Animal Behavior

PSYC UN2420

- **Course Location:** Schermerhorn 614
- **Course Time:** Tuesday/Thursday 10:10 AM - 11:25 AM

- **Instructor:** Greg Jensen
- **Office:** Schermerhorn 500
- **Office hours:** Monday 10:30am-12pm
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- **Teaching Assistant:** Won Lee
- **Office:** Schermerhorn 352
- **Office hours:** Thursday 4pm-6pm
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- **Teaching Assistant:** Katherine Broekman
- **Office:** Schermerhorn 354
- **Office hours:** Wednesday 2:00pm - 4:00pm
- **Email:** kab2233@columbia.edu

Students are welcome to attend all listed office hours. If you would like to make an appointment to meet at another time, you may do so by email, or by approaching us before or after class.

(Syllabus subject to revision)

Course Description

Introduction to behavioral systems, evolution of behavioral traits, and analysis of behavior. Topics include reproductive and social behavior, mating systems, competition, cooperation, communication, learning, development and the interplay of genes and environment.

- **Prerequisites:** PSYC UN1001, PSYC UN1010, a college-level biology course, or instructor permission.

Course Overview

"Animal behavior" is an interdisciplinary topic, and each discipline approaches it from a different perspective. Over the course of the semester, we will discuss systems of behavior and their scientific analysis. Befitting the field's diversity of views, we will consider these systems from the perspectives of comparative psychology, behavioral ecology, and ethology, with occasional contributions from economics and neuroscience.

The class can roughly be divided into three parts. The first third of the class will focus on the basic drivers behind patterns of behavior, including both direct feedback from the environment and evolutionary fitness. The second third of the class will consider how behavior manifests in groups of animals, ranging from social interaction to reproduction and parenting. Finally, the final third of the class will mix two topics: The chemical and neural mechanisms underlying behavior on the one hand, and the insights that can be derived from cross-species comparisons.

Please read this syllabus carefully to make sure you haven't missed anything important.

Course Requirements

Textbook: *Animal Behavior, Tenth Edition* (Required) by John Alcock (2013). Required reading will consist in large part of chapters from this text. Students are encouraged to obtain their own copies of the textbook.

- **Some lectures have required readings besides chapters from Alcock.** These are made available electronically via Courseworks.

Lecture Attendance: Because each lecture builds on the material presented in previous lectures, regular attendance is crucial to success in the class. Attendance will be collected at the start of every lecture. Please contact Professor Jensen or one of the TAs before class (the sooner, the better) when you become aware of an unavoidable conflict. Repeated unexcused absences will impact the class participation portion of the grade.

Problem Sets: Each week, a problem set will be made available via Courseworks. These will consist primarily of definitions and simple thought experiments, such that each question can generally be answered with a single sentence. Please note the following:

- **Problem sets must be completed individually.** Students are not allowed to share answers or to work together, and doing so may result in disciplinary action on grounds of academic dishonesty.
- **Completing the assignment on time is worth a perfect score of 10 points.** After each problem set is due, an answer key will be released. Students are responsible for checking their answers against the key. If you have questions, feel free to email us, or to come to office hours to discuss.
- **Problem sets must be submitted electronically to Courseworks.** This provides a precise time stamp for the time at which an assignment was turned in. To minimize the risk of turning in a late assignment, students are encouraged to turn in their homework early (e.g. the night before), rather than waiting until the morning of class to do so. Note: If you haven't received a confirmation that the file was uploaded successfully, it probably hasn't been.
- **Homework not turned in by the end of class will be considered late, and will receive a score of zero.** Because the answer key is distributed after the deadline, we cannot give partial credit for late work. Please contact the professor if extenuating circumstances prevent you from completing a problem set on time. Note: Excuses like "The train was running late" or "The WiFi in Schermerhorn wasn't working" are not considered valid excuses.

Exams: There will be three exams (two midterms and a final). Of these three exams, the highest score earned will have a weight of 35% of the final grade, the middle score will be worth 25%, and the lowest score will be worth 15%. The midterms will be non-cumulative, covering the first third and second third of the class, respectively. The final exam will focus primarily on the last third of the class, but will also include some material from the earlier portions of the class. All exams will mix multiple choice questions with short-answer questions.

- **If you cannot attend an exam, contact me as soon as possible.** Make-up exams can be arranged with my permission and that of your dean, but only given appropriate extenuating circumtances. *Vacation travel plans are not an acceptable reason to miss an exam.* Don't buy your tickets on dates that conflict with exams.
- **Getting comfortable with the vocabulary should be a top priority when studying for exams.** Because animal behavior is an interdisciplinary topic, a wide range of words will have technical meanings in this context. For example, "fitness" has a very specific meaning in the context of evolutionary theories, and we'll be testing whether you're using it correctly. If you can write a single-sentence definition for each vocabulary word in a lecture, you're off to a great start.
- **Focus on material covered in lecture.** The scope of the class is such that it's impossible to lecture on every concept in the textbook. Thus, although the whole textbook is fair game, material covered in lecture is *much* more likely to appear on an exam. Going back over the lecture slides, especially while re-listening to lectures, is a good way to remind yourself of the way the concepts fit together.

Grading: Final grades will depend on completed assignments, according to the following breakdown.

- **Participation:** 4%

- **Problem Sets:** 21%
- **Worst Exam Score:** 15%
- **Middle Exam Score:** 25%
- **Best Exam Score:** 35%

Letter grades are subsequently assigned according to the following criteria:

Bound		Grade		Bound
	$>$	A+	$\geq$	97
97	$>$	A	$\geq$	93
93	$>$	A-	$\geq$	90
90	$>$	B+	$\geq$	87
87	$>$	B	$\geq$	83
83	$>$	B-	$\geq$	80
80	$>$	C+	$\geq$	77
77	$>$	C	$\geq$	73
73	$>$	C-	$\geq$	70
70	$>$	D	$\geq$	60
60	$>$	F		

Neither exam scores nor overall course grades are "curved" in the traditional sense, and students will not be competing for a limited pool of each letter grade. If every student scores a 95 on the final, every final gets an A. However, exam scores and final letter grades are corrected upward on the basis of the cumulative distribution of scores. This correction can only ever improve your score, so the letter grades listed above represent the minimum letter grade that your raw score can earn, prior to the calculation of the corrected score.

Participation is partially, but not wholly, a function of class attendance. It reflects overall student engagement, and every student is assumed from the outset to have full participation points. Thus, a student who comes to class and does the work will get the full 4%. Participation credit can be lost in various ways (such as unexcused absences from lecture or sleeping in class), but extra effort (such as regularly attending office hours) will also be taken into consideration.

Students With Disabilities

Students with disabilities registered for this course and who require classroom accommodations should get in touch with me as soon as possible. Additionally, stop by the Office of Disability Services (ODS), located in Wien Hall, Suite 108A, to register for support services, if you have not already done so.

Date	#	Topic	Reading	Work Due
01/17/2017	1	Things Animals Do	Alcock Ch. 1	
01/19/2017	2	Altruism: An Ecological Perspective	Alcock Ch. 2	
01/24/2017	3	Altruism: An Econometric Perspective	Hammerstein (2003)	P.S. 1
01/26/2017	4	Causes of Behavior	Alcock Ch. 10	
01/31/2017	5	Learning Theory	Schultz (2004)	P.S. 2
02/02/2017	6	Mixed Strategies	Brown (2016)	
02/07/2017	7	Adaptive Behavior	Alcock Ch. 5	P.S. 3
02/09/2017	8	Formative Learning	West-Eberhard (2003)	
02/14/2017	9	Territoriality & Migration	Alcock Ch. 6	P.S. 4
02/16/2017		EXAM #1		
02/21/2017	10	Perception Systems	Shettleworth (2010)	P.S. 5
02/23/2017	11	Social Behavior	Alcock Ch. 3	
02/28/2017	12	Communication	Alcock Ch. 4	P.S. 6
03/02/2017	13	Transmission	Hoppitt & Laland (2008)	
03/07/2017	14	Reproductive Behavior	Alcock Ch. 7	P.S. 7
03/09/2017	15	Mating Systems	Alcock Ch. 8	
03/21/2017	16	Parental Care	Alcock Ch. 9	P.S. 8
03/23/2017	17	Development	Alcock Ch. 11	
03/28/2017	18	Epigenetics	Ledón-Rettig (2013)	P.S. 9
03/30/2017		EXAM #2		
04/04/2017	19	Neural Logic	Alcock Ch. 12	P.S. 10
04/06/2017	20	Neural Systems	Alcock Ch. 13	
04/11/2017	21	Chemical Regulation	Adkins-Regan (2017)	P.S. 11
04/13/2017	22	Comparative Learning	Guez & Audley (2013)	
04/18/2017	23	Comparative Cognition	Beran et al. (2014)	P.S. 12
04/20/2017	24	Comparative Concepts	Newen & Bartels (2007)	
04/25/2017	25	Perils of Evolutionary Psychology	Alcock Ch. 14	P.S. 13
04/27/2017	26	Language	Fitch et al. (2010)	
05/02/2017				P.S. 14
05/11/2017		FINAL EXAM (9am-12pm)		

Academic Integrity

Students are expected to do their own work. Getting someone else to do your work for you, or passing someone else's work off as your own, is a breach of academic integrity and is a serious offense in academic circles. Whether you're getting help from another student, or copying text from the Internet, anyone presenting the work of others as their own without attribution will be referred to Dean's Discipline, with appropriate action to follow.

Details regarding Columbia's definition of academic dishonesty (including examples), as well as the consequences, are available in **Columbia's Guide to Academic Integrity**. Inform yourself about what the university's policies on cheating and plagiarism are, because "I didn't know!" is not an acceptable defense.

If you are falling behind on the material, or otherwise feeling mounting pressure from the class, it is *always* better to contact me or your TA, rather than resorting to academic dishonesty. We're here to help, and we're enthusiastic about doing so.