



Biology 39: Animal Behavior

Fall 2010



Professor: Ethan Clotfelter
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Office: 229 LSB (lab: 223 LSB)
Office hours: M 10:00 am-12:00 pm, T 1:00-4:00 pm

Lecture hours: 9:00-9:50 MWF (4th hour 1:00-1:50 T)
Lecture room: Merrill 403
Readings: e-reserves available via course website

Lab hours: Th 2:00-6:00 pm
Lab room: 336 LSB
Lab TA: Ismael Gonzalez '11 (igonzalez11@amherst.edu)

Lecture schedule

Date	Topic	Readings	
Sept	8	Introduction to the course – what is behavior?	
	10	Approaches to studying behavior	1-2
	13	Approaches to studying behavior	
	15	Behavior genetics	3-5
	17	Behavior genetics	
	20	Learning	6-9
	22	Learning	
	24	Imprinting, kin recognition	10-12
	27	Imprinting, kin recognition	
Oct	29	Neuroethology	13-14
	1	Behavioral endocrinology	15-16
	4	Behavioral endocrinology	17-18
	6	Exam #3	
	8	Biological rhythms	19
	11	Mid-semester break – no class	
	13	Orientation, navigation, migration	20-22
	15	Orientation, navigation, migration	23-24
	18	Dispersal and habitat selection	25-26
	20	Territoriality	27-29
	22	Foraging behavior	30-31
	25	Foraging behavior	32-33
27	Antipredator behavior	34-35	
29	Communication	36-37	
Nov	1	Communication	38

	3	Dominance and fighting	39-41
	5	Exam #2	
	8	Sexual selection and mate choice	42
	10	Sexual selection and mate choice	43-45
	12	Sexual selection and mate choice	46-49
	15	Mating systems	50-51
	17	Mating systems	52-53
	19	Parental investment	54
	22-26	Thanksgiving recess – no class	
	29	Case study: parental investment in tree swallows	55
Dec	1	Social behavior	56-58
	3	Social behavior	59-60
	6	Animal cultural traditions	61-63
	8	Animal language	64-65
	10	Animal cognition	66
	13	Animal cognition	67-68
	15	Exam #3	

4th hour schedule

	Date	Topic
	Oct 5	Finish material, review for Exam #1 if needed
	Nov 2	Finish material, review for Exam #2 if needed
	Dec 14	Finish material, review for Exam #3 if needed

Laboratory schedule

	Dates	Lab
	Sept 9	No lab
	16	Behavior of insect pollinators ‡
	23	Learning in fighting fish <i>Betta splendens</i>
	30	Learning in fighting fish <i>Betta splendens</i>
Oct	7	“Dear enemy” phenomenon in <i>Betta splendens</i>
	14	Field trip ‡
	21	Optimal foraging in birds ‡
	28	Optimal foraging in birds ‡
Nov	4	Winner and loser effects in crayfish
	11	Applied animal behavior: a special seminar by Dr. Nicholas Dodman
	18	Honest signaling of fighting ability in crayfish + set-up burying beetle lab
	25	Thanksgiving break – no lab
Dec	2	Finish burying beetle lab
	9	Coloration and mate choice in guppies

‡ For these field labs, dress appropriately for the weather. Labs will still be held in light rain, cold or even snow. Be prepared to be sedentary for an hour or more. If conditions are particularly inclement, check your email by noon on lab day for a decision from me about whether or not lab will be postponed.

Grading

Assignment	Percent of total grade
Exams †	45%
Participation in class and lab	15%
Lab assignments ‡	40%
Total	100%

† Exams are non-cumulative, and thus each one will cover the lecture material and the course readings for approximately one third of the course. Exams will be made up of several short essays and will be of an “open book” format. You may also be asked to draw or interpret graphs. Exams will be weighted to reflect the number of lectures they cover. Thus, because Exam #3 covers two more lectures than Exams #1 or #2, it will be weighted slightly more (17% versus 14%).

‡ There will be approximately eight written lab assignments of varying length, ranging from the answers to a few questions to a full-blown lab report.