

# Behavioral Ecology – B4180

uvacollab.virginia.edu

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**Overview** – Behavioral ecology as a field sprang from the desire to explain the bizarre behaviors of beasts and to understand the natural history around us. Traditionally, Behavioral Ecology has emphasized the adaptive value and explanations for animal behavior. The goal of this course is to teach you to think critically and analytically about explanations for natural phenomena rather than simply adopt the Just-so-Story approach. In particular, we'll examine hypotheses (and evidence for and against them) explaining a range of behavioral phenomena from foraging decisions to parental care to antipredator mechanisms to sociality. The emphasis here is on evolutionary understanding, so we will draw on a variety of tools from genetics, evolution, mathematics, ecology, economics.

**Classes** – Class periods will be predominantly lecture, but will be much more interesting if you interrupt and ask questions. We will have in-class exercises to break up the monotony and emphasize some topics. Because natural history is a core of the field, we'll incorporate some story telling and occasional videos. Behavioral ecology can be a tremendously fun topic if you choose to be interactive. I will make lecture powerpoints available after lecture.

**Readings** – The main text is Krebs and Davies *Introduction to Behavioral Ecology* 3<sup>rd</sup> ed. You should consider the text supporting material. Lectures will not necessarily follow the text, and primary readings will be assigned for most lectures (available as pdfs on the **uvacollab** site). Readings will be most useful if you complete them before lecture.

An auxiliary text for the second part of the course is Olivia Judson's *Dr. Tatiana's Sex Advice for All Creation*. The book is an in depth guide to the natural history and evolutionary biology of sex. You should read the book just for fun, but for our purposes, it is a tremendously complete insight into the variety of problems in mating systems, sexual reproduction, mate choice and the like.

## **COLLAB**

I will maintain a UVacollab site with resources (lecture notes and readings) and updated schedule. Assignments will be turned in through UVacollab.

## **Grading**

Grades are based on 2 in-class exams (30 % each), a final group presentation (30%), and literature synopses + class participation (10%). **Makeup exams are not offered** – 3 hourly exams will be given, you may count scores from any two. Exams will be a mix of short answer, short essay and perhaps multiple-choice. Exams will focus mainly on recent lectures, but may be cover any prior topic (ie, they may be cumulative). No finals period final is planned.

Assignments are penalized 30% for every 24 hrs late, starting immediately after the posted deadline.

### **Literature Synopses (3 @ 2.5% each)**

You will be asked to explore primary literature throughout the semester. As part of this exploration, I will ask you to submit a 1p, single spaced literature synopsis for each of three readings. The reading must come from the primary empirical literature. Each synopsis must include an identification of the hypothesis tested, and descriptions of the relevant natural history of the organism, the empirical approach (methods), and most pertinent result(s). A single figure or table summarizing the key finding from the paper will also be required (in addition to the 1p text).

### **Final Presentation**

The final presentation takes the form of a research summary/grant proposal. Your team has 15 minutes to explain and motivate a problem in behavioral ecology, identify and support an appropriate system for study, summarize the relevant knowledge, and outline a path of new research. Teams of 3 students will work together on the project and co-present. More details will be made available in October

The presentation is in lieu of a final paper. You should approach it with the same fervor as you would a written piece. Grades will be based on the presentation itself, the powerpoint and notes pages, and classmate reviews of the presentations. Attendance during and review of other groups' presentations will be mandatory and contribute to your own grade. Each individual will anonymously grade the participation of his/her own group members (pay careful attention during tit-for-tat and reciprocity lectures!).

### **Contact/Communication**

I am most easily contacted by email or in person. I welcome you to stop by the Mountain Lake office (223 Gilmer), but it is best to set a time in advance to catch me. I do not generally schedule regular office hours except before exams.

Please do not expect instant email response, especially before exams. Contrary to popular belief, I am not usually awake at 2 am the morning of an exam, and if I am, I'm unlikely to be responding to course emails.

### **Absences**

Attendance is up to you except for exam and presentation dates, which are mandatory. Absences on these days will be accommodated only for health issues (with doctor's letter), documented family crises or pre-arranged official university commitments. In all cases, contact me beforehand if you know there is a problem!

### **Honor Policy**

I take the concept of an Honor Code and ethical conduct seriously. I fully expect every student to abide by the guidelines of ethical conduct spelled out by the University's Honor Code. I consider any act of plagiarism, cheating, lying, wandering eyes, information sharing on exams, or deception regarding an excused absence to be a violation. I will report violations of the Honor Code and encourage students in my class to do so as well. Regardless of findings of an eventual Honor investigation, students found to be cheating on assignments or exams will earn an F for the course.