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**Behavioral Ecology Syllabus**


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**Instructor**

Olga Milenkaya  
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**Class time and location**

Tuesdays and Thursdays, 2 – 3:15 PM  
2202 Derring Hall

I am available to meet with you by appointment. Please email me (include “BIOL 4808” in the subject line).

**Course description**

We will learn about the behavior of wild animals in the ecological and evolutionary context. This topic is of great interest because (1) behavior is a major component of ecology, (2) behavior of animals is an accessible point through which we can learn about broader, non-taxa specific, ecological topics, and (3) animal behavior is fun, bizarre, and intriguing! We will employ lectures, discussions, the reading of primary literature, the writing of a research proposal, and peer reviews.

**Course objectives**

- To understand the evolutionary basis for why animals do what they do.
- To understand that behavior is an adaptation.
- To improve our skills in logical reasoning, writing, interpretation of primary literature and data, and use of the scientific method.
- To be exposed to, and intrigued by, the wide variety of animal behaviors.

**Required text**

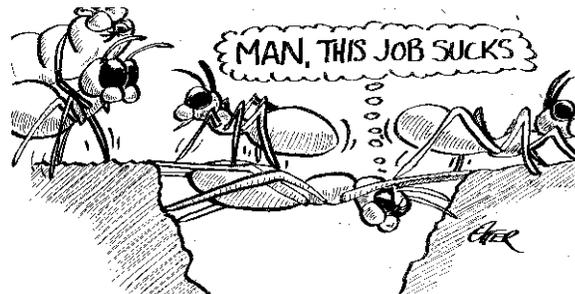
Behavioural Ecology. 2008. Edited by Étienne Danchin, Luc-Alain Giraldeau, and Frank Cézilly. Oxford University Press. New York. ISBN: 978-0-19-920629-2

**Class structure**

For most weeks we will focus on one topic in behavioral ecology (see “Schedule” below).

**Tuesdays:** Prior to class, students will read the assigned chapter from the textbook which will introduce the new topic, and will submit questions about the reading to the instructor. The mechanics of how to submit questions about the reading will be discussed during the first class session. The class time will then be devoted to answering the posited questions, clarifying the material from the reading, and expanding upon it (primarily through lecture). The primary focus will be to build our foundational understanding of the theory and to provide context and background.

**Thursdays:** Prior to class, students will read primary literature or case studies related to that week’s topic (these will be posted on Scholar by the previous Saturday). We will discuss the case studies in small groups. The primary focus will be to use the case studies (1) to get more depth into a particular topic, (2) to understand the scientific method, (3) to apply the theory we reviewed on Tuesdays, (4) to interpret data, and (5) to improve our skills at facilitating a discussion. At the end of each class, we will reconvene as a class to summarize the week’s topic: from the background to the details and to the BIG picture.



**EUSOCIALITY BREAK-DOWN**

## Assignments

### 1. Reading

For Tuesdays, we will read from the textbook (see “Schedule” below), and for Thursdays we will read case studies (these will be posted on Scholar).

### 2. Discussion group

The Thursday small group discussions will be moderated by one of the students in each group. You will sign up for being the moderator of a particular topic (or two) on the first day of class. The moderator will come prepared with a list of thought-provoking questions and comments about the reading for the group to discuss. The goal of the moderator is not to explain the reading but to facilitate the discussion: ask the right questions, pipe-in when necessary but do not dominate, and guide the discussion to keep it on-topic. Everyone else in the group will come prepared to engage in the discussion and is expected to participate.

### 3. Research proposal

Students will design a research project in behavioral ecology and will write a mock research proposal to apply for funds to an existing granting agency. The purpose of this assignment is (a) to think critically about the scientific method and (b) to engage with the material. Details for this assignment will be provided later in the semester. These proposals will be graded by the instructor as well as anonymously peer-reviewed by a colleague in the class. The student will then have the opportunity to either (a) keep the grade they received on their original draft, or (b) rewrite the proposal after receiving the comments from the peer-reviewer and the instructor. If the student chooses to rewrite the proposal, then it will be graded again and the student will receive the higher of the two grades for the assignment.

### 4. Peer review

Each student will anonymously peer-review at least two research proposals. The objective of this assignment is (a) to think about the content, the scientific method, and the writing, and (b) to learn how to communicate your constructive criticism about the content, scientific method, and writing. Details about this assignment will be provided later in the semester.

### 5. Exams

We will have a midterm exam and a final, cumulative exam. Both exams will include multiple-choice and short answer questions.

### 6. Participation

Participation includes class attendance, arriving on time and being engaged, and submitting reading questions that are thoughtful and are on-time.

## Grading

Assignment	Percent of final grade
Participation	15
Discussion group moderator	15
Research proposal	25
Peer review	15
Exam 1	10
Exam 2	20
Total	100



**A non-exhaustive list of what the instructor expects of the students**

1. Students complete the assigned readings in a thorough and thoughtful way.
2. Students come to class ready to engage (that is, ready to build upon the material covered in the reading, not just review the reading itself).
3. If a student misses class, for any reason, he/she will catch up on his/her own time by seeking information from other students in the class, and if necessary, will then meet with the instructor.
4. If a student has a legitimate reason for missing class, he/she will notify the instructor as soon as is reasonable and provide documentation if applicable.
5. Students will be respectful of each other and the instructor, and will build a healthy learning community.

**A non-exhaustive list of what the students should expect of the instructor**

1. The instructor will provide all non-textbook materials, as well as grades and other feedback, in a timely manner (e.g., the Thursday readings will be posted on Scholar by the previous Saturday).
2. The instructor will come to class prepared and ready to engage.
3. The instructor will clearly and effectively communicate the material, assignments, deadlines, student expectations, etc.
4. The instructor will be available to meet with students throughout the semester to review the material and discuss the student's progress.
5. The instructor will be open to constructive feedback from the students so as to improve the learning environment.
6. The instructor will be respectful of the students and will build a healthy learning community.

**Virginia Tech's Principles of Community**

Virginia Tech is a public land-grant university, committed to teaching and learning, research, and outreach to the Commonwealth of Virginia, the nation, and the world community. Learning from the experiences that shape Virginia Tech as an institution, we acknowledge those aspects of our legacy that reflected bias and exclusion. Therefore, we adopt and practice the following principles as fundamental to our on-going efforts to increase access and inclusion and to create a community that nurtures learning and growth for all of its members:

- We affirm the inherent dignity and value of every person and strive to maintain a climate for work and learning based on mutual respect and understanding.
- We affirm the right of each person to express thoughts and opinions freely. We encourage open expression within a climate of civility, sensitivity, and mutual respect.
- We affirm the value of human diversity because it enriches our lives and the University. We acknowledge and respect our differences while affirming our common humanity.
- We reject all forms of prejudice and discrimination, including those based on age, color, disability, gender, national origin, political affiliation, race, religion, sexual orientation, and veteran status. We take individual and collective responsibility for helping to eliminate bias and discrimination and for increasing our own understanding of these issues through education, training, and interaction with others.
- We pledge our collective commitment to these principles in the spirit of the Virginia Tech motto of *Ut Prosim* (That I May Serve).

<http://www.vt.edu/diversity/principles-of-community.html>

**Disability statement**

Reasonable accommodations are available for students who have a disability. I am happy to work with you and the SSD office to accommodate you. Students should contact the Services for Students with Disabilities (SSD), 150 Henderson Hall, 231-3788 (V), 231-1740 (TTY); Susan P. Angle, spangle@vt.edu, www.ssd.vt.edu. "Students with disabilities are responsible for self-identification....To be eligible for services, documentation of the disability from a qualified professional must be presented to SSD upon request. Academic adjustments may include, but are not limited to: priority registration, auxiliary aids, program and course adjustment, exam modifications, oral or sign language interpreters, cassette taping of text/materials, notetakers/readers, or assistive technology." Please visit the SSD website for additional information.

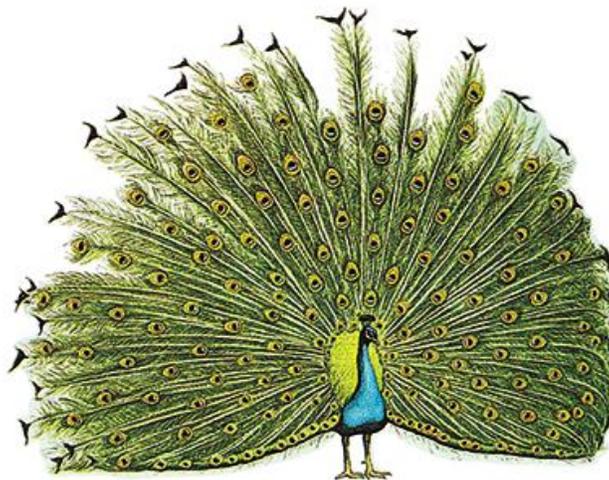
**Honor code**

The Honor Code will be strictly enforced in this course. All assignments submitted shall be considered graded work, unless otherwise noted. All aspects of your coursework are covered by the Honor System. Any information reported to the instructor regarding violations or possible violations of the Honor Code will be kept strictly confidential. Any suspected violations of the Honor Code will be promptly reported to the Honor System. According to the Constitution of the Virginia Tech Honor System "The fundamental beliefs underlying and reflected in the Honor Code are: (1) that trust in a person is a positive force in making that person worthy of trust, (2) that every student has the right to live in an academic environment that is free from the injustices caused by any form of intellectual dishonesty, and (3) that the honesty and integrity of all members of the university community contribute to its quest for Truth." (see <http://www.honorsystem.vt.edu/>)

The following is the Honor Code written verbatim from the VT Honor System Constitution:

The Honor Code is the University policy that expressly forbids the following academic violations:

1. Cheating -- Cheating includes the actual giving or receiving of any unauthorized aid or assistance or the actual giving or receiving of any unfair advantage on any form of academic work, or attempts thereof.
2. Plagiarism -- Plagiarism includes the copying of the language, structure, ideas and/or thoughts of another and passing off same as one's own, original work, or attempts thereof.
3. Falsification -- Falsification includes the statement of any untruth, either verbally or in writing, with respect to any circumstances relevant to one's academic work, or attempts thereof. Such acts include, but are not limited to, the forgery of official signatures, tampering with official records, fraudulently adding or deleting information on academic documents such as add/drop requests, or fraudulently changing an examination or other academic work after the testing period or due date of the assignment.



**Schedule**

Week	Day/date	Topic	Assignments*
1	T / XXX Th / XXX	Intros, history of behavioral ecology What is behavioral ecology?	pg. 29-46, no discussion group
2	T / XXX Th / XXX	Life history Life history	pg. 135-163 Discussion group
3	T / XXX Th / XXX	Foraging Foraging	Ch. 8 Discussion group
4	T / XXX Th / XXX	Dispersal Dispersal	Ch. 10 Discussion group
5	T / XXX Th / XXX	Review Exam 1	
6	T / XXX Th / XXX	Sexual selection Sexual selection	Ch. 11 Discussion group
7	T / XXX Th / XXX	Spring Break Spring Break	No class No class
8	T / XXX Th / XXX	Mating systems Mating systems	pg. 429-450 Discussion group
9	T / XXX Th / XXX	Leks Leks	See Scholar Discussion group
10	T / XXX Th / XXX	Parental care Parental care	pg. 451-465 Discussion group
11	T / XXX Th / XXX	Inclusive fitness and kin selection Inclusive fitness and kin selection	See Scholar Discussion group
12	T / XXX Th / XXX	Cooperation, cooperative breeding Cooperation, cooperative breeding	Ch. 15 Discussion group
13	T / XXX Th / XXX	Catch up / review Mystery topic	1 <sup>st</sup> draft research proposal due See Scholar, peer reviews assigned
14	T / XXX Th / XXX	Group selection Group selection	Peer reviews due, discussion group
15	T / XXX  Th / XXX	Conservation  Conservation	Readings TBA, peer reviews and instructor feedback on research proposals returned Discussion group
16	T / XXX Th / XXX	Review Exam 2	Final research proposals due

\* Readings are to be completed before the class session for which they are assigned.