgers.edu/integrity.shtml> for the University's current policies.

WEEK 1: January 15 - 21			
Date	Format	Topic	Due Date
Jan. 17	Lecture	Introduction	
	Readings	Davies, Chapter 1	
Jan. 20	Virtual Lecture	Development of Behavior	

WEEK 2: January 22 - 28			
Date	Format	Topic	Due Date
Jan. 24	Lecture	Formulating Hypotheses/Proximate and Ultimate Causes of Behavior	
	Readings	Davies, Ch. 2 Alcock, Ch. 2	
Jan. 27	Film Friday	<i>Why Do Birds Sing?</i>	
Jan. 27	Assignment	Tinbergen's 4 Questions	Feb. 3

WEEK 3: January 29 – February 4			
Date	Format	Topic	Due Date
Jan. 31	Virtual Lecture	Neural Mechanisms that Drive Behavior	
	Readings	Alcock, Ch. 4 Alcock, Ch. 5	
Feb. 3	Virtual Lecture	Organization of Behavior	
	Assignment	Tinbergen's 4 Questions	Feb. 3

WEEK 4: February 5 - 11			
Date	Format	Topic	Due Date
Feb. 7	Lecture	Economic Decisions	
	Readings	Davies, Ch. 3	
Feb. 10	Lecture	Habitat Selection, Dispersal, & Territoriality	

WEEK 5: February 12-18			
Date	Format	Topic	Due Date
Feb. 14	Lecture	Migration	
	Readings	Nordell and Valone, Ch. 9	
Feb. 17	Film Friday	<i>Migrations: Born to Move</i>	
Feb. 17	Assignment	Migrations	Feb. 24

WEEK 6: February 19-25			
Date	Format	Topic	Due Date
Feb. 21	Lecture	Optimality Theory/Foraging	
	Readings	Alcock, Ch. 7	
Feb. 24	Lecture	Competition	
	Readings	Davies, Ch. 5	
	Assignment	Migrations	Feb. 24

WEEK 7: February 26- March 4			
Date	Format	Topic	Due Date
Feb. 28	Lecture	Predators vs. Prey	
	Readings	Davies, Ch. 4	
Mar. 3	Film Friday	The Hunt	
	Assignment	Predator vs. Prey	Mar. 10

WEEK 8: March 5 - 11			
Date	Format	Topic	Due Date
Mar. 7		No Class	
Mar. 10		<b>MID-TERM EXAM</b>	

WEEK 9: March 12 - 18			
Date	Format	Topic	Due Date
<h1>SPRING BREAK</h1>			

WEEK 10: March 19-25			
Date	Format	Topic	Due Date
Mar. 21	Lecture	Communication	
	Readings	Davies, Ch. 14	
Mar. 24	Lecture	Living in Groups	
	Readings	Davies, Ch. 6	

Date	Format	Topic	Due Date
Mar. 28	Lecture	Cooperation	
	Readings	Davies, Ch. 12	
Mar. 31	Film Friday	Signals of Survival	
	Assignment	Painted Dog Behavior	Apr. 7

Date	Format	Topic	Due Date
Apr. 4	Lecture	Sexual Selection	
	Readings	Davies, Ch. 7	
Apr. 7	Lecture	Parental Care	
	Readings	Davies, Ch. 8	
	Assignment	Painted Dog Behavior	Apr. 7

Date	Format	Topic	Due Date
Apr. 11	Virtual Lecture	Mating Systems	
	Readings	Davies, Ch. 9	
Apr. 14	Film Friday	What Females Want	
	Assignment	Sexual Selection	Apr. 21

Date	Format	Topic	Due Date
Apr. 18	Virtual Lecture	Altruism - Kin Selection	
	Readings	Davies, Ch. 11	
Apr. 21	Virtual Lecture	Altruism in Social Insects	
		Davies, Ch. 13	

Date	Format	Topic	Due Date
Apr. 25	Lecture	Cooperation	
	Readings	Davies, Ch. 12	
Apr. 28	Film Friday	Best of Animal Teamwork	

<b>FINAL EXAM</b>			