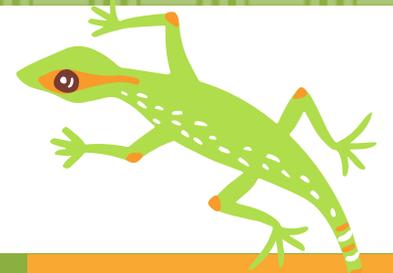


# ANIMAL BEHAVIOR IN THE WILD

## BIOE 142L: A virtual field course

8-Week Session: June 21- Aug 13



### Meet Your Teaching Team



**Instructor:**

Dori Weiler (she/her)  
dweiler@ucsc.edu

**Student Hour Times:**

TBD

Also by appointment- email me!

**Zoom ID:** 939 0476 4178

(password: BIOE142L)



**Teaching Assistant:**

Sabrina Beyer (she/her)  
sbeyer@ucsc.edu

**Student Hour Times:**

TBD

**Zoom ID:** 924 9671 2651

(password: BIOE142L)

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In this class you will learn the **ecological and evolutionary basis of animal behavior**, strengthen your **scientific skillset**, and conduct **hands-on behavior research** in a remote (not in-person) field setting.

While you will gain expertise in animal behavior, the general goal of this course is to develop your ability to observe the natural world, design research studies, collect data, communicate ideas, and- most of all- **think like a scientist**. We are thrilled to have you here and look forward to supporting your growth as a scientist!

## Course Learning Goals

By the end of this course, you will be able to...



1. **Identify and explain** fundamental concepts and methods in the scientific study of animal behavior, then **apply** these concepts to interpret scientific literature.



2. Carefully **observe and describe** animal behavior, **think critically** about what is being observed, and **generate hypotheses** to explain observations.



3. **Apply the scientific method** to design a research study on animal behavior, collect appropriate data to test hypotheses, and use **quantitative reasoning** to interpret the results.



4. **Engage** within a scientific community of peers by communicating scientific concepts and providing caring, critical, constructive feedback.



5. **Reflect** on your individual learning process and **relate** the skills learned in this course to your future career goals beyond the classroom.



# STUDENT SUCCESS

Learning science can be a challenge, but we are committed to creating an accessible and inclusive environment where every student is can succeed! Below are resources and information that will help us create a collaborative, positive community.

## Principles of Community

It is my intent that all students feel included and are able to learn and achieve their goals in this course. The diversity that all students bring to this class is a resource, strength, and benefit to us all. To foster an inclusive learning community, I ask all of us to:

- Share our unique experiences, values, and beliefs
- Be open to the views of others and value the uniqueness of our colleagues
- Appreciate the opportunity we have to learn from each other in this community
- Value each other's opinions and communicate feedback in a respectful manner
- Keep confidential discussions within our community that are of a personal (or professional) nature
- Use this opportunity together to discuss how we can create an inclusive environment in this course and across the university

## Course Materials

In this class, you will need a computer with reliable internet connection and working microphone. Electronic resources we will use throughout the course include:

- [Canvas](#), our primary course website
- [Zoom](#), Discussion section meeting ID: [933 6422 1814](#) passcode: 395737
- [Discord](#).
- [GoogleSheets](#) or [Microsoft Excel](#)
- [R and R Studio](#) statistical software



There is **NO REQUIRED TEXTBOOK**. All readings will be provided.

## Accessibility

We strive to create an academic environment that supports and encourages UCSC's diverse student body by making our learning community as accessible as possible. **If you encounter materials that are not accessible to you, experience a barrier to participation, or have any questions or concerns about the classroom environment, you are encouraged to bring this to your instructor's attention**- we will gladly work with you to help you feel supported and included!

We are also happy to honor and accept any accommodations letters from the Disability Resource Center (DRC). I encourage all students who may benefit from learning more about DRC services to contact DRC by email at [drc@ucsc.edu](mailto:drc@ucsc.edu).

## How to be Successful in this Course

### Come to Student Hours



In student hours, we...

- Answer content questions
- Brainstorm project ideas
- Get to know you and your strengths
- Offer advice toward future career goals
- And more!

### Keep a Lab Notebook



In a (digital or physical) notebook, you can...

- Take notes on lecture and readings
- Record animal behavior data
- Brainstorm and collect project ideas

### Connect with Your Peers



We will use Discord to submit graded discussion posts, but we also encourage you to use it to...

- Chat with peers
- Share cool animal behavior content
- Ask questions.

### Ask for Help When You Need It



If you're stuck on something for more than 15 minutes, ask for help!

- Message Discord
- Bring your question to student hours or discussion section
- Email Dori or Sabrina

### Complete Assignments



We designed these to...

- Check your learning and help you identify areas of growth
- Provide a low-stakes form of assessment
- Reinforce skills and concepts you learn



# COURSE MAP

On the next two pages, you'll find details about the course structure & grading

**Course structure overview:** This course is organized around weekly modules that build on each other, with all materials, readings, and assignments available on Canvas. We will meet in an informal Zoom discussion section once per week to review and practice material. The course also has 3 labs involving a short writeup and one final research project. You are expected to work ~15 hours per week to satisfy all course requirements. See the table below for assignment details and grade breakdowns by assignment:

## Assignment & Assessment Breakdown

### Weekly Module Assignments

These weekly activities are designed to support learning key concepts and developing skills related to the Course Learning Goals, listed on the previous page. Each module will begin with a Module Overview page to orient you to the weekly learning goals and assignments.

Assignment type	% grade	Assignment details
<b>Scientific skill practice &amp; response</b> (~2 hrs/ week)	15%	The goal of these assignments is to give you <b>hands-on experience learning practical research skills</b> . To complete this assignment, you will practice a skill through a tutorial, then write a response about your experience.
<b>Lecture &amp; quiz</b> (~1 hr/ week)	15%	Lecture videos will provide an <b>overview of the fundamental concepts</b> of studying animal behavior. After watching a short lecture, you will have two attempts to take a quiz (multiple-choice/ short answer) to determine whether you remember and understand lecture material.
<b>Reading &amp; response</b> (~3 hrs/ week)	15%	Reading assignments <b>deepen your animal behavior knowledge</b> with detail about research frameworks, experimental design, and data analysis. Written responses ask you to engage with and apply the reading material to deepen your understanding.
<b>Collective wisdom activity</b> (~3 hrs/ week)	15%	These weekly assignments are designed to leverage our collective knowledge and <b>learn from each other's experience</b> as we practice scientific skills and refine our research projects.
<b>Learning reflection</b> (~1 hrs/ week)	10%	At the end of each module, you will write a short <b>reflection on your learning process</b> . Research shows that this type of reflection, known as metacognition, has been shown to increase learner's ability to transfer and adapt learning to new contexts and tasks, and increases the effectiveness of learning overall.

### How will these weekly assignments be evaluated?

Written responses and skill assignments **do not have single correct answers** and are addressed based on your engagement with the material and effort (i.e. did your answer address the prompt and draw on and apply material learned in class). You will receive weekly feedback on all written assignments.

# Assignment & Assessment Breakdown (Continued)

## Cumulative Assignments

These cumulative activities are designed to integrate your knowledge and skills throughout the course and provide helpful "checkpoints" for you to ensure you understand the material. Your final project represents the culmination of your knowledge in the class and offers an authentic research experience, emulating what it might be like to have a career as an animal behavior researcher.

Assignment type	% grade	Assignment details
<b>Lab reports</b> (3 reports, ~2-3 hours each)	15%	The goal of lab assignments is to <b>practice combining your scientific skills</b> . During labs you will <b>collect basic behavioral data</b> to help you prepare for your final project. This practice during lab will help you learn what works for a research project- and what might not work- before committing to a final project.
<b>Final project</b> (~8- 10 hrs total)	15%	For your project, you will then <b>design a simple study to ask and answer a question about animal behavior, develop methods and collect data, produce graphs using your data, and perform statistical analyses</b> to draw conclusions. You will share your work as a poster to the class and provide a short writeup summary.

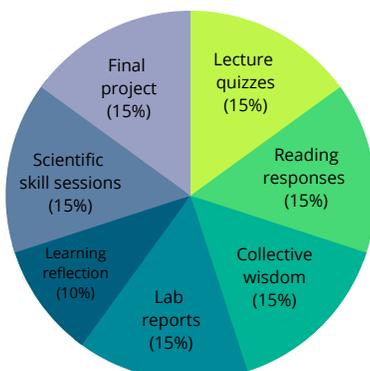
### How will these cumulative assignments be evaluated?

Your lab reports are a chance to practice combining skills and writing about your experience in a written report, which will be evaluated based on your engagement with the material and effort (similar to written weekly assignments). Final projects will be assessed on whether they follow the project guidelines, using a rubric shared ahead of time.

## Deadlines & Late Assignments

Module assignments open on Canvas each Monday at 8 am. Due dates are either **Thursday or Sunday**- see modules for specific dates. Assignments must be submitted by 11:59 pm on the deadline for full credit.

However, in real life sometimes things happen that can throw any of us off course! For this reason, all students are allowed **5 "late passes" for small assignments** (weekly quizzes, reading responses, skill assignments) and **1 "late pass" for a single lab**. **When you use a late pass, you can be a day late submitting your work- without any penalty.** We will track late passes for you so you do not need our permission to use a late passes, but if you exceed your late pass allowance you won't receive credit for any further assignments that are late. If you are experiencing circumstances that interfere with your ability to complete your assignments, please let your instructors know and we will work with you to find solutions.



### A note about assignments in this course...

If you take a look at the pie chart on the left, you may notice there are a lot of different assignments in this class, and none are worth the majority of your grade. This was a deliberate choice because: **1)** This is a lab class, and we have a lot of unique material to learn, and **2)** Using frequent low-stakes assignments gives you more opportunities for practice and feedback over the quarter. However, if you feel overwhelmed or need help managing the material **please contact Dori (dweiler@ucsc.edu) for help**- we can help you get back on track!

# COURSE SCHEDULE

Note that these assignments may be changed based on student needs, so please check the Module Overview at the start of each week.

	Lecture & Quiz <i>Due weekly on Thurs</i>	Reading <i>Due weekly on Thurs</i>	Scientific Skill <i>Due weekly on Sun</i>	Collective Wisdom <i>Due weekly on Sun</i>	Learning Reflection <i>Due weekly on Sun</i>
<b>Course Orientation</b>					
<b>“WEEK 0”</b> June 21-24 <i>Course orientation: all assignments due June 23</i>	Course orientation video (no quiz)	None	Growth mindset in science: Knowing how to “not know”	Introduce yourself and meet your learning community	Welcome survey
<b>Phase 1: Foundations of Animal Behavior</b>					
<b>WEEK 1</b> June 21-27	Intro to Animal Behavior: How & Why Questions	<b>Davies, Krebs, &amp; West Chapter 1:</b> Natural Selection, Ecology, and Behavior	Practicing curiosity	Syllabus annotation exercise	Reflection: what you learned, what went well, what was challenging
<b>WEEK 2</b> June 28- July 4	Asking & Answering <b>Ultimate</b> Questions About Behavior	<b>Martin &amp; Bateson Chapter 3:</b> Getting Started	Describing and quantifying behavior	Sharing & learning from others: Reading scientific literature	Reflection: what you learned, what went well, what was challenging
<b>Lab 1, Due July 4: Observing, describing and quantifying behavior</b>					
<b>Phase 2: Designing a Research Study</b>					
<b>WEEK 3</b> July 5-11	Asking & Answering <b>Proximate</b> Questions About Behavior	<b>Martin &amp; Bateson Chapter 5:</b> Recording Methods	Asking questions and generating hypotheses	Sharing & learning from others: Idea sharing from lab 1	Reflection: what you learned, what went well, what was challenging
<b>WEEK 4</b> July 12-18	Costs and Benefits of Being Social	<b>Martin &amp; Bateson Chapter 8:</b> How Good is Your Research Design?	Designing studies to answer questions and test hypotheses	Sharing research proposal ideas, providing feedback, and forming optional groups	Reflection: what you learned, what went well, what was challenging
<b>Lab 2, Due July 18: Research Proposal</b>					
<b>Phase 3: Analyzing Behavior Research</b>					
<b>WEEK 5</b> July 19- 25	Finding, Competing for, & Choosing Food	<b>Beckerman &amp; Petchey Chapter 4:</b> Visualising your data	Using graphs to ask and answer questions		Reflection: what you learned, what went well, what was challenging
<b>WEEK 6</b> July 26- Aug 1	Finding, Competing for, & Choosing Mates	<b>Beckerman &amp; Petchey Chapter 5:</b> Introducing Statistics in R	Using statistical analyses to ask and answer questions		Reflection: what you learned, what went well, what was challenging
<b>Lab 3, Due Aug 1: Visualizing Your Final Project Data in R</b>					
<b>Phase 3: Communicating Behavior Research</b>					
<b>WEEK 7</b> Aug 2- 8	Humans & Behavior	<b>Read a journal article related to your research project</b>	Standing on the shoulders of giants: finding & reading research articles		Final course reflection: Projecting skills into the future
<b>WEEK 8</b> Aug 9-13	Societal Benefits of Studying Behavior	<b>Valiela Chapter 7:</b> Other Means of Scientific Communication	Careers in animal behavior		Reflection: what you learned, what went well, what was challenging
<b>Final Project, Due Aug 13: Animal Behavior in the Wild Conference Poster Session</b>					