

**BIOLOGY 385-H01: EVOLUTIONARY ANIMAL BEHAVIOR LAB - HONORS**

<b>INSTRUCTOR:</b>	Dr. Lisa O'Bryan	<b>EMAIL:</b>	<a href="mailto:obryan@njit.edu">obryan@njit.edu</a>
<b>OFFICE:</b>	Central King Building 428A	<b>COURSE WEBSITE:</b>	<a href="https://classroom.google.com/u/0/c/MTYyOTY1MTM3NFpa">https://classroom.google.com/u/0/c/MTYyOTY1MTM3NFpa</a>
<b>OFFICE HOURS:</b>	By Appointment Only	<b>COURSE SCHEDULE:</b>	R: 1:00pm–5:25pm [CKB 326]

**COURSE DESCRIPTION:** This is a laboratory and field based course focused on designing and conducting experiments in animal behavior. Students will gain experience with experimental design, and all labs will be inquiry based with students designing experiments to test hypotheses. Topics in animal behavior that will be explored include: foraging, predator avoidance, territoriality, and mate choice.

**COURSE OUTCOMES:**

By the end of the course students will be able to:

- 1) describe and analyze animal behavior using principles of evolutionary biology
- 2) use observation and experiments to investigate animal behavior
- 3) use quantitative methods to describe and analyze data
- 4) locate and evaluate scientific literature
- 5) communicate science in both written and oral formats
- 6) work in groups to design, conduct and interpret scientific studies



**PREREQUISITES:** Foundations of Biology: Ecology and Evolution (BIOL 205/206)

**REQUIRED MATERIALS:** Research notebook (3-ring binder is fine).

**FIELD TRIPS:** For several classes we will be traveling to sites near NJIT to conduct our experiments. For these trips you must dress appropriately. For all trips you should wear closed-toe shoes. I would suggest either wearing sneakers or hiking boots. I would also suggest that you wear layers, perhaps a t-shirt and a jacket. Lastly, please make sure that you wear clothes that can get dirty.

Class Documents and announcements will be posted on Google Classrooms:

<https://classroom.google.com/u/0/c/MTYyOTY1MTM3NFpa>

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**GRADING POLICY:**

Grades will be determined by performance on quizzes, lab assignments, a student presentation, a project proposal, a formal lab report, and participation in paper discussions. As this course is Honors/Writing Intensive there will be two writing assignments that are submitted twice, once as an ungraded draft, and then as a final version. These two assignments are the formal lab report and the project proposal. Deadlines for both draft and final versions of these writing assignments are listed on the course schedule.

Assignments	Points
2 Quizzes (30 points each)	60 points
Formal Lab Report	50 points
8 Lab Assignments (20 points each)	160 points
Project Proposal: Presentation & Written Proposal	60 points
4 Paper Discussions (10 points)	40 points
Participation (2 points per lab + 2 extra)	30 points
<b>Total</b>	<b>400 points</b>

**GRADING SCALE:**

Letter Grade	Percentage
A	90 – 100
B+	85 – 90
B	80 – 85
C+	75 – 80
C	65 – 75
D	50 – 65
F	0 – 50

**MAKE-UP QUIZZES AND MAKE-UP/LATE MATERIALS:**

Quizzes and assignments in the course can be made up with appropriate documentation (i.e. a doctor's note). If you miss a quiz or assignment, please notify Dr. O'Bryan as soon as possible. Late materials will be accepted, however you will lose 5% points for each day that the assignment is late.

**ACADEMIC INTEGRITY:**

The university's academic integrity policy can be found here: <http://www.njit.edu/academics/pdf/academic-integrity-code.pdf>. This code will be enforced in this course. If you have any questions about this policy, please come and talk to me about it.

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COURSE OUTLINE: *Tentative Schedule of topics* \*field trip

DATE	TOPICS	READING AND/OR ASSIGNMENT
Sept. 8	Introduction to Animal Behavior <b>Lab 1:</b> Statistics Lab	
Sept. 15*	<b>Lab 2:</b> Describing and Quantifying Behavior	Due at beginning of class: ➔ Lab 1 Assignment
Sept. 22	Data Analysis for Lab 2 <b>Paper Discussion #1</b> Formal Lab Report Writing Seminar	<b>Read paper for discussion #1</b>
Sept. 29*	<b>Lab 3:</b> Alternative Antipredator Responses	Due at beginning of class: ➔ Lab 2 Assignment
Oct. 6	Data Analysis for Lab 2 <b>Lab 4:</b> Human Behavioral Ecology (Mate Choice)	Due <u>in</u> class: ➔ Lab 3 Assignment
Oct. 13*	<b>Lab 5:</b> Foraging decisions in squirrels	Due at beginning of class: ➔ Lab 4 Assignment
Oct. 20	<b>Paper Discussion #2</b> <b>QUIZ 1</b> Mini-Lecture: Introduction to Aggression & Agonistic Behavior	<b>Read paper for discussion #2</b> <b>Study for Quiz 1</b> Due at beginning of class: ➔ Lab 5 Assignment
Oct. 27	<b>Lab 6:</b> Aggression in crayfish	<b><i>Draft 1 of Formal Lab Report Due Oct. 27</i></b>
Nov. 3	<b>Lab 7:</b> Evolution of Animal Behavior	Due at beginning of class: ➔ Lab 6 Assignment
Nov. 10	<b>Paper Discussion #3</b> Discussion of Experimental Design for Lab 8 Discussion of Project Proposal Assignment	<b><i>Final Formal Lab Report Due Nov. 10</i></b> ▪ Read paper for discussion #3 Due at beginning of class: ➔ Lab 7 Assignment
Nov. 17	<b>Lab 8:</b> Vigilance in Humans	<b><i>Draft 1 of Project Proposal Due 11/21</i></b>
Nov. 24	Individual Meetings About Project Proposals	
Dec. 1	<b>Lab 9:</b> Altruism and the Prisoner's Dilemma <b>Paper Discussion #4</b>	Due at beginning of class: ➔ Lab 7 Assignment ▪ Read paper for discussion
Dec. 8	<b>STUDENT PRESENTATIONS</b> <b>QUIZ 2</b>	<b>Study for Quiz 2</b> <b>IN-CLASS RESENTATIONS</b> <b><i>Final Project Proposal Due 12/14</i></b>
<b>FINALS</b>	<b>FINAL EXAM WEEK: DECEMBER 16-22, 2016</b>	