

**ECOL4540/6540, BEHAVIORAL ECOLOGY**  
**Fall 2021**

**Day and Time:** TR, 2:20 – 3:35PM

**Location:** 209 Forest Resources 1

**Student Hours:** Tuesdays, 3:45 – 4:45PM in Rm 134 Ecology Building

**Prerequisites:** (BIOL 1104 and BIOL 1104L) or (BIOL 1108 and BIOL 1108L) or (BIOL 2108H and BIOL 2108L)

**Course Description:** 3 Credits. Interactive lecture based on the textbook (see below), discussions of recent scientific papers, and student-developed research projects

**Who is going to be teaching me about Behavioral Ecology?**



**Dr. Allison Injaian**

*(pronounced In-jay-in, feel free to call me Dr. I)*

Office: Odum School of Ecology, Rm 134

Email: [inja@uga.edu](mailto:inja@uga.edu)

**What materials do I need to purchase/register for before this class starts?**

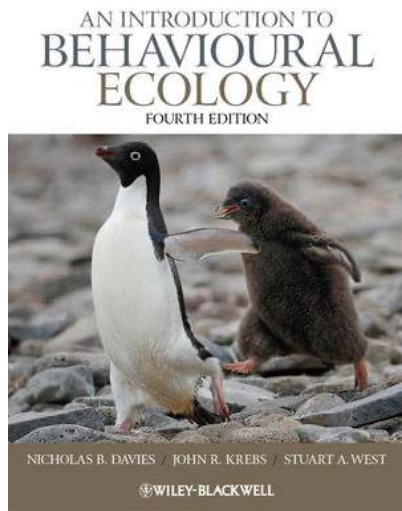
I will base lectures during the first half of this class off of the following text:

*An Introduction to Behavioral Ecology, 4<sup>th</sup> Edition*

By: Nicholas B. Davies, John R. Krebs, and Stuart A. West

Publisher: Wiley-Blackwell

You can purchase this textbook [from the bookstore](#), or online elsewhere.



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**What is Behavioral Ecology all about and what will I know after taking this class?**

Behavioral ecology studies how and why animals display certain behaviors. What are the immediate and evolutionary benefits and costs of these behaviors? In the first half of this course, students will learn about animal communication, sexual selection and mating behavior, group living and cooperation, predator and prey behavior, parental care, etc. During the second half of this course, students will develop and implement research projects related to the field of behavioral ecology, as well as complete assignments that foster written and oral science communication skills.

**Learning Outcomes**

1. Become familiar with current theory in behavioral ecology
2. Link behavioral ecology to related fields of ecology, evolution, and conservation biology
3. Develop skills associated with scientific research, such as hypothesis formation, experimental design, statistical analysis, scientific writing, and oral scientific communication.

**Topical Outline**

*Week 1:* Natural Selection, Ecology and Behavior

*Week 2:* Hypothesis Testing; Quantifying Behavior

*Week 3:* Economic Decisions; Predator v. Prey

*Week 4:* Competition; Group-living

*Week 5:* Conservation Behavior

*Week 6:* Sexual Selection

*Week 7:* Parental Care; Human Impacts

*Week 8:* Altruism & Kin Selection; Cooperation

*Week 9:* Animal Communication

*Week 10:* Overview of Research Projects

*Week 11:* Students Develop Experimental Design

*Week 12:* Statistical Inference

*Week 13:* Writing Workshop and Peer Review

*Week 14:* Research project trouble shooting and check ins

*Week 15:* Writing Workshop and Peer Review

*Week 16:* Class Presentations of Research Projects



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**How is Dr. I going to teach me in ECOL4540/6540?**

**Course Format**

- **First half of the semester:** Class will likely be what you'd expect. Each day, we will have some lecture and some time for critical thinking exercises and questions. I will base my lectures off of the textbook and additional topics of social or environmental relevance.
- **Second half of the semester:** Class will be a bit different than perhaps you're used to, as the second half of this class is entirely focused on student research projects. For these projects, you will develop a research question and hypothesis related to course material with a partner (graduate students will work alone). Then you will collect data to address this question, statistically analyze the data and write up a manuscript that reports the results of your study (intro, methods, results, discussion). We will end the course with class presentations, so will get a chance to share your work with us all! I can provide support and project suggestions, if necessary.

**How will I be graded in ECOL4540/6540?**

The plus/minus grading system will be used, according to UGA policy. Grades will be assigned following this plus/minus grading scale: A = 93-100, A- = 90-92.9, B+ = 87-89.9, B = 83-86.9, B- = 80-82.9, C+ = 77-79.9, C = 73-76.9, C- = 70-72.9, D = 60-69.9, F = <60. Grades **will not be rounded** (ex. 92.99 will receive an A-, while 93.00 will receive an A).

Your grade in this course will be composed of the following items:

CATEGORY	WEIGHT
<b>Exams</b> <i>2 mid-terms at 20% each, No final exam</i>	40%
<b>Reading Assignments for Case Studies</b> <i>4 reading assignments at 2.5% each</i>	10%
<b>Research Project</b> <i>Paper Section Drafts; 2 drafts at 7.5% each</i> <i>Final Research Paper; 20%</i> <i>Final Research Presentation; 10%</i> <i>Participation in Research Project; 5%</i>	50%

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***Exams***

- 2 mid-term exams
  - o Exam questions will be a combination of multiple choice, fill in the blank, and short answer questions.
  - o Exams will be written to assess your ability to synthesize material presented in class, including any videos and assigned readings. Like most biology-related courses, exams in this class will test you beyond memorization of terms. I want to ensure that you understand the principles and processes associated with behavioral ecology. Therefore, exams will have scenarios which you have never specifically learned about, but should be able to reason through based on the information we discussed in class.
- There is **no final exam** for this course.

***Reading assignments for Case Studies***

- Certain class periods will be devoted to a class discussion of a case study. Before these class discussions, I will ask you to read a scientific journal article associated with a topic we have covered in class and answer a set of questions about the paper and concepts within.
- These reading assignments are intended to serve as a guide for your thinking and understanding of relevant and complex concepts in behavioral ecology. They will also provide an opportunity to interpret scientific figures and data.
- Completed reading assignments must be uploaded to eLC prior to the start of class.
- Late submissions: Late assignments will not be accepted without justification (e.g. serious and documented illness), as we will discuss the answer to assignments during class.

***Research Projects*** (Note: Students enrolled in 4540 will complete the research project with a partner. Students enrolled in 6540 must carry out the research project component of the course independently).

- *Paper Section Drafts*
  - o There will be two drafts of the research paper due during the second half of the semester to provide an opportunity for students to receive feedback on their writing before the final research papers are due.
  - o The first draft will be of the Introduction and Methods. The second draft will be of the Results and Discussion sections. A References will be required with each draft.
  - o Rubrics will be made available on eLC prior to the due date to guide student work.
  - o Students will receive peer feedback and instructor feedback on drafts.
  - o Late submissions: Late assignments will be penalized 10% per day late. Anything submitted between 5 minutes and 24 hours after the deadline will be considered 1 day late.
- *Final Research Paper*
  - o The final research paper will summarize and analyze all of the work each group of students completed during the second half of the semester.
  - o This paper will take the format of a traditional scientific journal article (i.e. Introduction, Methods, results, Discussion and References sections).
  - o Rubrics will be made available on eLC prior to the due date to guide student work.
  - o The final research paper is due during the 'final exam' time slot of this course.
  - o Late submissions: Late assignments will be penalized 10% per day late. Anything submitted between 5 minutes and 24 hours after the deadline will be considered 1 day late.
- *Final Research Presentations*

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- The final research presentations will give students an opportunity to orally present their work to the class. Each group will summarize and analyze all of the work completed during the second half of the semester.
  - Rubrics will be made available on eLC prior to the due date to guide student work.
  - Make-up presentations: No make-ups will be allowed for final presentations, unless a group member has a serious and documented illness, or unforeseen and unavoidable circumstance.
- *Participation in Research Project*
- Each student will be graded based on their class attendance during 2<sup>nd</sup> half of semester (actively present vs. not actively present). Absences will only be excused in the event of a documented illness, or unforeseen and unavoidable circumstance. In this instance, students may be asked to complete a makeup assignment.
  - Each student will be graded on their contributions to group project, which will be based on instructor observation and peer feedback forms.

**What other things do I need to know about ECOL4540/6540 before we start?**

- **Communication:** I will use eLC and email to communicate class announcements. If you email us, please be sure to include “ECOL 4540/6540” in the subject line of your emails. I do my best to respond to emails within 24 hours (during the week) – please email again if you haven’t heard back.
- **Use Student Hours:** I encourage you to ask questions about course material, assignments, or just life. It’s a great way for us to get to know each other better (which is one of the goals here!)
- **Cell Phones, Tablets, & Laptops:** Acceptable uses of technology include taking notes, following along on presentation slides, as well as working on assigned in-class activities that require personal device use. Please refrain from instant messaging, e-mailing, surfing the Internet, playing games, writing papers, doing homework etc. during class time, which may distract your peers.
- **Religious Observances:** The University of Georgia recognizes students' rights to engage in religious practice. If you will miss class to observe religious activities, please contact me prior to the observance and make arrangements to complete missing assignments or assessments.
- **Accommodations for Students with Disabilities:** If you require a disability-required accommodation, it is essential that you register with the Disability Resource Center (Clark Howell Hall; <https://drc.uga.edu>; 706-542-8719 [voice]; 706-542-8778 [TTY]) and notify me of your eligibility for reasonable accommodations. We can then plan how best to coordinate your accommodations. Please note that accommodations cannot be provided retroactively.
- **University Honor Code & Academic Honesty:** As a University of Georgia student, you have agreed to abide by the UGA academic honesty policy. UGA Student Honor code: “I will be academically honest in all of my academic work and will not tolerate academic dishonesty of others”. A Culture of Honesty, the University's policy and procedures for handling cases of suspected dishonesty, can be found at <https://honesty.uga.edu/>

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You are responsible for informing yourself about the university's standards before performing any academic work. *Lack of knowledge of the academic honesty policy is not a reasonable explanation for a violation. Please ask if you have questions related to course assignments and the academic honesty policy.* Any form of possible academic dishonesty will be reported to the UGA Office of the Vice President for Instruction.

- **FERPA Notice:** The Federal Family Educational Rights and Privacy Act (FERPA) grants students certain information privacy rights. To comply with FERPA, all communication that refers to individual students must be through a secure medium (UGAMail or eLC) or in person. Instructors are not allowed to respond to messages that refer to individual students or student progress in the course through non-UGA accounts, phone calls, or other types of electronic media. For details, please visit <https://apps.reg.uga.edu/FERPA>.

**What other UGA resources are available to me, outside of ECOL4540/6540?**

- **Mental Health & Wellness Resources**
  - o If you or someone you know needs assistance, you are encouraged to contact Student Care and Outreach in the Division of Student Affairs at 706-542-7774 or visit <https://sco.uga.edu>. They will help you navigate any difficult circumstances you may be facing by connecting you with the appropriate resources or services.
  - o UGA has several resources for a student seeking mental health services (<https://www.uhs.uga.edu/bewelluga/bewelluga>) or crisis support (<https://www.uhs.uga.edu/info/emergencies>).
  - o If you need help managing stress anxiety, relationships, etc., please visit BeWellUGA (<https://www.uhs.uga.edu/bewelluga/bewelluga>) for a list of FREE workshops, classes, mentoring, and health coaching led by licensed clinicians and health educators in the University Health Center.
  - o Additional resources can be accessed through the UGA App.
- **Academic Coaching:** The [Office of Academic Enhancement](#) provides assistance with time management, test and performance anxiety, notetaking, motivation, text comprehension, test preparation, and other barriers to success at UGA.

**Syllabus Disclaimer**

*The course syllabus is a general plan for the course; deviations may be necessary.*

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Week	Tuesday		Thursday	
1			Aug 19	Course Overview; Natural Selection, Ecology, and Behavior <i>Reading: Ch. 1</i>
2	Aug 24	Hypothesis Testing <i>Reading: Ch. 2</i>	Aug 26	Quantifying Behavior <i>In-class activity</i>
3	Aug 31	Economic Decisions <i>Reading: Ch. 3</i>	Sept 2	Pred. v Prey <i>Reading: Ch. 4</i>
4	Sept 7	Competing for Resources <i>Reading: Ch. 5</i>	Sept 9	Living in Groups <i>Reading: Ch. 6</i>
5	Sept 14	Conservation Behavior <i>Reading: Swaisgood 2010</i> <i>Due by 2:00PM:</i> <i>Reading Assignment 1</i>	Sept 16	<b>EXAM 1</b>
6	Sept 21	Sexual Selection 1 <i>Reading: Ch. 7</i>	Sept 23	Sexual Selection 2 <i>Reading: PAPER DISCUSSION</i> <i>Due by 2:00PM:</i> <i>Reading Assignment 2</i>
7	Sept 28	Parental Care & Mating Systems <i>Reading: Ch. 8 &amp; 9</i>	Sept 30	Human Impacts on Animal Behavior <i>Reading: PAPER DISCUSSION</i> <i>Due by 2:00PM:</i> <i>Reading Assignment 3</i>
8	Oct 5	Altruism & Kin Selection <i>Reading: Ch. 11</i>	Oct 7	Cooperation <i>Reading: Ch. 12</i>
9	Oct 12	Communication 1 <i>Reading: Ch. 14</i>	Oct 14	Communication 2 <i>Reading: PAPER DISCUSSION</i> <i>Due by 2:00PM:</i> <i>Reading Assignment 4</i>

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10	Oct 19	<b>EXAM 2</b>	Oct 21	Overview of Group Projects; Searching the Literature
11	Oct 26	In-class troubleshooting of project ideas	Oct 28	Experimental Design
12	Nov 2	Statistical Inference	Nov 4	Statistical Inference Lab: Working with Data
13	Nov 9	Writing workshop	Nov 11	In-class peer review of Intro & Methods <i>Due by 11:59PM: Intro and Methods Sections</i>
14	Nov 16	Group meetings on Project Progress	Nov 18	In-class trouble shooting of project results
15	Nov 23	In-class peer review of Results & Discussion <i>Due by 11:59PM: Results and Discussion Sections</i>	Nov 25	THANKSGIVING BREAK, NO CLASS
16	Nov 30	<b>GROUP PRESENTATIONS</b>	Dec 2	<b>GROUP PRESENTATIONS</b>
17	Dec 7	NO CLASS; FRIDAY SCHEDULE		
<b>FINAL RESEARCH PAPER DUE: THURSDAY, DEC. 9<sup>TH</sup> AT 6:30PM (during 'final exam' time slot)</b>				