

## **Term Information**

Effective Term Spring 2019

## **General Information**

Course Bulletin Listing/Subject Area Evol, Ecology & Organismal Bio  
Fiscal Unit/Academic Org Evolution, Ecology & Org Bio - D0390  
College/Academic Group Arts and Sciences  
Level/Career Undergraduate  
Course Number/Catalog 3420E  
Course Title Behavioral Ecology (Honors Embedded)  
Transcript Abbreviation Behav Ecol Honors  
Course Description Comparative study of animal behaviors, and analysis of their adaptive value, physiological mechanisms, development, and evolution, within their ecological and social context.  
Semester Credit Hours/Units Fixed: 5

## **Offering Information**

Length Of Course 14 Week, 12 Week, 8 Week, 7 Week, 6 Week, 4 Week  
Flexibly Scheduled Course Never  
Does any section of this course have a distance education component? No  
Grading Basis Letter Grade  
Repeatable No  
Course Components Field Experience, Recitation, Laboratory, Lecture  
Grade Roster Component Lecture  
Credit Available by Exam No  
Admission Condition Course No  
Off Campus Sometimes  
Campus of Offering Columbus, Lima

## **Prerequisites and Exclusions**

Prerequisites/Corequisites Prereq: Biology 1114 or 1114H, or permission of instructor.  
Exclusions Not open to students with credit for 440, 620, 730, or 740.  
Electronically Enforced No

## **Cross-Listings**

Cross-Listings

## **Subject/CIP Code**

Subject/CIP Code 26.0708  
Subsidy Level Baccalaureate Course  
Intended Rank Sophomore, Junior, Senior

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## Requirement/Elective Designation

The course is an elective (for this or other units) or is a service course for other units

## Course Details

### **Course goals or learning objectives/outcomes**

- Students appreciate the diversity of behaviors and recognize them as evolutionary strategies
- Students understand proximate and ultimate explanations for certain behaviors: communication, foraging, predation avoidance, habitat selection, sexual selection, mating systems, and parental care
- Students will be able to develop and test hypotheses about the proximate causes of behavior and the ultimate consequences/evolutionary implications of behavior
- Students will understand how behavioral ecology principles are used to understand certain human behaviors
- Students understand the historical development of the study of animal behavior as a science
- Students are able to observe and quantify behaviors

### **Content Topic List**

- Evolution: sexual selection, including mate choice, male-male competition
  - Ecological concepts: allocations and trade-offs, including altruism/cooperation, communication, foraging and predator-prey interaction
  - Diversity: sociality of insects, birds and mammals, including life histories (parental care) and mating systems, development and physiology
  - Discovery processes: observational vs. experimental approaches, basic vs. applied research, hypothesis testing
  - Theoretical frameworks: game theory, trade-offs, cooperation theory, historical development of ethology
  - Current issues: Sociobiology of humans, ethics of behavioral research, conservation
- No

### **Sought Concurrence**

## Attachments

- 2019\_Spring\_EEOB\_3420E.docx: Syllabus for embedded version  
*(Syllabus. Owner: Hamilton, Ian M)*
- 2019\_Spring\_EEOB\_3420\_AugustineJ (002).docx: Syllabus  
*(Syllabus. Owner: Hamilton, Ian M)*
- EEOB 3420E cover letter (002).docx: Course change request cover letter  
*(Cover Letter. Owner: Hamilton, Ian M)*

## Comments

- Sent back at dept's request. *(by Vankeerbergen, Bernadette Chantal on 01/11/2018 12:27 PM)*

**COURSE REQUEST**  
3420E - Status: PENDING

Last Updated: Vankeerbergen, Bernadette  
Chantal  
01/24/2018

**Workflow Information**

Status	User(s)	Date/Time	Step
Submitted	Hamilton, Ian M	01/11/2018 12:15 PM	Submitted for Approval
Approved	Hamilton, Ian M	01/11/2018 12:15 PM	Unit Approval
Approved	Haddad, Deborah Moore	01/11/2018 12:20 PM	College Approval
Revision Requested	Vankeerbergen, Bernadette Chantal	01/11/2018 12:27 PM	ASCCAO Approval
Submitted	Hamilton, Ian M	01/11/2018 12:28 PM	Submitted for Approval
Approved	Hamilton, Ian M	01/11/2018 12:28 PM	Unit Approval
Approved	Haddad, Deborah Moore	01/11/2018 12:37 PM	College Approval
Pending Approval	Nolen, Dawn Vankeerbergen, Bernadette Chantal Oldroyd, Shelby Quinn Hanlin, Deborah Kay Jenkins, Mary Ellen Bigler	01/11/2018 12:37 PM	ASCCAO Approval
Pending Approval	Chamberlain, Lindsey Joyce	01/24/2018 03:24 PM	Ad-Hoc Approval



14 November 2017

Re: Establishment of Honors Embedded EEOB 3420 on the Lima Campus

Dear Curriculum Committee,

We are requesting that embedded honors sections be allowed for EEOB 3420 Behavioral Ecology on the Lima campus. The primary rationale for the change is that we would like more honors offerings on the Lima campus, and to increase enrollment in EEOB 3420 which has had 12 and 5 students enrolled during the last two offerings. Additionally, there are opportunities to offer enhanced experiential experiences for honors students, and we believe this course will be of interest to biology, psychology, and education majors on the Lima campus.

The embedded honors course will provide opportunities for embedded instruction, honors-only field trips, and honors-led group activities with their peers (peer-review of writing, leading literature discussions), and may include out-of-class presentations to a general audience. We envision honors embedded courses to consist of an embedded lecture with a unique recitation section just for honors students. EEOB 3420E will have an additional hour of instruction which will allow for expanded course content and unique honors experiences.

Attached are detailed descriptions of the embedded course, the proposed EEOB 3420E syllabus, and the regular EEOB 3420 syllabus. Thank you for considering the addition of this honors embedded course.

Sincerely,

A handwritten signature in blue ink that reads 'Jacqueline Augustine'.

Dr. Jacqueline Augustine  
Associate Professor  
augustine.63@osu.edu, 419-995-8237

1) Enhanced student/faculty interaction

The course will offer students enhanced student/faculty interaction through an additional hour of classtime that would include just honors students and faculty.

Course set-up:

Embedded: 1-hour lectures, 3 times per week

Embedded recitation: 1 hour per week

Honors-only recitation section: 1 hour per week

2) Enhanced expectations and experiences

Due to an honors-only recitation section, students will get ample opportunity to interact with other students pursuing the embedded option.

Additional enhancements to the honors experience will include at least two of the following:

- a. Presenting at an out-of-class activity related to the course. Students could present their research findings at Lima's annual Undergraduate Research Forum or a local nature group, such as Tri-Moraine Audubon Society.
- b. Develop a teaching tool related to the course. Part of this course requires an extensive independent research project. Honors students will practice peer review of writing among themselves, and then read non-honors students' writing and provide comments.
- c. Field trip to a research facility, prominently known guest speaker, or regional conference.
- d. Additional readings from the scholarly literature to enhance content. Students will be in charge of picking a manuscript and leading the discussion of the manuscript for the entire group.
- e. Students will integrate course materials to their primary major. For example, psychology students may select to observe and quantify human behavior (such as at a mall, or in the dining facilities). Education students may choose to create a lesson plan based on the material they learn. Biology students would enhance their project by collecting additional data, perhaps on a second species or conducting more rigorous or multiple analyses.

3) A description of the grading

The same amount of points will be awarded for all material that is completed by both honors and non-honors students. Additional points will be awarded based on the additional work that is required. The embedded honors students grade will be awarded base on the number of points earned compared to the total number of points that were available. See the attached syllabi for additional details.

4) Place in the curriculum

This course is an elective course and holds the same position as EEOB 3420.

5) Attached syllabi.

The syllabus for the regular course and the honors embedded addendum are attached.

**BEHAVIORAL ECOLOGY– EEOB 3420E (PROPOSED)**  
**SPRING 2019**  
**OHIO STATE UNIVERSITY AT LIMA**

**DR. JACKIE AUGUSTINE**

Office: Science 330

Phone: 419-995-8237

Email: augustine.63@osu.edu

Office Hours: anytime door is open or by appointment

**COURSE MEETING TIMES:**

Lecture: Monday, Wednesday and Fridays: 9:10-10:05

Laboratory: Thursday 11:30-12:25

Honors recitation: Wednesdays 12:15-1:10

**REQUIRED FIELD TRIP:** Columbus Zoo, Sunday April 14, 8am-4pm.

**REQUIRED HONORS FIELD TRIP:** Behavioral Ecology of Lek-Mating Species, trip to western Kansas during spring break (Leave Saturday Mar 9, return Saturday Mar 16)

**COURSE OBJECTIVE:**

This course is designed to introduce students to mechanisms, development and evolution of behavior with an emphasis on the application of theory. The study of behavior combines the scientific areas of biology and psychology. Knowledge of animal behavior helps scientists understand the proximate physiological cues and ultimate evolutionary forces that have shaped human behavior. The study of behavioral ecology also helps in conservation efforts and the welfare of domestic animals.

The course is taught in a student-scholar style where students research and present applications of the theory behind behavioral ecology. Major topics include development, neural and hormonal mechanisms, foraging, habitat selection, communication, reproduction, mating systems and social behavior.

Students will gain an appreciation of behavioral research by making careful observations, quantifying those observations, and using a hypothesis-driven framework to predict the function of various behaviors. The ethogram exercises are designed to 1) develop observational skills, 2) allow students to practice quantifying behaviors, 3) introduce students to the hypothesis testing and experimental design, and 4) demonstrate various ethological principles through experimentation or observation. Students will hone their writing skills by presenting the results of these experiments in written and oral form following the instructor's direction.

**EEOB 3420 COURSE GOALS**

1. Students appreciate the diversity of behaviors and recognize them as evolutionary strategies.
2. Students understand why animals are doing certain behaviors: communication, foraging, predation avoidance, habitat selection, sexual selection, mating systems, and parental care.
3. Students will be able to hypothesize and research the proximate causes of behavior and the ultimate consequences/evolutionary implications of behavior.

4. Students will understand that behavioral ecology principles may be used to describe certain human behaviors.
5. Students value behavioral ecology as a hard science.
6. Students can quantify behavioral observations.

**RECOMMENDED MATERIALS:**

**Text**

Alcock, J. 2013. Animal Behavior, 10<sup>th</sup> Edition. Sinauer Associates, Inc., Sunderland, MA.

The 9<sup>th</sup> edition differs from the 10<sup>th</sup> edition, so if you purchase the 9<sup>th</sup> edition, it is your responsibility to determine any discrepancies in figure or page numbers. There is also an eBook option available.

**GRADING POLICY:**

Course grades will be based upon the percentage of total points that the student accumulates from assigned activities, exams, readings and participation. The grade will be determined as follows:

**Lecture**

Exams (50 pts each * 5 exams).....	250
Activities/Assignments (27 classes * 5 points each, lowest 2 dropped).....	125
Columbus Zoo field trip report .....	25
<b>Subtotal .....</b>	<b>500 points</b>

**Ethogram Research Project**

Choice of study species and reasoning .....	10
Description of behaviors – based on 2 hours of observation .....	50
Quantification of behaviors – based on 6 hours of observation .....	50
Ethogram Intro, Hypothesis & Methods .....	50
Ethogram Draft 1 (revised intro, hypothesis, methods; plus results & discussion) – based on 6+ hours of observation.....	100
Ethogram Final Paper.....	50
Oral Presentation.....	50
Field Notebook Checks (4 checks * 5 points each) .....	20
<b>Subtotal .....</b>	<b>380 points</b>

**Honors Activities**

Kansas field trip report.....	25
Peer review of writing (4 x 25 each) .....	100
Leader of peer-reviewed literature discussion .....	25
Proposal for application paper/essay/project.....	10
Application Paper/Essay/Project.....	40

**Grand Total .....1080 points**

The distribution for a letter grade is fixed and based upon the following grade scale:  
90% of total points and above = A; 80-89% = B; 70-79% = C; 60-69% =D; < 59% = F.

### **EXAMS:**

Exams will be essay format and open-book. They are designed to test your application of theory, your ability to find relevant scientific resources, and your ability to present the information in a scientific format with proper citations. Exam essays will be graded based upon use of proper grammar and syntax, clarity of argument, accuracy of factual information, depth of thought process, completeness of answer (i.e., your demonstrated ability to think critically regarding a given topic), and use of proper citations and supporting information.

### **ACTIVITIES/ASSIGNMENTS:**

Dr. Jackie may assign readings, worksheets, reports, or other activities that are to be completed during or outside of class. If you miss class, and thereby miss an activity/assignment, you will not have an opportunity to make up that assignment. The missed assignment will count as one of the lowest grades that are dropped. Dr. Jackie does not differentiate between 'excused' and 'unexcused' absences.

### **COLUMBUS ZOO FIELD TRIP REPORT:**

When we go to the Columbus Zoo, you will be given an assignment to be completed on the specified date. You will also turn in your notes that you made at the zoo.

### **ETHOGRAM RESEARCH PROJECT:**

Students are required to do a research project. Details regarding the research project will be supplied by the instructor, but some guidelines are given below.

#### **Choice of a Study Species**

Each student should submit their choice of study species and reasoning as to how, when and where they will observe it. The student should also describe the number of individuals they expect to see.

#### **Description of Behaviors**

This first writing assignment requires a description of the behaviors observed during two hours of observation. Information is presented in a scientific format and includes tables or figures.

#### **Quantification of Behaviors**

Additional data is added to the original ethogram that quantifies the amount of time spent on various behaviors. This portion of the paper requires six hours of observation. Information is presented in a scientific format and includes figures.

#### **Ethogram Hypothesis-testing Introduction and Methods**

Each student will write a detailed introduction and hypothesis-testing methods sections. Every aspect of the project should be described including the relevant field methods and data analysis procedures.

#### **Ethogram Draft 1 and Final**

The results and discussion sections are added to the previous paper (hypothesis-testing introduction and methods) to form a complete manuscript. The information is presented in such a way that a hypothesis as to the function of certain behaviors is tested and the results are presented. This paper includes data that is collected during at least six hours of observation. Information is presented in a scientific format.

#### **Oral Presentations**



The research project will culminate in an oral presentation. A draft or sample PowerPoint will be provided to assist in the formation of the research oral presentation. The oral presentation should follow the basic format of the scientific paper, but given in bulleted form – only the main points. Presentations will be graded on public speaking, content, clarity of presentation, interpretation of data, and neatness and quality of graphs and tables presented. Details for preparation of this presentation will be given in class.

### **FORMATTING OF REPORTS/PAPERS:**

Students are required to complete various writing assignments. Guidelines will be given as to the exact format of papers, but all papers must include citations. **PLAGIARISM WILL NOT BE TOLERATED.**

All written assignments handed in to the instructor must be **typewritten and double-spaced with 1-inch margins and submitted to the appropriate dropbox on Carmen**. Reports should also include the student's name, date, and title of the paper. The due date for each report is listed in the schedule at the end of the syllabus. Reports will be considered late if not handed in **AT THE BEGINNING OF CLASS ON THE DUE DATE** regardless of reason.

### **HONORS ACTIVITIES:**

Honors activities are designed to enhance your learning experience through a series of activities that will test your learning, provide additional learning experiences, and allow you to apply what you learn to your own major. The Kansas field trip will be to Dr. Jackie's research site – you will not only see how behavioral ecologists gather data but you will also assist the researchers. She studies a declining bird species (prairie-chickens) that has a unique breeding system. Peer review and discussion will help you develop a deeper understanding of the scientific writing process. The application of the material to your own major will help put the information learned into an interdisciplinary context.

### **GENERAL EXPECTATIONS:**

Students are responsible for all information given during class even if the student is not in attendance a particular day. Students who miss class are responsible for getting missed material including handouts—Check Carmen regularly for announcements. I do not differentiate between excused and unexcused absences: there are no satisfactory alternative assignments for missed classes.

**DEADLINES:** Deadlines for assignments will be specified by the instructor and strictly adhered to. All written assignments are **DUE AT THE BEGINNING OF CLASS and must be submitted on Carmen** (in MSWord or pdf formats). After class begins (as determined by the instructor), any assignment handed-in is considered late. Papers handed in late because "I was out of town and couldn't get back", "the dog ate my disc" or similar reasons are still LATE papers. Late papers will be penalized **AT 20% per day late. ASSIGNMENTS TURNED IN 5 DAYS OR LATER AFTER THE DEADLINE WILL RECEIVE ZERO CREDIT.** Assignments may be handed in EARLY WITHOUT PENALTY.

*Note on extended absences:* If you must miss more than two classes due to extended illness, a doctor's excuse should be given to the instructor. **THE STUDENT MUST NOTIFY THE INSTRUCTOR WITHIN 48 HOURS OF THE SECOND MISSED CLASS** (submission via email preferred). Upon the student's return, the student and the instructor will prepare a schedule to turn in and complete missed work and exams.

### **EXTRA CREDIT:**

I do not give extra credit often. However, there are several opportunities on the not-too-distant horizon that warrant the option of extra credit. For each event you attend, you will be awarded 5 points extra credit, for a maximum of 15 extra credit. To receive credit, turn in a half page summary of what you learned, how/if it relates to the course, and if you would recommend the activity to someone else. Extra credit will be posted on Carmen.

### **UNIVERSITY EXPECTATIONS REGARDING 2:1 RATIO OF STUDENT EFFORT**

In an effort to establish educational standards and expectations for all institutions of higher education in the state, the Ohio Board of Regents has established formal guidelines to standardize the length of semesters, academic years, and define the practical meaning of each semester hour of credit. As part of these guidelines, the Board of Regents' guidelines state that one semester credit hour will be awarded for a minimum of 750 minutes of formalized instruction, and that "students will be expected to work at out-of-class assignments on a regular basis, which, over the length of the course, would normally average two hours of out-of-class study for each hour of formal class activity."

### **STUDENT CONDUCT**

For general reference on issues such as the OSU Code of Student Conduct, Academic Misconduct, Disability Services, Campus Computing, E-mail Services, Web Services, Buck ID, and Weather Cancellations Policy, please read "Guidelines for Students," a guide for student conduct (<http://lima.osu.edu/students/guidelines.php>). To access this guide from our home page, go to "Academics," then "Learning Center," then "Guidelines for Students." Ohio State University's Code of Student Conduct can be found here: <http://studentlife.osu.edu/csc/>

### **STATEMENT ON ACADEMIC MISCONDUCT:**

It is the responsibility of the Committee on Academic Misconduct to investigate or establish procedures for the investigation of all reported cases of student academic misconduct. The term "academic misconduct" includes all forms of student academic misconduct wherever committed; illustrated by, but not limited to, cases of plagiarism and dishonest practices in connection with examinations. Instructors shall report all instances of alleged academic misconduct to the committee (Faculty Rule 3335-5-487). For additional information, see the Code of Student Conduct <http://studentlife.osu.edu/csc/>.

## **STATEMENT ON DISABILITY SERVICES:**

The University strives to make all learning experiences as accessible as possible. If you anticipate or experience academic barriers based on your disability (including mental health, chronic or temporary medical conditions), please let me know immediately so that we can privately discuss options. To establish reasonable accommodations, I may request that you register with Student Life Disability Services. After registration, make arrangements with me as soon as possible to discuss your accommodations so that they may be implemented in a timely fashion. SLDS contact information: [slds@osu.edu](mailto:slds@osu.edu); 614-292-3307; [slds.osu.edu](http://slds.osu.edu); 098 Baker Hall, 113 W. 12<sup>th</sup> Avenue.

## **STATEMENT ON MENTAL HEALTH:**

As a student you may experience a range of issues that can cause barriers to learning, such as strained relationships, increased anxiety, alcohol/drug problems, feeling down, difficulty concentrating and/or lack of motivation. These mental health concerns or stressful events may lead to diminished academic performance or reduce a student's ability to participate in daily activities. The Ohio State University offers services to assist you with addressing these and other concerns you may be experiencing. If you or someone you know are suffering from any of the aforementioned conditions, you can learn more about the broad range of confidential mental health services available on campus via the Office of Student Life's Counseling and Consultation Service (CCS) by visiting [ccs.osu.edu](http://ccs.osu.edu) or calling 614--292--5766. CCS is located on the 4th Floor of the Younk Success Center and 10th Floor of Lincoln Tower. You can reach an on call counselor when CCS is closed at 614--292--5766 and 24 hour emergency help is also available through the 24/7 National Suicide Prevention Hotline at 1--800--273-TALK or at [suicidepreventionlifeline.org](http://suicidepreventionlifeline.org).

## **STUDENT ADVOCACY:**

If you are experiencing difficulties navigating the campus experience, you have access to the services provided by the OSU Lima Student Advocacy Center. The Center will help with financial distress, cut through red tape, familiarize students with university policies and procedures, and link students to appropriate resources. All current OSU students are eligible for services at no charge. Please contact Gail Nelson at 419-995-8698 or [nelson.700@osu.edu](mailto:nelson.700@osu.edu).

## **STATEMENT ON DIVERSITY:**

The Ohio State University affirms the importance and value of diversity in the student body. Our programs and curricula reflect our multicultural society and global economy and seek to provide opportunities for students to learn more about persons who are different from them. We are committed to maintaining a community that recognizes and values the inherent worth and dignity of every person; fosters sensitivity, understanding, and mutual respect among each member of our community; and encourages each

individual to strive to reach his or her own potential. Discrimination against any individual based upon protected status, which is defined as age, color, disability, gender identity or expression, national origin, race, religion, sex, sexual orientation, or veteran status, is prohibited.

**STATEMENT ON TITLE IX:**

Title IX makes it clear that violence and harassment based on sex and gender are Civil Rights offenses subject to the same kinds of accountability and the same kinds of support applied to offenses against other protected categories (e.g., race). If you or someone you know has been sexually harassed or assaulted, you may find the appropriate resources at <http://titleix.osu.edu> or by contacting the Ohio State Title IX Coordinator, Kellie Brennan, at [titleix@osu.edu](mailto:titleix@osu.edu).

**STATEMENT REGARDING TOBACCO FREE CAMPUS POLICY:**

Ohio State has adopted a tobacco free policy that supports a healthy environment for all members of the campus community. The use of all types of tobacco products is prohibited in all university buildings and on all university-owned properties, including parking lots and all outside areas. The full policy can be found at <http://hr.osu.edu/public/documents/policy/resources/720faq.pdf?t=2014724155314>.

**STUDENT GRIEVANCES PROCESS:**

Students should seek to resolve a grievance concerning a course, grade, or related matter by speaking first with the instructor or professor. If the student and the instructor cannot arrive at a mutually agreeable settlement, the student may take the complaint to the program coordinator (or the Associate Dean in the absence of a coordinator). The program coordinator will investigate the matter as fairly as possible and provide a response to both the student and the affected instructor. At that point, the student may request a hearing by the Associate Dean, if s/he believes the issue has not been adequately resolved.

**CAMPUS CLOSURES OR DELAYS:**

When weather conditions warrant closing the campus, we will inform the campus community via Buckeye Alert (see the next point regarding how to sign up for Buckeye Alert). We will also notify local media by 6:00 a.m. whenever possible. Local radio and television carry these announcements, and the stations carrying our notifications are listed on our website. The Ohio State Lima web site also reports campus closings or delays.

If weather forces a delayed schedule, classes will generally resume at noon or 10am. If there is a 10am start, lab will begin at 10:00 a.m and end at 11:00 a.m. Students will be held responsible for any material presented on that day.

**BUCKEYE ALERT SYSTEM:**

You must sign up for Buckeye Alert to be notified via text message of any campus delays or cancellations. You will NOT be notified of any individual class cancellations via Buckeye Alert.

- Go to <http://eprofile.osu.edu>
- Use your OSU name.# and password to login
- Click on "Phone Numbers"

- Enter your cell number in the "Cellular" field
- Click save

At that point, you are registered for Buckeye Alert!

**WRITING RESOURCES:**

I STRONGLY encourage you to have someone edit your paper before you turn it in. You can have another student in class do it or you can make an appointment in the Writing Center (<http://www.lima.ohio-state.edu/academics/writing/>).

	Dates	Course Content	Text
1	Jan 8, 10	Evolutionary Approach to Behavioral Ecology <i>Choosing a study animal</i> <i>Searching Literature</i> <i>Observing and recording animal behavior</i>	1
2	Jan 15, 17	Predator/Prey <i>Scientific Writing</i> <b>Tuesday: Choice of Study Animal &amp; Reasoning Due</b>	5
3	Jan 22, 24	Habitat Selection <i>Observations &amp; Writing</i> <i>Observation Reports</i>	6
4	Jan 29, 31	Communication <i>Quantifying behavior/Data Sheets</i> <b>Tuesday: Description of behaviors due</b> <b>Thursday: Exam 1 Due (Chapters 1, 5, 6)</b>	4
5	Feb 5, 7	Reproductive Behavior/Mate Choice <i>Graphing Data</i>	7
6	Feb 12, 14	Mating Systems <i>Writing Intro and Methods of Ethogram</i> <b>Thursday: Exam 2 Due (Chapters 4, 7)</b>	8
7	Feb 19, 21	Parental Care <b>Tuesday: Quantification of behaviors/Graphs Due</b>	9
8	Feb 26, 28	Social Behavior <b>Tuesday: Ethogram Intro, Hypothesis &amp; Methods Due</b> <b>Thursday: Exam 3 Due (Chapters 8, 9)</b>	3
9	Mar 5, 7	Altruism/Kin Selection	2
<b>10</b>	<b>Mar 9-16</b>	<b>***Spring Break Trip to Kansas***</b>	
11	Mar 19, 21	Proximate vs Ultimate <i>Ethogram Comparison</i> <b>Thursday: Exam 4 Due (Chapters 3, 2)</b>	10
12	Mar 26, 29	Development of Behavior <i>Writing Results and Discussion of Ethogram</i>	11
13	Apr 2, 4	Neurons and Hormones <b>Tuesday: Ethogram Draft 1 Due</b>	13
14	Apr 9, 11	Human Behavior <b>Thursday: Exam 5 Due (Chapters 10, 11, 13)</b>	14
<b>Sunday April 14, Required field trip to the Columbus Zoo, 8am-4pm</b>			
15	Apr 16, 18	Human Behavior, continued <i>What makes a good oral presentation</i> <b>Tuesday: Columbus Zoo Report Due</b> <b>Thursday: Final Paper Due</b>	14
<b>Thursday, April 25 10:00-11:45am</b>		<b>Final Oral Presentations</b>	

**BEHAVIORAL ECOLOGY– EEOB 3420**  
**SPRING 2019**  
**OHIO STATE UNIVERSITY AT LIMA**

**DR. JACKIE AUGUSTINE**

Office: Science 330

Phone: 419-995-8237

Email: augustine.63@osu.edu

Office Hours: anytime door is open or by appointment

**COURSE MEETING TIMES:**

Lecture: Monday, Wednesday and Thursdays: 9:10-10:05

Laboratory: 1 hr

**REQUIRED FIELD TRIP:** Columbus Zoo, Sunday April 14, 8am-4pm.

**COURSE OBJECTIVE:**

This course is designed to introduce students to mechanisms, development and evolution of behavior with an emphasis on the application of theory. The study of behavior combines the scientific areas of biology and psychology. Knowledge of animal behavior helps scientists understand the proximate physiological cues and ultimate evolutionary forces that have shaped human behavior. The study of behavioral ecology also helps in conservation efforts and the welfare of domestic animals.

The course is taught in a student-scholar style where students research and present applications of the theory behind behavioral ecology. Major topics include development, neural and hormonal mechanisms, foraging, habitat selection, communication, reproduction, mating systems and social behavior.

Students will gain an appreciation of behavioral research by making careful observations, quantifying those observations, and using a hypothesis-driven framework to predict the function of various behaviors. The ethogram exercises are designed to 1) develop observational skills, 2) allow students to practice quantifying behaviors, 3) introduce students to the hypothesis testing and experimental design, and 4) demonstrate various ethological principles through experimentation or observation. Students will hone their writing skills by presenting the results of these experiments in written and oral form following the instructor's direction.

**EEOB 3420 COURSE GOALS**

1. Students appreciate the diversity of behaviors and recognize them as evolutionary strategies.
2. Students understand why animals are doing certain behaviors: communication, foraging, predation avoidance, habitat selection, sexual selection, mating systems, and parental care.
3. Students will be able to hypothesize and research the proximate causes of behavior and the ultimate consequences/evolutionary implications of behavior.
4. Students will understand that behavioral ecology principles may be used to describe certain human behaviors.
5. Students value behavioral ecology as a hard science.
6. Students can quantify behavioral observations.

**RECOMMENDED MATERIALS:**

**Text**

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**GRADING POLICY:**

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**Lecture**

Exams (50 pts each * 5 exams).....	250
Activities/Assignments (27 classes * 5 points each, lowest 2 dropped).....	125
Columbus Zoo field trip report .....	25
<b>Subtotal .....</b>	<b>500 points</b>

**Ethogram Research Project**

Choice of study species and reasoning.....	10
Description of behaviors – based on 2 hours of observation .....	50
Quantification of behaviors – based on 6 hours of observation .....	50
Ethogram Intro, Hypothesis & Methods .....	50
Ethogram Draft 1 (revised intro, hypothesis, methods; plus results & discussion) – based on 6+ hours of observation.....	100
Ethogram Final Paper.....	50
Oral Presentation.....	50
Field Notebook Checks (4 checks * 5 points each) .....	20
<b>Subtotal .....</b>	<b>380 points</b>

**Grand Total .....**880 points

The distribution for a letter grade is fixed and based upon the following grade scale:  
90% of total points and above = A; 80-89% = B; 70-79% = C; 60-69% =D; < 59% = F.

**EXAMS:**

Exams will be essay format and open-book. They are designed to test your application of theory, your ability to find relevant scientific resources, and your ability to present the information in a scientific format with proper citations. Exam essays will be graded based upon use of proper grammar and syntax, clarity of argument, accuracy of factual information, depth of thought process, completeness of answer (i.e., your demonstrated ability to think critically regarding a given topic), and use of proper citations and supporting information.



### **ACTIVITIES/ASSIGNMENTS:**

Dr. Jackie may assign readings, worksheets, reports, or other activities that are to be completed during or outside of class. If you miss class, and thereby miss an activity/assignment, you will not have an opportunity to make up that assignment. The missed assignment will count as one of the lowest grades that are dropped. Dr. Jackie does not differentiate between 'excused' and 'unexcused' absences.

### **COLUMBUS ZOO FIELD TRIP REPORT:**

When we go to the Columbus Zoo, you will be given an assignment to be completed on the specified date. You will also turn in your notes that you made at the zoo.

### **ETHOGRAM RESEARCH PROJECT:**

Students are required to do a research project. Details regarding the research project will be supplied by the instructor, but some guidelines are given below.

#### **Choice of a Study Species**

Each student should submit their choice of study species and reasoning as to how, when and where they will observe it. The student should also describe the number of individuals they expect to see.

#### **Description of Behaviors**

This first writing assignment requires a description of the behaviors observed during two hours of observation. Information is presented in a scientific format and includes tables or figures.

#### **Quantification of Behaviors**

Additional data is added to the original ethogram that quantifies the amount of time spent on various behaviors. This portion of the paper requires six hours of observation. Information is presented in a scientific format and includes figures.

#### **Ethogram Hypothesis-testing Introduction and Methods**

Each student will write a detailed introduction and hypothesis-testing methods sections. Every aspect of the project should be described including the relevant field methods and data analysis procedures.

#### **Ethogram Draft 1 and Final**

The results and discussion sections are added to the previous paper (hypothesis-testing introduction and methods) to form a complete manuscript. The information is presented in such a way that a hypothesis as to the function of certain behaviors is tested and the results are presented. This paper includes data that is collected during at least six hours of observation. Information is presented in a scientific format.

#### **Oral Presentations**

The research project will culminate in an oral presentation. A draft or sample PowerPoint will be provided to assist in the formation of the research oral presentation. The oral presentation should follow the basic format of the scientific paper, but given in bulleted form – only the main points. Presentations will be graded on public speaking, content, clarity of presentation, interpretation of data, and neatness and quality of graphs and tables presented. Details for preparation of this presentation will be given in class.

**FORMATTING OF REPORTS/PAPERS:** Students are required to complete various writing assignments. Guidelines will be given as to the exact format of papers, but all papers must include citations. **PLAGIARISM WILL NOT BE TOLERATED.**

All written assignments handed in to the instructor must be **typewritten and double-spaced with 1-inch margins and submitted to the appropriate dropbox on Carmen**. Reports should also include the student's name, date, and title of the paper. The due date for each report is listed in the schedule at the end of the syllabus. Reports will be considered late if not handed in **AT THE BEGINNING OF CLASS ON THE DUE DATE** regardless of reason.

**GENERAL EXPECTATIONS:**

Students are responsible for all information given during class even if the student is not in attendance a particular day. Students who miss class are responsible for getting missed material including handouts—Check Carmen regularly for announcements. I do not differentiate between excused and unexcused absences: there are no satisfactory alternative assignments for missed classes.

**DEADLINES:** Deadlines for assignments will be specified by the instructor and strictly adhered to. All written assignments are **DUE AT THE BEGINNING OF CLASS and must be submitted on Carmen** (in MSWord or pdf formats). After class begins (as determined by the instructor), any assignment handed-in is considered late. Papers handed in late because "I was out of town and couldn't get back", "the dog ate my disc" or similar reasons are still LATE papers. Late papers will be penalized **AT 20% per day late. ASSIGNMENTS TURNED IN 5 DAYS OR LATER AFTER THE DEADLINE WILL RECEIVE ZERO CREDIT.** Assignments may be handed in EARLY WITHOUT PENALTY.

*Note on extended absences:* If you must miss more than two classes due to extended illness, a doctor's excuse should be given to the instructor. **THE STUDENT MUST NOTIFY THE INSTRUCTOR WITHIN 48 HOURS OF THE SECOND MISSED CLASS** (submission via email preferred). Upon the student's return, the student and the instructor will prepare a schedule to turn in and complete missed work and exams.

**EXTRA CREDIT:**

I do not give extra credit often. However, there are several opportunities on the not-too-distant horizon that warrant the option of extra credit. For each event you attend, you will be awarded 5 points extra credit, for a maximum of 15 extra credit. To receive credit, turn in a half page summary of what you learned, how/if it relates to the course, and if you would recommend the activity to someone else. Extra credit will be posted on Carmen.

## **UNIVERSITY EXPECTATIONS REGARDING 2:1 RATIO OF STUDENT EFFORT**

In an effort to establish educational standards and expectations for all institutions of higher education in the state, the Ohio Board of Regents has established formal guidelines to standardize the length of semesters, academic years, and define the practical meaning of each semester hour of credit. As part of these guidelines, the Board of Regents' guidelines state that one semester credit hour will be awarded for a minimum of 750 minutes of formalized instruction, and that "students will be expected to work at out-of-class assignments on a regular basis, which, over the length of the course, would normally average two hours of out-of-class study for each hour of formal class activity."

## **STUDENT CONDUCT**

For general reference on issues such as the OSU Code of Student Conduct, Academic Misconduct, Disability Services, Campus Computing, E-mail Services, Web Services, Buck ID, and Weather Cancellations Policy, please read "Guidelines for Students," a guide for student conduct (<http://lima.osu.edu/students/guidelines.php>). To access this guide from our home page, go to "Academics," then "Learning Center," then "Guidelines for Students." Ohio State University's Code of Student Conduct can be found here: <http://studentlife.osu.edu/csc/>

## **STATEMENT ON ACADEMIC MISCONDUCT:**

It is the responsibility of the Committee on Academic Misconduct to investigate or establish procedures for the investigation of all reported cases of student academic misconduct. The term "academic misconduct" includes all forms of student academic misconduct wherever committed; illustrated by, but not limited to, cases of plagiarism and dishonest practices in connection with examinations. Instructors shall report all instances of alleged academic misconduct to the committee (Faculty Rule 3335-5-487). For additional information, see the Code of Student Conduct <http://studentlife.osu.edu/csc/>.

## **STATEMENT ON DISABILITY SERVICES:**

The University strives to make all learning experiences as accessible as possible. If you anticipate or experience academic barriers based on your disability (including mental health, chronic or temporary medical conditions), please let me know immediately so that we can privately discuss options. To establish reasonable accommodations, I may request that you register with Student Life Disability Services. After registration, make arrangements with me as soon as possible to discuss your accommodations so that they may be implemented in a timely fashion. SLDS contact information: [slds@osu.edu](mailto:slds@osu.edu); 614-292-3307; [slds.osu.edu](http://slds.osu.edu); 098 Baker Hall, 113 W. 12<sup>th</sup> Avenue.

**STATEMENT ON MENTAL HEALTH:**

As a student you may experience a range of issues that can cause barriers to learning, such as strained relationships, increased anxiety, alcohol/drug problems, feeling down, difficulty concentrating and/or lack of motivation. These mental health concerns or stressful events may lead to diminished academic performance or reduce a student's ability to participate in daily activities. The Ohio State University offers services to assist you with addressing these and other concerns you may be experiencing. If you or someone you know are suffering from any of the aforementioned conditions, you can learn more about the broad range of confidential mental health services available on campus via the Office of Student Life's Counseling and Consultation Service (CCS) by visiting [ccs.osu.edu](http://ccs.osu.edu) or calling 614--292--5766. CCS is located on the 4th Floor of the Younkin Success Center and 10th Floor of Lincoln Tower. You can reach an on call counselor when CCS is closed at 614--292--5766 and 24 hour emergency help is also available through the 24/7 National Suicide Prevention Hotline at 1--800--273-TALK or at [suicidepreventionlifeline.org](http://suicidepreventionlifeline.org).

**STUDENT ADVOCACY:**

If you are experiencing difficulties navigating the campus experience, you have access to the services provided by the OSU Lima Student Advocacy Center. The Center will help with financial distress, cut through red tape, familiarize students with university policies and procedures, and link students to appropriate resources. All current OSU students are eligible for services at no charge. Please contact Gail Nelson at 419-995-8698 or [nelson.700@osu.edu](mailto:nelson.700@osu.edu).

**STATEMENT ON DIVERSITY:**

The Ohio State University affirms the importance and value of diversity in the student body. Our programs and curricula reflect our multicultural society and global economy and seek to provide opportunities for students to learn more about persons who are different from them. We are committed to maintaining a community that recognizes and values the inherent worth and dignity of every person; fosters sensitivity, understanding, and mutual respect among each member of our community; and encourages each individual to strive to reach his or her own potential. Discrimination against any individual based upon protected status, which is defined as age, color, disability, gender identity or expression, national origin, race, religion, sex, sexual orientation, or veteran status, is prohibited.

**STATEMENT ON TITLE IX:**

Title IX makes it clear that violence and harassment based on sex and gender are Civil Rights offenses subject to the same kinds of accountability and the same kinds of support applied to offenses against other protected categories (e.g., race). If you or someone you know has been sexually harassed or assaulted, you may find the appropriate resources at <http://titleix.osu.edu> or by contacting the Ohio State Title IX Coordinator, Kellie Brennan, at [titleix@osu.edu](mailto:titleix@osu.edu).

**STATEMENT REGARDING TOBACCO FREE CAMPUS POLICY:**

Ohio State has adopted a tobacco free policy that supports a healthy environment for all members of the campus community. The use of all types of tobacco products is prohibited in all university buildings and on all university-owned properties, including

parking lots and all outside areas. The full policy can be found at <http://hr.osu.edu/public/documents/policy/resources/720faq.pdf?t=2014724155314>.

### **STUDENT GRIEVANCES PROCESS:**

Students should seek to resolve a grievance concerning a course, grade, or related matter by speaking first with the instructor or professor. If the student and the instructor cannot arrive at a mutually agreeable settlement, the student may take the complaint to the program coordinator (or the Associate Dean in the absence of a coordinator). The program coordinator will investigate the matter as fairly as possible and provide a response to both the student and the affected instructor. At that point, the student may request a hearing by the Associate Dean, if s/he believes the issue has not been adequately resolved.

### **CAMPUS CLOSURES OR DELAYS:**

When weather conditions warrant closing the campus, we will inform the campus community via Buckeye Alert (see the next point regarding how to sign up for Buckeye Alert). We will also notify local media by 6:00 a.m. whenever possible. Local radio and television carry these announcements, and the stations carrying our notifications are listed on our website. The Ohio State Lima web site also reports campus closings or delays.

If weather forces a delayed schedule, classes will generally resume at noon or 10am. If there is a 10am start, lab will begin at 10:00 a.m. and end at 11:00 a.m. Students will be held responsible for any material presented on that day.

### **BUCKEYE ALERT SYSTEM:**

You must sign up for Buckeye Alert to be notified via text message of any campus delays or cancellations. You will NOT be notified of any individual class cancellations via Buckeye Alert.

- Go to <http://eprofile.osu.edu>
- Use your OSU name.# and password to login
- Click on "Phone Numbers"
- Enter your cell number in the "Cellular" field
- Click save

At that point, you are registered for Buckeye Alert!

### **WRITING RESOURCES:**

I STRONGLY encourage you to have someone edit your paper before you turn it in. You can have another student in class do it or you can make an appointment in the Writing Center (<http://www.lima.ohio-state.edu/academics/writing/>).

	Dates	Course Content	Text
1	Jan 8, 10	Evolutionary Approach to Behavioral Ecology <i>Choosing a study animal</i> <i>Searching Literature</i> <i>Observing and recording animal behavior</i>	1
2	Jan 15, 17	Predator/Prey <i>Scientific Writing</i> <b>Tuesday: Choice of Study Animal &amp; Reasoning Due</b>	5
3	Jan 22, 24	Habitat Selection <i>Observations &amp; Writing</i> <i>Observation Reports</i>	6
4	Jan 29, 31	Communication <i>Quantifying behavior/Data Sheets</i> <b>Tuesday: Description of behaviors due</b> <b>Thursday: Exam 1 Due (Chapters 1, 5, 6)</b>	4
5	Feb 5, 7	Reproductive Behavior/Mate Choice <i>Graphing Data</i>	7
6	Feb 12, 14	Mating Systems <i>Writing Intro and Methods of Ethogram</i> <b>Thursday: Exam 2 Due (Chapters 4, 7)</b>	8
7	Feb 19, 21	Parental Care <b>Tuesday: Quantification of behaviors/Graphs Due</b>	9
8	Feb 26, 28	Social Behavior <b>Tuesday: Ethogram Intro, Hypothesis &amp; Methods Due</b> <b>Thursday: Exam 3 Due (Chapters 8, 9)</b>	3
9	Mar 5, 7	Altruism/Kin Selection	2
10	Mar 9-16	***No Class***Spring Break***	
11	Mar 19, 21	Proximate vs Ultimate <i>Ethogram Comparison</i> <b>Thursday: Exam 4 Due (Chapters 3, 2)</b>	10
12	Mar 26, 29	Development of Behavior <i>Writing Results and Discussion of Ethogram</i>	11
13	Apr 2, 4	Neurons and Hormones <b>Tuesday: Ethogram Draft 1 Due</b>	13
14	Apr 9, 11	Human Behavior <b>Thursday: Exam 5 Due (Chapters 10, 11, 13)</b>	14
<b>Sunday April 17, Required field trip to the Columbus Zoo, 8am-4pm</b>			
15	Apr 16,18	Human Behavior, continued <i>What makes a good oral presentation</i> <b>Tuesday: Columbus Zoo Report Due</b> <b>Thursday: Final Paper Due</b>	14
<b>Thursday, April 25 10:00-11:45am</b>		<b>Final Oral Presentations</b>	