

EEBL 608 Integrative Animal Behavior

Day: MW **Location:** ILSB 3145
Time: 2-3:15 pm (75 min.) **Number of Credits:** 01 Credit

Instructors:

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E-mail will be the primary means of communication for the course. Check your email often and keep your mailbox below quota! Go to elearning.tamu.edu for course materials.

Course prerequisites: Graduate classification.

Course description: This final component of the Core Sequence in Ecology & Evolutionary Biology examines how behavior contributes to survival and reproduction, and in turn how evolutionary history and ecological circumstance interact to shape the expression of behavior. The major focus of the course will be the integrative nature of behavior: the interaction of evolutionary processes, mechanistic constraints, and ecological demands involved in selecting for a set of behavioral strategies.

Course requirements:

- Attend all lectures. Absences for previously scheduled activities will only be excused if they are communicated well in advance. If you have not discussed an absence with instructor ahead of time, it will be considered unexcused unless proper documentation is provided. See <http://student-rules.tamu.edu/rule07>.
- Read all required material (original papers, review papers, and textbook chapters).
- Participate actively in discussions. Each day, one or more students will be responsible for leading discussion on the day's topic and should come prepared with pertinent points.
- Complete two problem sets featuring short, quantitative questions related to the course material. A short, take-home, open-book exam to be submitted the day after the last lecture; answer four questions clearly and concisely in about 20 min each. **Late assignments** will be downgraded a letter grade for each day late.

Course goals: The goal of this course is to provide a sophisticated understanding of animal behavior from both mechanistic and evolutionary perspectives, and more generally to encourage thinking about ecology and evolutionary biology as a conceptually unified discipline.

Grading: Letter grades will be assigned based as follows: Problem sets: 20% each; short, take-home essay exam: 60%. Grade scale: 90-100 A; 80-89 B; 70-79 C; 60-69 D; < 60 F.

Americans with Disabilities Act (ADA): The Americans with Disabilities Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their

disabilities. If you believe you have a disability requiring an accommodation, please contact Disability Services, in Cain Hall, Room B118, or call 845-1637. For additional information visit <http://disability.tamu.edu>.

Academic Integrity: For additional information please visit: <http://aggiehonor.tamu.edu>. Please pay close attention to guidelines on avoiding plagiarism. **“An Aggie does not lie, cheat, or steal, or tolerate those who do.”**

SUGGESTED READINGS

Edited by **Étienne Danchin, Luc-Alain Giraldeau, and Frank**

Danchin, É., Giraldeau, L.-A., & Cézilly, F. eds. 2008. *Behavioural Ecology*. Oxford UP.

Westneat, D. F. & Fox, C. W. eds. 2010. *Evolutionary Behavioral Ecology*.

Davies, N. B., Krebs, J. R. & West, S. A. 2012. *An Introduction to Behavioural Ecology*. 4th ed. Wiley-Blackwell.

Martin, P. & Bateson, P. 2007. *Measuring behaviour: an introductory guide*. 3rd ed. Cambridge.

LECTURES

4/11/2016	Foraging and nutrient balance (Greg)	Simpson, S.J., Sword, G.A., Lorch, P.D. & Couzin, I.D. (2006) Cannibal crickets on a forced march for protein and salt. PNAS 103:4152-4156.
4/13/2016	Predator/prey coevolution (Greg)	Sword, G.A. (2002) A role for phenotypic plasticity in the evolution of aposematism. Proc. R. Soc. Lond. B 269:1639-1644.
4/18/2016	Collective movement (Greg)	Sumpter, D. J. (2006). The principles of collective animal behaviour. Phil. Trans. R. Soc. Lond. B 361: 5-22.
4/20/2016 PROBLEM SET DUE	Mate choice and sexual selection (Gil)	Ryan, M. J., & Cummings, M. E. (2013). Perceptual biases and mate choice. Annual Review of Ecology, Evolution, and Systematics, 44: 437-459.
4/25/2016	Kin selection and parental care (Gil)	Adams, M. J., Robinson, M. R., Mannarelli, M.-E., & Hatchwell, B. J. (2015). Social genetic and social environment effects on parental and helper care in a cooperatively breeding bird. Proc. R. Soc. Lond. B, 282: 20150689
4/27/2016 PROBLEM SET DUE	Evolution of cooperation and eusociality (Gil)	Sachs, J.L. et al.(2004). The evolution of cooperation. Q. Rev. Biol. 79: 135-160.
5/2/2016		TAKE HOME EXAM DUE AT 315 pm

One letter grade will be deducted for each day past the deadline!