

## **Syllabus for Biology/Psychology 250 Animal Behavior**

**Instructor:** Dr. Frank T. Kuserk  
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**Office Hours:** MWF 10:15 AM - 11:15 AM and by appointment

**Class Times & Rooms:** Lecture – MWF 4a (11:45 AM-12:35 PM)  
116 Pricilla Payne Hurd Academic Complex (PPHAC)  
Lab – Friday (1:15 PM-4:15 PM)  
300 Collier Hall of Science

**Course Description:** One of science's most absorbing mysteries continues to be the varied behaviors of animals. Ethology, behavioral ecology, and sociobiology are those branches of biology which, by observing and manipulating the behaviors of animals under natural conditions, hope to better understand these processes. Broadly comprehensive in their approach, these disciplines seek to trace the outward manifestations of behaviors back through their requisite anatomical and physiological machinery. Ultimately these behaviors are hoped to be understood in light of the genetic and evolutionary mechanisms that have shaped them through time.

**Course Objectives:** Upon completion of this course students will be able to demonstrate:

- 1) knowledge of basic concepts in animal behavior, including examples of specific behaviors and their scientific justification
- 2) knowledge of and ability to apply the scientific process as it applies to the study of animal behavior
- 3) an ability to find, evaluate, & use published scientific information
- 4) an ability to objectively interpret data and to use quantitative methods to analyze these data
- 5) competence in scientific writing and oral communication
- 6) an ability to work together in teams
- 7) an ability to integrate concepts within and among disciplines of science
- 8) understanding of the relevance of the animal behavior to society

**Text/Materials:** Dugatkin, L.A. 2009. *Principles of Animal Behavior* (2<sup>nd</sup> edition). Norton & Co., NY. (ISBN: 13-978-0-393-93169-3)  
Additional readings as assigned.

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<b>Grading:</b>	Lecture Exam 1	15%
	Lecture Exam 2	15%
	Lecture Final Exam	15%
	Class Discussion	10%
	Laboratory Reports/Assignments	25%
	Independent Project & Poster Presentation	<u>20%</u>
		100%

**Grading Scale:** The grading scale is as follows:

A = 93-100%	C = 73-76%
A- = 90-92%	C- = 70-72%
B+ = 87-89%	D+ = 67-69%
B = 83-86%	D = 63-66%
B- = 80-82%	D- = 60-62%
C+ = 77-79%	F = 59% and below

**Class Attendance:** It has been my experience that students who do poorly in class generally have numerous absences. While no formal lecture attendance will be taken, I strongly suggest that you attend all sessions unless you have a valid reason not to. Be aware that a portion of your final grade involves discussion of readings and class participation. Your excessive absence from these discussions will affect your grade in this area. I will speak personally with anyone who, in my judgement, shows excessive absences. It is in your best interest, therefore, to attend and participate in class.

Laboratory sessions, because they involve hands-on experiences which cannot be effectively mastered without performing them, are especially critical. Therefore, I will be taking attendance at these sessions. If you are unable to attend a laboratory session because of illness or other valid excuse please see me about the possibility of making up the session. Because of the nature of the subject matter this may not always be possible.

**Academic Honesty:** Moravian College's policies on academic honesty and disruptive course related student behavior can be found in the Student Handbook. It is assumed that each of you has read and understands these policies and the consequences of violating them.

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#### Animal Behavior Lecture Schedule Fall 2009

Date	Lecture Topic	Dugatkin Chapter*
M Aug. 31	Principles of Animal Behavior	Chapter 1
W Sept. 02	Principles of Animal Behavior	Chapter 1
F 04	Natural Selection, Evolution & Behavior	Chapter 2
<b>M 07</b>	<b>No Class-Labor Day</b>	
W 09	Behavioral Genetics	Chapter 2
F 11	Adaptation	Chapter 2
M 14	Proximate Factors: Hormonal Control of Behavior	Chapter 3
W 16	Proximate Factors: Neural Mechanisms	Chapter 3
<b>F 18</b>	<b>Monarch Butterfly Migration Lab (Depart @ 11:30 AM)</b>	
M 21	Conditioning & Individual Learning Behavior	Chapter 4
W 23	Evolution of Learning Behavior	Chapter 4
<b>F 25</b>	<b>Raptor Migration Behavior (Depart @ 11:30 AM)</b>	
M 28	Social Learning & Cultural Transmission	Chapter 5
W 30	Interaction of Genetic & Cultural Transmission	Chapter 5
<b>F Oct. 02</b>	<b>Field Trip: Philadelphia Zoo (Depart TBD)</b>	
M 05	Sexual Selection	Chapter 6
W 07	Mate Selection-Male/Male Competition & Female Choice	Chapter 6
<b>F 09</b>	<b>Exam 1</b>	<b>Chapters 1-6</b>
<b>M 12</b>	<b>No Class-Fall Break</b>	
W 14	Mating Systems-Monogamy & Polygamy	Chapter 7
F 16	Mating Systems-Promiscuity & Polygyny	Chapter 7
M 19	Kinship & Inclusive Fitness	Chapter 8
W 21	Parent/Offspring Conflict & Sibling Rivalry	Chapter 8
F 23	Kin Recognition	Chapter 8
M 26	Cooperation	Chapter 9
W 28	Reciprocal Altruism	Chapter 9
F 30	Coalitions and Interspecific Mutualisms	Chapter 9
M Nov. 02	Optimal Foraging Theory	Chapter 10
W 04	Learning & Foraging Behavior	Chapter 10
F 06	Antipredator Behavior	Chapter 11
M 09	Alarm Signals & Learning	Chapter 11
<b>W 11</b>	<b>Exam 2</b>	<b>Chapters 7-11</b>
F 13	Communication	Chapter 12
M 16	Communication	Chapter 12
W 18	Habitat Selection	Chapter 13
F 20	Territoriality	Chapter 13
M 23	Migration & Navigation	Chapter 13

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W	25	No Class-Thanksgiving	
F	27	No Class-Thanksgiving	
M	30	Game Theory & Aggression	Chapter 14
W Dec.	02	Agressive Behaviors	Chapter 14
F	04	Endocrinology & Aggression	Chapter 14
M	07	Play Behavior	Chapter 15
W	09	Social Play Behavior	Chapter 15

**Final Exam: Friday, Dec 18, 1:30PM**

**Chapters 12-15**

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### **Biology/Psychology 250 Laboratory Schedule Fall 2009**

September 04	Constructing an Ethogram; Using Statistics in Behavior Studies
September 11	Analysis of Behavior: Constructing Mallard Duck Ethograms
September 18	Monarch Butterfly Migration (Lehigh Gap Nature Center)
September 25	Raptor Migration Behavior (Bake Oven Knob)
October 02	Analysis of Behavior: Constructing Ethograms (Philadelphia Zoo)
October 09	No Lab
October 16	Raptor Feeding Behavior: An Analysis of Owl Pellets
October 23	TBD
October 30	Altruism and the Evolution of Cooperative Behavior
November 06	Computer simulation: Optimal Foraging Behavior
November 13	Behavior Genetics of Mice-Exploratory Behavior
November 20	Behavior Genetics of Mice-Agonistic Behavior
November 27	No Lab – Thanksgiving Recess
December 04	Fifth Annual Moravian College Behavior Society Meeting