

BIO 295: Animal Behavior
Spring 2008

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Course Homepage: <http://web.grinnell.edu/courses/bio/S08/Bio-295-01/> -- you will find useful links there, as well as links to electronic copies of all handouts and papers.

Office hours: Office hours: Mon 3:15-4:15 pm , Tues 8-9 am, Wed 10-11 am, Thurs 9-10 am, Fri 3:30-4:30 pm. Please contact me for appointments at other times, after consulting my schedule outside my door.

Course description -- Investigations of the causes, functions, and origins of animal behavior. We will use an evolutionary perspective to understand and integrate common behavioral adaptations, e.g., obtaining food, avoiding predators, living in groups, communicating, mating, and caring for offspring. Laboratory projects emphasize design, analysis, and communication of quantitative tests of hypotheses carried out in the lab and field. Three lectures and one scheduled lab per week. Prerequisites: Bio 150.

Meetings: MWF 8:00-8:50 in Science 1612; labs will take place in 1609 and later in the semester at CERA. Each Friday, I will be giving you assignment sheets with details on reading assignments and study questions that will help you prepare for the week. (These can also always be found on the Class Web Page.) **It's important that you are prepared for every day of class. We will start promptly at 8:00 am; please arrive on time -- and awake!**

Texts: Dugatkin's *Principles and Animal Behavior* and Heinrich's *Mind of the Raven*. You should also buy a lab notebook dedicated to this course.

Evaluation: Grades will be based on the following assignments:

Exams	45%
Oral presentation	10%
Chickadee Intro and Discussion	10%
Gall Fly Paper	20%
Pre-lab assignments/homework/lab notebook	5%
Science journalism article	10%

Quizzes and exams will evaluate your ability to use terms correctly, explain major ideas from the readings, interpret data, and propose tests of hypotheses. If you do NOT do the assigned readings before coming to class, participate in class, do homework problems, and practice *writing* about the ideas after class, you will do poorly on the quizzes and exams!

Letter grades will be determined in the following manner:

93-100% A	87-90% B+	77-80% C+
90-93% A-	83-87% B	70-77% C
	80-83% B-	60-70% D
		< 60% F

I do not use a grading curve because I believe it discourages students from working together. I encourage you to form study groups and to work with me individually or in groups on the subject matter of the course. I do consider the effect of single assignments in lowering your grades (i.e., one bad day shouldn't matter) and take into account improvement over the semester. If you are worried about your performance in the class, please come talk to me during office hours. *I have very high expectations of you – and nothing is more important to me than helping you reach and surpass them.*

Policies: Late papers will be accepted with a penalty of 10%/day. Penalty-free extensions will be given in the case of illness documented by the health center. *Please let me know in advance if you need to miss class because of a conflict with an extracurricular or other activity. I will try to make reasonable accommodations, but not at the last minute!*

Learning disabilities – I am committed to accommodating all documented learning disabilities. Please speak with me early in the semester if there is a way I can facilitate your success in this course.

Schedule (subject to revision – consult weekly assignment sheets)

Week	Topics	Lab Investigations	Assignments
I 1/21-25	<ul style="list-style-type: none"> • Introductions • Natural Selection 	Describing and quantifying behavior I	<ul style="list-style-type: none"> • Dugatkin Chaps. 1-2 • C. Darwin
II 1/28-2/1	Proximate factors in behavior	Describing and quantifying behavior II	<ul style="list-style-type: none"> • Dugatkin Chapt. 3
III 2/4-8	Learning	Testing hypotheses quantitatively – design and trials	<ul style="list-style-type: none"> • Dugatkin Chapt. 4 •
IV 2/11-15	Social Learning	Testing hypotheses quantitatively – data acquisition and analysis	<ul style="list-style-type: none"> • Dugatkin Chapt. 5
V 2/18-22	Foraging	Oral presentations on experiments (2/19,21)	<ul style="list-style-type: none"> • Dugatkin Chapt. 10 • Exam 1 (2/21)
VI 2/25-2/29	Anti-predator behavior	Foraging decisions in chickadees (CERA)	<ul style="list-style-type: none"> • Dugatkin Chapter 11

3/5-9 VII	Habitat selection and territoriality	Foraging decisions in chickadees (CERA)	• Dugatkin Chapter 13
3/12-16 VIII	Migration	Foraging decisions in chickadees (CERA)	• Dugatkin Chapter 13 • Exam II (3/16)

SPRING BREAK – 3/17-3/30

3/31-4/4 IX	Sexual selection	Mating behavior and mate choice (gall flies) – observations	Dugatkin Chapt. 6
4/7-11 X	Mating systems	Mating behavior and mate choice (gall flies) – experiments	Dugatkin Chapt. 7 Intro and Discussion of Chickadee Foraging experiment (4/7)
4/14-18 XI	Kinship	Mating behavior and mate choice (gall flies) – Experiments	Dugatkin Chapt. 8
4/21-25 XII	Cooperation and Aggression	Ant foraging and aggressive behavior (CERA) – observations	Dugatkin Chapt. 9, 14 Full paper on gall fly mate choice (4/23,25)
4/28-5/2 XIII	Discussion	Ant foraging and aggressive behavior (CERA) – experiments	<i>Mind of the Raven</i> Exam III (4/30)
5/5-9 XIV	Discussion	Ant foraging and aggressive behavior (CERA) – analysis	<i>Mind of the Raven</i>

No final exam -- Science journalism paper on ant foraging due by noon on Thursday May 15th.